



Upper Tay Catchment Communities

*Almond Headwaters
'Riverwoods - Investment
Readiness Pioneers' project*

Exploring how landscape scale nature recovery programmes can be positioned to enable biodiversity enhancement through the channelling of obligations from new developments as part of a wider investment strategy for nature recovery in Scotland.



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Almond headwaters - riverwoods investment readiness pioneer

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The 'Upper Tay Catchment Communities – Almond Headwaters' is one of two in Scotland to receive a 'Riverwoods – Investment Readiness Pioneers' award. Riverwoods – Investment Readiness Pioneers (IRP) awards grants to develop corporate and private funding for nature and climate recovery, and to increase community benefits from nature restoration projects. IRP is part of a wider Riverwoods programme, led by Scottish Wildlife Trust.

Riverwoods funds come from the Esmée Fairbairn Foundation, to support work with landowners, corporate and private funders, communities and other stakeholders in developing landscape finance innovations, with opportunities for new funding mechanisms beyond traditional grants. Riverwoods is an innovation programme with Almond Headwaters selected as a living lab, managed by Perth & Kinross Countryside Trust, where learnings can be transferred to other regions.

The core issue for Almond Headwaters is a degraded riparian zone around the Upper Almond, which is negatively impacting on ecosystem integrity and habitat quality for people and wildlife. Historic and ongoing grazing pressure by wild deer and livestock has led to the loss of riparian woodland along much of the upper Almond, with little or no natural regeneration presently occurring in this zone. The project seeks to rectify that by creating an investable project that implements multiple interventions aimed at restoring the quality of the upper Almond's riparian habitat. Riparian woodland establishment could catalyse important new links to the ecology of the wider catchment, and also a link north-east over the watershed to the main Tay catchment. The scale of the project is an opportunity to sustain and nurture an important new nature-positive relationship between land-managers, local communities and investors in nature recovery programmes. [Almond Headwaters | Perth and Kinross Countryside Trust \(pkct.org\)](http://pkct.org)

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Abstract

All four UK nations are adopting different policy approaches to reversing the acute decline of biodiversity. Early indications from England are that off-site biodiversity enhancement will be needed for securing a net gain through the planning system. Within Scotland, public policy is at a formative consultative stage, elevating biodiversity decline to the same status as climate change through proposed statutory targets. These are anticipated to drive future planning regulation on securing biodiversity enhancement. The delivery of off-site work to mitigate the impact of development is well established in the Scottish planning system and provides a mechanism for achieving the biodiversity objectives of NPF4.

This paper recommends that Perth & Kinross Council, as the Local Planning Authority engages with pioneering biodiversity enhancement projects, such as the Almond Headwaters Riverwoods project, to use these as exemplars for understanding how off-site biodiversity enhancement can be delivered and secured by development and the opportunities this can realise for nature recovery and quality of life.

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Executive Summary

This paper explores the emerging public policy environment to enhance biodiversity within Scotland and the role of the planning system to secure delivery through on-site habitat creation or off-site financial contributions. Policy and programs are at a formative stage thereby providing an opportunity to inform a future regulatory environment, particularly in connection with supporting the delivery of landscape scale nature restoration projects.

As part of this research, the approach to drafting and implementing public policy on nature recovery within England, Wales & Northern Ireland has been reviewed to inform recommendations to Perth & Kinross Countryside Trust.

Key findings of this research are that the four nations are adopting different policy approaches to reversing the acute and growing decline in biodiversity within the UK. In Scotland, biodiversity decline is being elevated to a similar level as the climate crisis through proposed statutory targets on the Scottish Government to reverse the decline and deliver enhancement by 2045. Emerging public policy adopts an ecosystem wide strategy across four connected policy areas of biodiversity conservation, the regulation of land use, developing nature capital markets and monitoring agriculture.

In England a habitat based approach is being adopted focused on land use change through the introduction of a minimum 10% Biodiversity Net Gain (BNG) obligation on new development coming into force on the 1st January 2024. Integral to this approach is a Biodiversity Metric (v4.0) which calculates BNG on the basis of the size of a habitat, its quality and location, through biodiversity units to determine the net change and enhancement requirement. Whilst the policy position does not yet come into force in England, market indicators are that a combination of both on-site and off-site solutions will be required to achieve a minimum 10% BNG enhancement obligation through approved off-site habitat creation projects and financial contributions.

In Wales & Northern Ireland public policies are emerging and focused on biodiversity enhancement. In Wales the drive is towards integrating net benefit biodiversity with wider ecosystems and connecting this with place making strategies with the planning process taking a central role in implementation. In Northern Ireland, policy is conservation-based and implemented through a mitigation hierarchy which includes compensation.

The Scottish Government's approach to achieving biodiversity enhancement is different in scale, scope and regulation. Underpinned by an emerging suite of statutory targets that are subject to public consultation through the Tackling Nature Emergency – Scotland's Strategic Policy Framework and based on a combination of outcome (i.e delivery) and output (i.e action) targets, there are strong indications that the planning system will mandate regulatory thresholds for biodiversity enhancement on future developments. This is expected to be integrated within wider nature recovery and place making strategies with recent research commissioned by the Scottish Government on the Biodiversity Metric v4.0 exploring a route to refine this tool to fit within a Scottish context of landscape-scale, connected ecosystems that can reverse, at the pace and scale, biodiversity decline. Timelines for implementation are however unclear.

The delivery of off-site work to mitigate the impact of development is well established in the Scottish planning system secured through a combination of planning conditions and developer contributions. The elevation by NPF 4 of biodiversity enhancement as a key planning consideration provides a solid platform to channel development finance to nature recovery programmes as part of a wider nature capital finance strategy. However, exploring the causal link between new development and biodiversity enhancement in order to deal with the potential risk of legal challenge is considered a key consideration in the development of a policy framework.

