

Biodiversity Net Gain

An introduction to the benefits.

The logo for Natural England, consisting of a green square with the words "NATURAL ENGLAND" in white, uppercase letters.

NATURAL
ENGLAND

An aerial photograph of a city, likely Manchester, showing a mix of urban buildings, green spaces, and a large park area in the foreground. The sky is overcast with soft light.

When designed and delivered well, biodiversity net gain can secure benefits for nature, people and places, and for the economy

“

"As the twin climate and ecological crises deepen there is an increasing need to accelerate nature recovery, for our planet, our wildlife and our communities. Biodiversity net gain offers a new route for development of homes, businesses and infrastructure to play its part in enabling nature to thrive, and to deliver nature-based solutions to climate change, water and air quality and flood risks. It can also help level up access to nature and provide accessible green space on the doorstep of new homes and further afield."

Marian Spain, Chief Executive





Credit: © Natural England/Nick White

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WHAT IS BIODIVERSITY NET GAIN?



Biodiversity Net Gain (BNG) is an approach to development, land and marine management that leaves biodiversity in a measurably better state than before the development took place.

Currently, although certain sites are protected, there are limited mechanisms to value, maintain, enhance or create wider habitats. As a result, habitats continue to be lost to development, reducing nature's ability to connect and thrive. In the future, most developments will need to deliver a minimum 10% BNG.

BNG is additional to existing habitat and species protections. Intended to reinforce the mitigation hierarchy, BNG aims to create new habitat as well as enhance existing habitats, ensuring the ecological connectivity they provide for wildlife is retained and improved.

Developments don't have to squeeze out wildlife. The benefits are clear: trees in urban areas improve the view, aid privacy, provide shade and help reduce pollution and flash flooding; community green spaces bring people together; and local parks and woods are valuable places for people to walk, play and unwind in.

[London Wildlife Trust: Bringing Kidbrooke alive with wildlife - Natural England \(blog.gov.uk\)](https://www.naturalengland.org.uk/blog/bringing-kidbrooke-alive-with-wildlife)

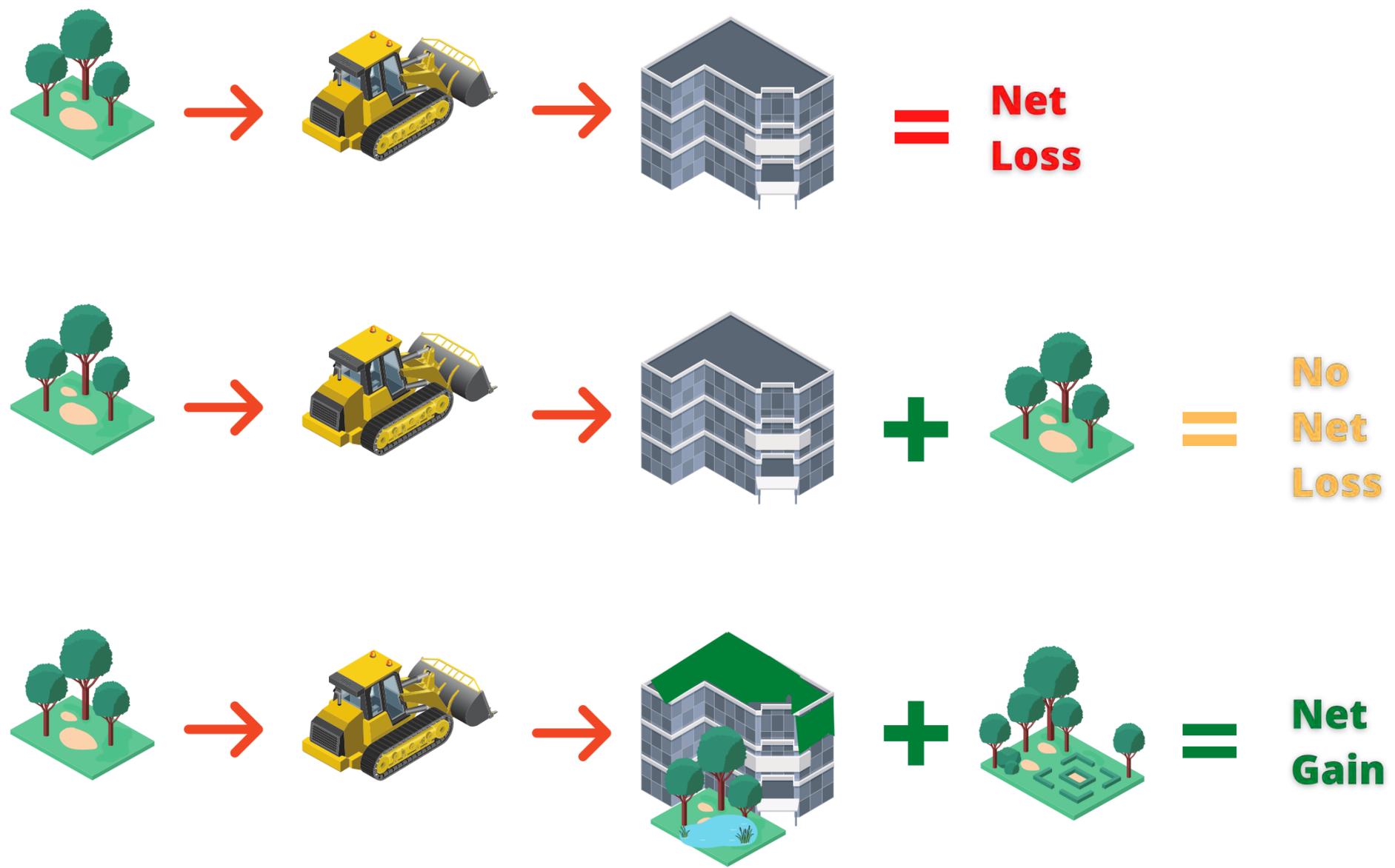
Recovering wildlife will require more habitat; in better condition; in bigger patches that are more closely connected.