Biodiversity units are anticipated to become an integral element of nature recovery financial markets, alongside carbon credits and wider environmental improvements grants anticipated through the replacement Basic Payment Scheme for agriculture. This is likely to create opportunities for land managers covering aligning nature recovery projects with development projects through to forming habitat banks for trading. Indicatively, a biodiversity unit value currently sits at £10,000 – £20,000/unit dependant on the habitat, rising to +£40,000/unit for a statutory credit.

Whilst at a formative stage, the opportunity the emerging biodiversity enhancement policy framework presents for strategic projects such as the Almond Headwaters – Riverwoods pioneer project is the potential to channel development enabled finance through the planning process as part of a wider natural capital market to support nature recovery programmes.

Within this context, the following recommendations are made to assist Perth & Kinross Countryside Trust in positioning its programme to capitalise on the emerging biodiversity enhancement policy framework set out in **Table 1** below.

Table 1

Study recommendations to enable biodiversity enhancement through the channelling of obligations from new developments as part of a wider investment strategy for nature recovery in Scotland.

RECOMMENDATION AREAS	OVERVIEW	Key party(ies)
1 Immediate (Short term 6 months) – project development and exemplar	1.1 Engagement with Scottish Government and key agencies (NatureScot) on policy direction – sense test emerging policy interpretation	PKCT/PKC
	1.2 Explore an offsite trial within PKC for a future planning application based on NPF4 policy 3 as an exemplar to demonstrate the potential of BNG, test the process and link with an off-site project (Almond Headwaters)	PKCT/PKC
	1.3 Review s75 process within PKC linked to NPF4 policy 3, the adopted LDP and Supplementary Guidance (SG) on Developer Contributions.	PKC
	1.4 Continue to develop specific biodiversity enhancement programmes within Almond Headwaters to inform compliant off-site enhancement programmes (Table 3 topics) and associated planning/consenting requirements as ‘ready to go’ projects.	PKCT
	1.5 Define metric for land uses – broaden from residential to cover specific areas of land use change in Perthshire; i.e logistics, commercial, energy & agriculture & infrastructure	PKC
2 Longer term (12-24 months) - LDP review & supplementary guidance	2.1 Inform LDP 3 evidence gathering (baseline) over 2024 & develop LDP policy position on biodiversity enhancement	PKC
	2.2 Develop land use metric based on land use change within a Perthshire context (see above)	PKC
	2.3 Explore the role of a nature recovery sites (Biodiversity Gain Plan) and BNG register for PKC	PCKCT/PKC
3 Engagement / consultation (ongoing) including biodiversity framework by 14th December & industry	3.1 Submit representations on the Biodiversity Framework by 14th December – what is position & learnings from England on resources and skills?	PKCT/PKC
	3.2 Engage with financial institutions & development industry to strengthen links and visibility of Almond Headwaters as a BNG project.	PKCT/PKC

Introduction

UK context

Scotland's nature is under extreme pressure due to human impact. Headline data shows a 19% decline in species abundance (terrestrial & freshwater) since 1970, a 54% decline in the distribution of flowering plants and bryophytes (mosses) and 16% of species identified as under threat of extinction¹.

The decline in biodiversity has largely been driven by the intensive use of land for agriculture and forestry, overgrazing and over-fishing and is exacerbated by climate change, pollution, invasive non-native species and unsustainable development. This picture is mirrored in the rest of the United Kingdom and, as a result, the UK is now one of the most nature-depleted countries on Earth. As signatories to the UN Convention on Biological Diversity, the four nations of the UK are working towards reversing this decline in nature loss through the Global Biodiversity Framework.

Each of the four nations are adopting different approaches to the development and implementation of nature recovery strategies. Within Scotland, a holistic, policy based approach is being undertaken across four priority areas; biodiversity conservation, the regulation of land use activities (& role of the planning system), developing nature capital markets and monitoring agriculture.

This 'ecosystem wide' vision is set within an emerging statutory framework with, at its core, targets placed on the Scottish Government to deliver biodiversity enhancement by 2045, with an interim threshold by 2030. Policy is at a formative stage and there is currently no adopted biodiversity strategy or delivery programme.

¹ [TP25999-State-of-Nature-main-report_2023_FULL-DOC-v12.pdf \(stateofnature.org.uk\)](#)

Within England and Wales, policy is focused on the development of land through the concept of Biodiversity Net Gain (BNG) which is intended to reinforce mitigation by mandating that new developments create new habitats and enhance existing ones. Coming into effect in England on the 1st January 2024, BNG is a habitat based policy and requires new development to 'deliver more for nature', setting a minimum requirement to increase biodiversity by 10%+ compared to the baseline. The ambition is to support this mandatory local development focus with a future strategic policy framework through Local Plans, to connect BNG with wider place making and green blue infrastructure strategies to connect biodiversity with strategic objectives for nature recovery. By starting at a local level and then building a strategic policy framework the English approach is, in many respects, the reverse to that being pursued in Scotland.

The net benefits for biodiversity (NBB) approach by Welsh Government has the same intent as in England and Scotland - namely to deliver an overall improvement in biodiversity - but does not utilise a metric. Consistent with the Environment (Wales) Act 2016, the Welsh Government places the emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process. The aim is that the planning system will encourage the use of high calibre ecological expertise and early discussions with planning teams to design developments on a case-by-case basis that positively impact ecosystem resilience. There is no mandatory length of time that management is required for in Wales.

In Northern Ireland, the Wildlife and Natural Environment Act (Northern Ireland) 2011 places a statutory duty on public bodies to "further the conservation of biodiversity when carrying out their functions... and to look for opportunities to enhance or restore biodiversity, or provide an educational input to others about biodiversity." Implementing this duty requires new projects to follow the mitigation hierarchy and set out how habitats will be conserved, mitigated or compensated for in an action plan. Any additional enhancements should also be included.