[Habitat Network Mapping Guidance.pdf \(defra.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/672042/Habitat_Network_Mapping_Guidance.pdf)



WHAT DOES BNG LOOK LIKE?

Development often results in impacts on, and losses of, nature. By reinforcing and complementing the mitigation hierarchy, mandatory BNG requires development to deliver more for nature; setting a requirement to increase biodiversity by a minimum of 10% compared to the baseline. This means that there will be more and better-quality places for wildlife to live and thrive and for people to enjoy.



Calculating the value of habitats

BNG is measured using the Biodiversity Metric. This tool should be used by a competent person, normally an ecologist. It uses changes in the extent and quality of habitats as a proxy for nature and compares the habitat found on a site before and after development. Four key factors underpin this comparison: habitat size; condition; distinctiveness; and location.



HABITAT SIZE

How large or small is the habitat?



HABITAT CONDITION

How well is the habitat functioning, compared to one in full working order?



HABITAT DISTINCTIVENESS

Is the habitat of particular ecological importance?



STRATEGIC SIGNIFICANCE

Is the habitat a local priority or located in a priority area for habitat creation/enhancement?



MECHANISMS FOR BNG DELIVERY



ON-SITE (UNITS)



Delivered through habitat creation/enhancement via landscaping/green infrastructure

OFF-SITE (UNITS)



Delivered off-site through habitat creation/enhancement, including via habitat banks, with public and private landowners

STATUTORY CREDITS*



Delivered through large-scale habitat projects delivering high value habitats which can also provide long-term nature-based solutions

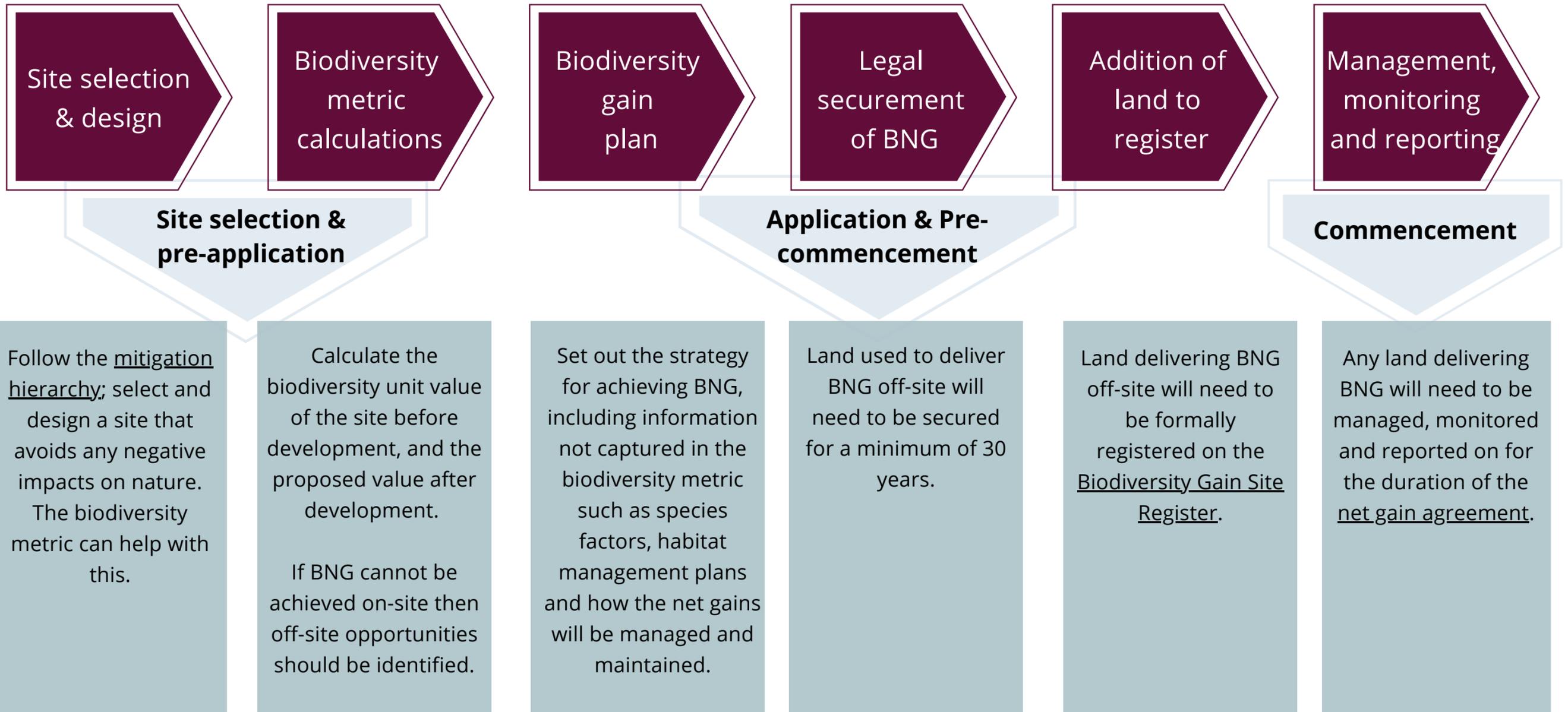
*Credits will be made available for purchase in the future. They are intended for use only where BNG cannot be delivered on-site or off-site via the market, as a last resort.



The biodiversity metric should be used early in the design process to quantify and evaluate the impacts of different design options, when there is more scope to influence design changes to achieve better ecological outcomes.



BNG PROCESS DIAGRAM





Credit: © Natural England/Steve Pullan

WHAT BNG DELIVERS

NATURE

More, bigger, better and joined up habitats in which wildlife can thrive

Credit: © Natural England/Martin Moss

PEOPLE & PLACES

Promoting health and wellbeing by creating opportunities for people to connect with nature

ECONOMY

Increasing natural capital assets, providing green jobs and contributing to sustainable development

CLIMATE CHANGE

Contributing towards climate change mitigation and adaptation measures, and net zero targets, through nature-based solutions

Nature

Rich grasslands can have as many as 30 different species of wildflower within a quarter of a square metre.
(Source)

- BNG contributes towards nature recovery by enhancing existing or creating new habitat.
- BNG creates and connects habitats in which species can thrive and in doing so can help wildlife adapt to climate change.
- BNG can help contribute towards 'more, bigger, better and joined up' green and blue networks and deliver priorities for nature set out in [Local Nature Recovery Strategies](#) or other [strategic plans](#).



Around 9 in 10 people surveyed agreed that natural spaces are good for mental health and wellbeing.

(Source)

People & Places

- BNG can improve our health and well-being by creating new or enhancing existing greenspaces, bringing nature to the doorstep ([Natural England People and Nature survey](#)).
- BNG can create more attractive places in which to live and work, contributing towards place-making.
- BNG can finance investment in new or existing green infrastructure and nature-based solutions, enhancing the resilience of our towns, cities, coasts and infrastructure. It enables us to better adapt to climate change whilst contributing towards corporate and government Net Zero targets.

In the UK, cooling from green and blue space in 2017 was valued at £243.6 million in labour productivity savings and avoided air conditioning costs.