This paper was commissioned by Perth & Kinross Conservation Trust through the *Almond Headwaters – Riverwoods pioneer project*² in September 2023 to explore how a landscape scale nature recovery programme could be positioned to enable biodiversity enhancement through the channelling of obligations from new developments (which sits within the regulation of land use activities & role of the planning system policy area being explored by Scottish Government) as part of a wider investment strategy for nature recovery. In response to the brief, the research addressed three areas which form the structure of this paper; (i) a review of biodiversity policy and applications within Scotland and England (with a summary of the context in Wales and Northern Ireland), (ii) an outline of the legislative approach to the management of planning applications within Scotland and mechanism for off-site financial contributions and (iii) recommendations on a planning and policy based approach to directing development related finance to off-site nature recovery programmes.

RCL has no legal, advisory or financial interest in the *Almond Headwaters – Riverwoods pioneer project* or in BNG related developments either on or off site.

² [Riverwoods - Almond Headwaters | Perth and Kinross Countryside Trust \(pkct.org\)](https://www.pkct.org/)

1

The Scottish context and public policy position on biodiversity enhancement

The National policy framework

The Scottish Government's National Strategy for Economic Transformation (2022) highlights the importance of a nature-positive economy to address both the climate and nature emergencies. Scotland's Biodiversity strategy (2022) aims to establish a shared vision for biodiversity: *"by 2045 we will have substantially restored and regenerated biodiversity across our land, freshwater and seas"*. The strategy sets out two high-level goals: to be nature-positive by 2030, to halt biodiversity loss and to restore biodiversity in Scotland by 2045. Two key aims are: the global 30x30 target of protecting at least 30% of land and seas for nature by 2030 and creating Nature Networks across Scotland to enhance ecosystem health, sustainability, and resilience.

Public policy on biodiversity with Scotland is anchored in the National Planning Framework 4 (2023). This places significant weight on land use change proposals to deliver enhancement, with policy 3 providing that:

"Development proposals will contribute to the enhancement of biodiversity. Major and national development proposals will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. Proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity and all proposals will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides and build resilience by enhancing nature networks and maximising the potential for restoration."

Policy 3 connects with a suite of complementary policies as set out in the **Table 2** below:

Table 2

Complementary policies for Policy 3 biodiversity

NPF 4 POLICY	Theme
1	Climate crisis
2	Climate mitigation and adaptation
4	Natural places
5	Soils
6	Forestry, woodland & trees
20	Blue green infrastructure
22	Flood risk & water management
25	Community wealth building

These policies adopt the same direction, resisting fragmentation of eco systems and loss and incorporating network solutions in future land use change, including maintenance. Implementation is currently achieved through regulation, notably the grant (or not) of planning permission and the reliance on planning controls covering developer contributions and conditions. Unlike England³ there is currently no mandatory requirement to achieve a minimum enhancement threshold within Scotland.

The Scottish Government's Consultation on Tackling the nature emergency – Scotland's Strategic Framework

There are strong indicators that the Scottish position on delivering biodiversity through 'enabling development' is evolving to one of minimum thresholds linked to the grant of planning permission for all new developments.

The Scottish Government's Consultation on Tackling the nature emergency – Scotland's Strategic Framework (2023) for biodiversity is underpinned by three core objectives: (i) an overarching biodiversity strategy and vision to be nature positive by 2030 and to have restored and regenerated biodiversity across the Scotland by 2045, (ii) a five-year rolling programme set out in Delivery Plans detailing action and (iii) a Natural Environment Bill.

A central part of the proposed Natural Environment Bill will be the introduction of statutory targets on the Scottish Government for nature restoration. These will be designed to signal a clear, long term direction of travel and guide regulatory and investment decisions. The targets are intended to be binding on the Scottish Government, similar in status to climate change targets on achieving net zero and will shape the planned Delivery Plans. A Biodiversity Programme Advisory Group (PAG) has been formed to provide advice on the 'suite of targets' which NatureScot's Scientific Advisory Group will review as part of its role in providing recommendations to Ministers.

The PAG will continue to advise NatureScot on indicators and quantifiable values for targets which will be the subject of further consultation prior to being laid before the Scottish Parliament to be delivered through secondary legislation.

³ Tackling the Nature Emergency - Consultation (www.gov.scot)
The consultation period runs to 14th December 2023

The position on targets set out in the consultation framework is that biodiversity is a complex set of interconnected systems, which presents challenges in setting a single quantifiable 'apex' target. This has led to a policy direction based on establishing a suite of targets that enable the tracking of the overall status of biodiversity and focuses action on meaningful outcomes. The aim is to direct positive action to reverse the decline in biodiversity without introducing an unworkable administrative process that becomes overly burdensome and dilutes confidence in delivering nature recovery. Setting targets within a timeframe of 2030 and 2035 to achieve statutory targets with the potential for interim values within specified dates is the preferred approach.

Three aspects to developing a framework for statutory targets for nature restoration are being explored. These are the **form of the target** (i.e. type, number & timescale), **reviewing targets** to ensure they are effective & **reporting on performance**.

On the form of future targets, Scottish Government are viewing this with a wide lens through a 'suite of targets' based on a wide range of topics that, once selected, will be assigned indicators and quantifiable values. The criteria for selection will be shaped by alignment with policy, including NPF4 and climate change targets and be SMART (specific, measurable ambitious, realistic & timebound). An exploratory list of target topics is contained in the consultation framework and set out in the **Table 3** below:

Table 3

Future target topics set out in The Scottish Government's Consultation on Tackling the nature emergency – Scotland's Strategic Framework

TOPIC	DESCRIPTION
1	Ecosystem integrity (condition, ecological function, diversity, resilience)
2	Areas of ecosystems under restoration
3	Ecosystem connectivity
4	Habitat quality/condition
5	Habitat extent
6	Protected area extent and condition
7	Species abundance
8	Distribution and risk
9	Invasive non-native species (INNS) – reduction and control
10	Mainstreaming biodiversity
11	Nutrient pollution
12	Pesticide
13	Hazardous substances pollution
14	Investment in biodiversity
15	Population of exploited species
16	Indirect effects of species exploitation
17	Nature based solutions
18	Natural capital

Of note is that work to date has explored three types of targets; **Outcome targets**, which demonstrate if activities have achieved the desired overall effect (i.e. x% increase in species by a specified date), **Output targets** which focus on if actions are being delivered (i.e x hectares of restored landscape by a specified date) and Input targets which focus on resources, notably finance, equipment and people to create an output (i.e £x spent on nature restoration within a specified timeframe). The Scottish Government's preferred position as set out in the consultation process is a combination of **outcome & output targets**, with **input targets** viewed as an imprecise and crude indicator.

Scottish Government - Research into Approaches to Measuring Biodiversity in Scotland published in September 2023

In parallel with the consultation on *Scotland's Strategic Framework for Biodiversity* is a research programme commissioned by the Scottish Government into *Approaches to Measuring Biodiversity in Scotland* published in September 2023⁴. The starting point of the research is that there is currently no single agreed Scottish biodiversity metric or measurement tool to assess biodiversity at the site, or project, scale. An agreed Scottish approach to measuring biodiversity would allow for consistent and comparable assessment of losses or gains in biodiversity across sites and allow comparison and trading across sectors. The development of a biodiversity metric or measurement tool in Scotland is considered to have potential use across four main policy areas: **natural capital markets, planning and development, biodiversity conservation and monitoring and agriculture**.

The research notes that these policy areas are all at different stages of engagement with approaches to measuring biodiversity and are working largely independently within different policy landscapes. The key findings are:

- To meet the needs of all four sectors, a framework, or standard, is needed that integrates multiple metrics or tools to monitor biodiversity.
- This framework needs to provide consistent results, while allowing flexibility in its application so metrics and tools within the framework could be tailored depending on different user or policy needs.
- Priority biodiversity indicators include the extent, condition and distinctiveness of habitats, species, ecological connectivity, presence of irreplaceable habitats and ecosystem health and function.
- Biodiversity metrics should be accessible, understandable, and flexible in how they are applied across different uses or spatial scales.
- Biodiversity metrics for Scotland should be clear, concise and transparent, and scientifically robust in terms of measurability.
- Biodiversity metrics for Scotland may benefit from certain elements from existing metrics, but existing metrics do not address the full list of priority criteria identified by stakeholders.
- With refinement, Natural England's Biodiversity Metric 3.1⁵ could be adapted for planning and development use, and as part of a wider set of metrics within a biodiversity framework. These refinements include the coverage of habitats, and adjustments to condition assessment and multipliers to reflect Scottish contexts.

To meet the needs of all four sectors, the research paper concludes that a biodiversity measurement approach or metric will need both common features and some degree of flexibility in its application.

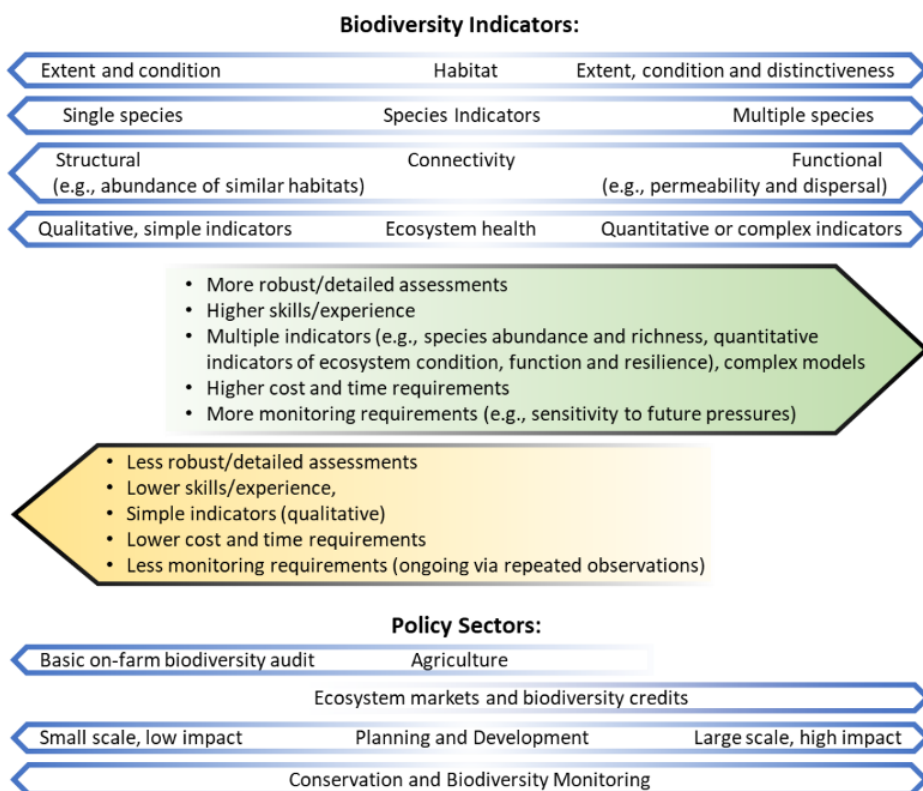
⁴ [Research into Approaches to Measuring Biodiversity in Scotland \(www.gov.scot\)](https://www.gov.scot)

⁵ It should be noted that Engand operates a revised version metric 4.0 published in March 2023 albeit these changes relate primarily to user experience as opposed to outputs.

A framework, or standard, is considered necessary, and will need to integrate multiple metrics or tools to monitor biodiversity and provide consistent results, while allowing flexibility to tailor metrics and tools depending on different user or policy needs. This is set out in a conceptual biodiversity metric that indicates the increasing complexity of assessments across a range of biodiversity indicators and policy sectors as show in **Figure 1** below. In a recent joint update letter (November 2023) from The Minister for Local Government Empowerment and Planning and Chief Planner⁶, developing guidance to support biodiversity policies and adapted biodiversity metric suitable to support the delivery of NPF4 policy is identified as a priority.

The Scottish Government’s draft planning guidance in biodiversity⁷ draws out the role of planning policy to inform action, from the role of Local Biodiversity Action Plans as part of the LDP review evidence gathering process (noting PKC’s local planning guidance) through to the application of policy in practice at national and local levels, including the potential of off-site delivery, linked to LDP’s. As a ‘living document’, the guidance will be shaped by practice and updated accordingly. The emerging mandatory targets on Government to reverse biodiversity loss by 2030 & 2045 are set out and whilst no reference is made to BNG, the document highlights the forthcoming Natural Environment Bill, noting this will introduce key legislative changes to restore and protect nature, create and strengthen nature networks and invest in nature based solutions.

Figure 1
A conceptual biodiversity metric for Scotland



⁶ Planning, Architecture and Regeneration Division (www.gov.scot)

⁷ Scottish Government Draft Planning Guidance: Biodiversity (November 2023)

The research concludes with a recommended biodiversity framework for Scotland alongside recommendations for refining England's Biodiversity Metric 3.1. The research considers that this framework could incorporate both new elements and elements from existing tools that are adapted for use in Scotland. As the four policy areas differ in their needs for measurements of biodiversity, this also means differing requirements for time and effort, level of detail, training and expertise, and regularity of assessment. Examples provided and relevant for the Almond Headwaters project are that farm biodiversity audits may only need meaningful, targeted participatory monitoring which is achievable with basic training and resources. This monitoring could rely on a qualitative habitat condition assessment, with more complex (but comparable) approaches scaled for other uses. However, in contrast, high integrity ecosystem markets such as biodiversity credits require more robust quantification of a broader selection of indicators to fully capture biodiversity.

The planning and development sector will fall between these policy areas depending on the scale or impact of development being considered. The biodiversity monitoring sector has a need to inform and record indicator data across a range of applications spanning the three other policy sectors. For any site, the degree of complexity needs to reflect the purpose, the user and the priority outcomes for the habitat, species or ecosystem.

Elevating the nature crisis and recovery to similar status as climate change raises the very real prospect that statutory biodiversity targets will be incorporated into the land use planning process through policy, in the shape of Local Development Plan reviews and associated supplementary guidance and in the determination of planning applications.

It seems highly likely that future statutory obligations on Scottish Government will flow down to those involved in land use change, which will include the future development of land. NPF4 policy 3 with its focus on biodiversity enhancement is a strong indicator that mandatory minimum targets will be applied to future land use change projects, similar in principle, albeit perhaps not in practice, to the nature recovery legislative framework in England.

Since NPF4 forms part of the statutory development plan, it is the case that policy 3 on biodiversity enhancement, alongside supporting policies on the climate crisis, climate mitigation and adaptation, natural places, soils, forestry, woodland and trees, blue green infrastructure and flood risk & water management are currently policy determining considerations, albeit in practice enhancement does not appear to be actively applied. In part this is likely to be due to the absence to policy thresholds for evaluation, a supporting process for evidence building (i.e. demonstration projects and off site programmes) and delivery, such as in place in England.

An overview of the planning mechanism for delivering social, environmental and associated infrastructure is therefore considered relevant in exploring a potential route for delivering biodiversity net gain within the current and future policy environment in Scotland.

For developer obligations these are set out in *Circular 3/2012*⁹ and should only be sought where they meet all of the following tests: necessary to make the proposed development acceptable in planning terms, serve a planning purpose and, where it is possible to identify infrastructure provision requirements in advance, should relate to development plans, relate to the proposed development either as a direct consequence of the development or arising from the cumulative impact of development in the area, fairly and reasonably relate in scale and kind to the proposed development and be reasonable in all other respects.

Policy 41 of the PKC adopted LDP (2019) sets out a favourable context for the application of biodiversity enhancement by providing that

“The Council will seek to protect and enhance all wildlife and wildlife habitats, whether formally designated/protected or not, taking into account the ecosystems and natural processes in the area”.

Supplementary Guidance on *Developer Contributions & Affordable Housing Supplementary Guidance (2020 and currently under review)* details the mechanism to enable alignment of new development with policy (5 Infrastructure Contributions) and mitigating impacts.

The Scottish Government’s draft planning guidance in biodiversity highlights the role the planning system has in delivery policy and programmes and the role of planning conditions and obligations. The necessity to meet the relevant test is drawn out alongside the role of LDP policy and, in the case of offsite provision, future LDP spatial strategies. Central to developing robust delivery strategies is ensuring the delivery of enhancement which the paper defines as *“In order for biodiversity to be ‘enhanced’ it will need to be demonstrated that it will be in an overall better state than before intervention, and that this will be sustained in the future. Development proposals should clearly set out the type and scale of enhancement they will deliver. Specifically for local development, NatureScot’s Developing With Nature guidance provides advice on information that applicants could include within a planning application in order to provide confidence that enhancement will be achieved.”*

⁹ [Planning Obligations and Good Neighbour Agreements: Circular 3/2012 \(www.gov.scot\)](http://www.gov.scot)

3

The English context and public policy position on biodiversity enhancement

The statutory framework

The Environment Act 2021 sets out the key components for the mandatory application of BNG through amendments to the *Town & Country Planning Act*. These are the introduction of a 10% minimum gain calculated using a biodiversity metric (v4.0) and approval of a biodiversity gain plan, securing new habitats for at least 30 years via planning obligations or conservation covenants, delivered sequentially and based on onsite, off site or via a statutory credit scheme and the introduction of a national register for net gain delivery sites.

BNG policy is being implemented in stages, with the majority of new developments that require planning permission triggering the 10% enhancement from 1st January 2024, small sites from April 2025 and national significant infrastructure projects from April 2025. Certain exempt thresholds have been created relating to, for example, small sites of less than 0.5 hectares or scale of development such as under 9 homes.

Implementing the mandatory BNG requirement requires a robust methodology for assessing and quantifying the baseline state of a habitat prior to development and the ecological impact of a project. The biodiversity gains and losses of a development are quantified in “*biodiversity units*”, based on a metric which uses habitats as a proxy for biodiversity and calculates units by taking account of the type, extent and condition of habitats. This tool is referred to as the *Biodiversity Metric v4.0*¹⁰ and was published in March 2023 by Natural England. *The Biodiversity Metric* is designed to provide ecologists, developers, planners and other interested parties with a means of assessing changes in biodiversity value (losses or gains) brought about by development or changes in land management.

Where it is not possible to achieve the full (& minimum) 10% BNG onsite, developers will be able to create or enhance habitats off site in order to meet the requirement. Early indicators are that in most cases an element of off-site BNG will be required as onsite will be either unachievable due to land requirements or unavailable. A key feature of the Environment Act is the intention to establish a new “*compliance market*” that will ensure the supply of off-site biodiversity units to developers that require them, with landowners or managers who can create or enhance habitats to the required standard on their land able to sell the resulting biodiversity units into the market.

¹⁰ [The Biodiversity Metric 4.0 - JP039 \(nepubprod.appspot.com\)](https://www.nepubprod.appspot.com)

Additionally, it is intended that the market will be supported by various private sector suppliers and intermediaries, with brokers, habitat banks (further explored below), large land agencies and start-up platforms likely to all play roles in facilitating such transactions. It is expected that policy and guidance will encourage off-site biodiversity gains to be delivered locally to the development site, incentivised by the biodiversity metric's spatial multiplier. If off-site habitat enhancements cannot be sourced from the market, as a last resort, developers may purchase statutory biodiversity units from the UK Government.

Notwithstanding this mandatory requirement and timeline, local planning authorities are encouraged to develop BNG policies within reviewed Local Plans as part of place making and wider green infrastructure strategies, particularly to enable offsite BNG delivery and to determine the 'strategic significance' score that is part of the biodiversity metric. The intention is that this policy position will enable BNG to contribute towards wider nature recovery plans ensuring the right habitats are provided in the right places. To a certain extent, the approach being adopted in Scotland is the reverse, starting with policy to then drive local change.

The biodiversity gain plan is a document which sets out how a development will deliver biodiversity net gain and allows the planning authority to check whether the proposals meet the biodiversity gain objective.

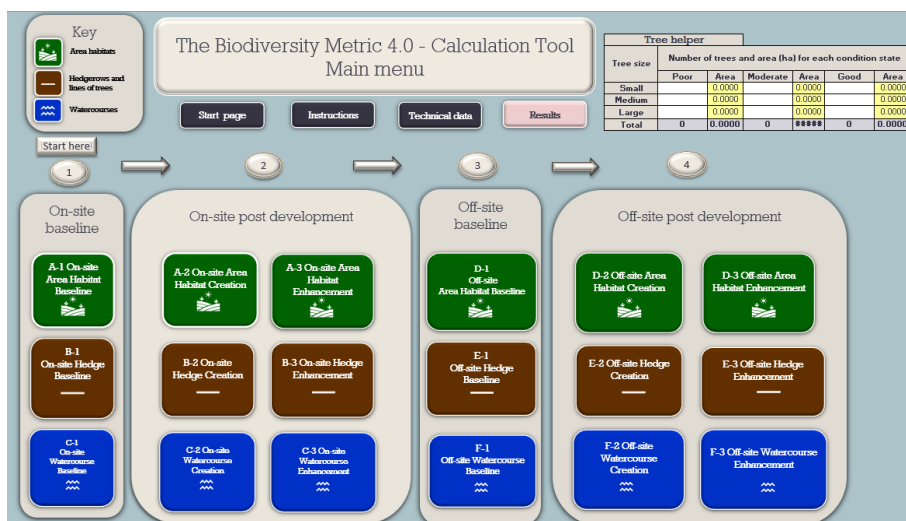
Early research by the Planning Advisory Service (England) suggest that the cost of BNG relative to build costs are small at 0.1%-0.8% for brownfield sites and 0.1% to 3.9% for greenfield development¹¹.

The Biodiversity Metric v 4.0

The key components of the biodiversity metric are shown in **Figure 2** below:

Figure 2
Biodiversity Metric v4.0
main menu

Source:
[Natural England \(2023\)](#)
[The Biodiversity Metric Calculation Tool 4.0](#)

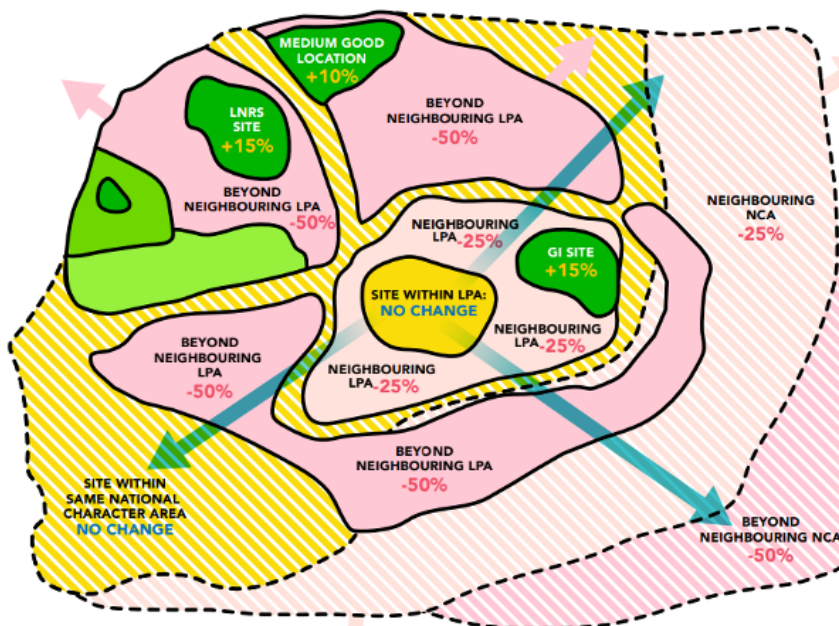


11 Biodiversity Net Gain FAQs - Frequently Asked Questions | Local Government Association

The metric is based on inputting data derived from ecological surveys set out in a *biodiversity gain* plan of onsite (where development is proposed) and off-site locations. Three ecological systems drive the calculation of net change and units; area habitats, hedge and watercourse, with data entry covering a range of aspects on area, type and length. This derives an onsite baseline, on site post intervention and total on site net change in biodiversity units. A similar calculation is undertaken for off site baseline and intervention to create a combined net change unit. This is not the total project gain. A *spatial risk multiplier* is then applied. This is a key factor within the context of applying the metric to Scotland and the role of offsite enhancement as illustrated in the diagram below¹².

The metric penalises proposals where the off-site habitats are far away from the site of impact. This is done to avoid reducing biodiversity in the local areas, recognising the importance of ecosystem services provided to the local community. The spatial risk multiplier is used for off-site habitats outside the local planning authority area or the same National Character Area/Marine Plan Area for inter-tidal habitats. For rivers and streams, WFD water body and catchment boundaries are used as illustrated in **Figure 3** below:

Figure 3
Schematic of a biodiversity spatial risk multiplier (source: UKGBC--- Onsite_Offsite-Proximity-Principle-Factsheet-v0.5.pdf 2023)



To align with local nature priorities, the multiplier is proposed and incentivised by the Biodiversity Metric's *strategic significance score*, linked to nature recovery networks. This is aligned with published local strategies that identify local priorities, such as Local Nature Recovery Strategies, Local Biodiversity Plans, National Character Areas Objectives, Local Planning Authority Local Ecological Networks and Green Infrastructure Strategies. Multiplier scores apply across all pre- and post-intervention and on- and off-site calculations based on the habitat type and its location, depending on their status in a local plan, strategy, or policy and apply to all habitats except rivers and streams.

Once factored in, the total net biodiversity units and net percentage change for the project, including all on-site and off-site interventions including the spatial risk multiplier deductions. Extracts from the metric are set out in the **Table 4** below¹³:

¹² UKGBC---Onsite_Offsite-Proximity-Principle-Factsheet-v0.5.pdf

¹³ Nature England The Biodiversity Metric 4.0 Short Data Input Guide (2023)

Table 4

Biodiversity Metric v4.0 Calculation of biodiversity units

On-site base line	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change <small>(units & percentage)</small>	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

Figure 2-1 This shows biodiversity units the on-site baseline, on-site post-intervention and total on-site net change in biodiversity units. This is not the total project net gain.

Off-site base line	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

Figure 2-2 This shows biodiversity units for habitat units for the off-site baseline, off-site post-intervention and total off-site net change in biodiversity units. This does not include spatial risk multiplier deductions.

Combined net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00

Figure 2-3 This shows the sum of the on-site and off-site unit change before the spatial risk multiplier deductions are made. The total biodiversity unit value of spatial risk multiplier deductions are shown separately.

FINAL RESULTS		
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	0.00%
	Hedgerow units	0.00%
	Watercourse units	0.00%

Figure 2-4 This shows the total net biodiversity unit and net percentage change for the project, including all on-site and off-site interventions and including spatial risk multiplier deductions.

Biodiversity Gain Plan

The Environment Act sets out that development subject to mandatory BNG will be required to submit a biodiversity gain plan for planning authority approval and the planning authority required to approve it prior to commencement. This is required under the 'General condition of planning permission' added as Schedule 7A to the Town and Country Planning Act 1990.

The Environment Act sets out that the *biodiversity gain plan* should cover:

- How adverse impacts on habitats have been minimised;
- The pre-development biodiversity value of the onsite habitat;
- The post-development biodiversity value of the onsite habitat;
- The biodiversity value of any offsite habitat provided in relation to the development;
- Any statutory biodiversity credits purchased;
- Any further requirements as set out in secondary legislation.

The emerging biodiversity and natural capital financial market

The ability to fulfil biodiversity gains off-site opens up a new market for landowners and managers to create or enhance habitats anywhere in England for the purposes of selling biodiversity units to developers requiring them. Habitat created or enhanced after 30 January 2020 will be eligible for registration and sale of the associated biodiversity units. Planning authorities will also be able to sell biodiversity units from their own land, providing they manage any associated conflicts of interest appropriately. Where a developer is able to exceed the statutory requirements for BNG on a given development site, they can use or sell the excess biodiversity units generated. This permission would be based on the proviso that such excess gains are distinct from those necessary to meet the BNG requirements for the original development and are registered on the *Biodiversity Gain Site Register*.

The UK Government currently does not propose to establish a centralised trading platform for biodiversity units but rather will rely on the private sector to facilitate the market and fulfil the required roles, such as brokering. Prices for biodiversity units will be agreed between buyers and sellers and pricing is likely to be reflective of the type of biodiversity that needs to be compensated for (and the associated costs of enhancing it), the opportunity costs of the land use and the relative scarcity of biodiversity units in the local market. While likely market pricing is at present uncertain and predictions vary widely, market analysis carried out for the Department of Food, Environment and Rural Affairs (DEFRA) in early 2021 estimated that the introduction of mandatory BNG in England could generate an annual demand for approximately 6,200 off-site biodiversity units per annum with a market value of £135,000,000¹⁴.

Some local authorities are considering requiring a 20% BNG to be achieved in their future Local Plans, in excess of the 10% mandatory BNG introduced by the Environment Act 2021. Such “gold plating” of the requirements by certain local authorities is likely to increase the need for developers to satisfy the BNG requirements of their developments offsite and further increase demand in the BNG market.

DEFRA originally proposed an outline tariff of £9,000 to £12,000 per biodiversity unit however more recent consultations suggested £20,000 to £25,000/unit, depending on the habitat created. Worked examples of the range of biodiversity units include converting arable fields to other neutral grassland producing 6.4 units/ha, subject to the land being capable of this conversion. This could potentially make up a payment of £128,000 or £1,726/acre per annum for 30 years. Putting one hectare of modified grassland into lowland meadow would yield a net 8.64 units in optimal conditions (distance, within a formally identified area etc.) This would result in £172,800 or £2,331/acre per annum for 30 years assuming units fetch these suggested values¹⁵.

The Environment Act makes provision for the Secretary of State to set up a system of statutory biodiversity credits that will be invested in habitat creation. The biodiversity credits scheme allows the UK government to sell biodiversity credits to developers if the required biodiversity net gains cannot be achieved on-site or through the off-site market. The price of biodiversity credits will be set higher than prices for equivalent biodiversity gain on the market and Defra published indicative prices on 27 July 2023 ranging for £42,000 to £125,000 per credit (excluding watercourses at £230,000 and lakes £650,000)¹⁶. Natural England will sell statutory biodiversity credits on behalf of the Secretary of State.

¹⁴ Biodiversity Net Gain: Market analysis study, Economics for the Environment, February 2021

¹⁵ Biodiversity Net Gain - Townsend Chartered Surveyors

¹⁶ [Statutory biodiversity credit prices - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/statutory-biodiversity-credit-prices)

Commentators¹⁷ note that the creation of a well-functioning, liquid market in the UK could create additional opportunities, including having a positive, multiplier effect on the private sector whereby companies look to offset their biodiversity impacts on a voluntary basis in order to become “*biodiversity neutral*” in much the same way that targets for carbon neutrality have become mainstream.

Additionally, a discussion paper produced by the Nature Conservancy in October 2021 highlighted the income opportunities that BNG could present for local authorities, citing that Warwickshire and Greater Manchester are already pursuing BNG as opportunities to fund enhancements to local parks and green space while generating additional income. However, this opportunity needs to be carefully balanced with the risk of crowding out private market participants and management of conflicts of interest where such local authorities are also presiding over the planning aspects of developments.

¹⁷ Macfarlane’s Trading in Biodiversity Units: the creation of a new environmental market March 2022

4

Recommendations

Within this context of existing and emerging policy development in Scotland, the urgency for nature recovery and the role of the public/private partnership in delivery landscape scale projects, the following recommendations are made.

These are framed around immediate and longer term action and centre on the case for an early stage exemplar project linked to the Almond Headwaters programme to demonstrate the potential for enabling progress through developer contributions to shape a future Scottish biodiversity policy framework and identify learnings for policy development at a national and local level to accelerate future landscape scale ecosystem recovery programmes.

Table 1

Study recommendations to enable biodiversity enhancement through the channelling of obligations from new developments as part of a wider investment strategy for nature recovery in Scotland.

RECOMMENDATION AREAS	OVERVIEW	Key party(ies)
1 Immediate (Short term 6 months) – project development and exemplar	1.1 Engagement with Scottish Government and key agencies (NatureScot) on policy direction – sense test emerging policy interpretation	PKCT/PKC
	1.2 Explore an offsite trial within PKC for a future planning application based on NPF4 policy 3 as an exemplar to demonstrate the potential of BNG, test the process and link with an off-site project (Almond Headwaters)	PKCT/PKC
	1.3 Review s75 process within PKC linked to NPF4 policy 3, the adopted LDP and Supplementary Guidance (SG) on Developer Contributions.	PKC
	1.4 Continue to develop specific biodiversity enhancement programmes within Almond Headwaters to inform compliant off-site enhancement programmes (Table 3 topics) and associated planning/consenting requirements as ‘ready to go’ projects.	PKCT
	1.5 Define metric for land uses – broaden from residential to cover specific areas of land use change in Perthshire; i.e logistics, commercial, energy & agriculture & infrastructure	PKC
2 Longer term (12-24 months) - LDP review & supplementary guidance	2.1 Inform LDP 3 evidence gathering (baseline) over 2024 & develop LDP policy position on biodiversity enhancement	PKC
	2.2 Develop land use metric based on land use change within a Perthshire context (see above)	PKC
	2.3 Explore the role of a nature recovery sites (Biodiversity Gain Plan) and BNG register for PKC	PCKCT/PKC
3 Engagement / consultation (ongoing) including biodiversity framework by 14th December & industry	3.1 Submit representations on the Biodiversity Framework by 14th December – what is position & learnings from England on resources and skills?	PKCT/PKC
	3.2 Engage with financial institutions & development industry to strengthen links and visibility of Almond Headwaters as a BNG project.	PKCT/PKC

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