(Source)

Economy

- BNG can help to create greener neighbourhoods that are more attractive places to live, work and do business for current and future occupiers.
- For landowners BNG can create long-term income opportunities through investment in habitat management. BNG generates sustainable and long-term financing for habitat management and maintenance, providing certainty and creating jobs.
- Restoring habitats via BNG can act as a green finance mechanism, delivering wider economic benefits and increasing financial and natural capital asset values. By creating bigger and better natural capital assets the resilience and flow of ecosystem services, and the benefits society receive from them, will be enhanced, and the value received from nature maintained and increased.



A young wood with mixed native species can lock up 400+ tonnes of carbon per hectare in trees, roots and soil.

(Source)

Climate Change

- BNG can help mitigate climate change through the restoration and protection of nature. For example, additional woodland creation will help take more carbon dioxide out of the atmosphere.
- BNG delivery can be a way in which local communities can be directly involved in climate related adaptation projects, including tree planting and maintenance.
- BNG can help communities adapt to climate change by increasing resilience to extremes of weather, including heatwaves and flooding. For example, green and blue spaces, such as woodlands, parks and rivers, can provide localised shading and cooling effects, whilst green roofs, street trees and other vegetated surfaces can help reduce flood risk in urban areas.



WHAT COULD BNG DELIVERY LOOK LIKE?



Credit: © Natural England/Stephen Murphy



Credit: © Natural England/Rachel Irvine



Credit: © Natural England/Peter Roworth



Credit: © Network Rail



Credit: © Natural England/Peter Roworth



Credit: © Malcolm Jarvis



Credit: © Natural England/Peter Wakely



Credit: © Natural England/Jenny Wheeldon





PERSPECTIVES ON HOW TO PREPARE FOR BNG

Landowners can:

- Explore options for delivering net gain on their site, including via habitat banking, and selling the associated biodiversity units to developers;
- Undertake a baseline assessment of their land using the [Biodiversity Metric](#);
- Start conversations with LPAs and other relevant brokers emerging in this market.

Developers can:

- Consider net gain at the site selection and design phase of projects;
- Focus on engaging in collaborative and joined up partnership working, for example in finding opportunities on-site and off-site for BNG delivery;
- Design, broker and deliver net gain in accordance with best practice principles and standards, using appropriate ecological expertise.

Local Planning Authorities (LPA) can:

- Develop approaches to embed BNG in local planning policy and decision-making and consider how BNG fits in with wider corporate priorities. Doing this now will help make sure LPAs are ready for mandatory requirements and that BNG delivers a wide range of benefits for people and nature in their local area;
- Identify features and areas for habitat creation and enhancement within [strategic plans](#) and/or [Local Nature Recovery Strategies](#). This will help target BNG delivery where it is most needed and where it can achieve 'best bang for buck';
- Take a flexible approach to BNG delivery, including off-site options. Explore options for delivering net gain on both LPA owned and privately owned land, including via green and blue infrastructure features.



Landowners can start to undertake habitat works now in anticipation of mandatory BNG - this is referred to as 'habitat banking'.

LPAs can use their own land to deliver BNG on, under the caveat that all necessary requirements are met and any conflicts of interest managed.

BNG is additional to, and does not replace or reduce existing protection for protected sites, habitats or species.

BNG can also be delivered via blue and/or green infrastructure, both on-site and off-site.

Prior to mandatory BNG, the net gain requirement for a project will be dependent on Local Plan and NPPF requirements.

Habitat enhanced or created for mandatory BNG must be secured, managed and maintained for at least 30 years and must achieve the distinctiveness and condition as intended.

River, hedgerow and area habitats are considered independently and are not interchangeable; you cannot address a loss of one type by providing another.

FOR INFORMATION

More detailed information on the net gain approach can be found on:

- [Natural England Blog](#)
- [GOV.UK](#)
- [Local Government Association](#)

FOR ACTION

- Progress on the development of the digital services required for BNG, including registering land, can be tracked via the [BNG Digital Services Blog](#).
- Developers can: familiarise themselves with the [British Standard for net gain](#), and the [CIEEM](#), [CIRIA](#), [IEMA Good Practice Principles for Developments](#).
- Local Planning Authorities can: [Sign up for updates on the Planning Advisory Service website](#).



BIODIVERSITY GAIN PLAN

A consistent document explaining how a project has followed the mitigation hierarchy and also then achieved BNG.



BIODIVERSITY GAIN SITE REGISTER

An online platform whereby off-site gains are registered. An operator will assess whether the application and its proposed enhancements meet a set of eligibility criteria.



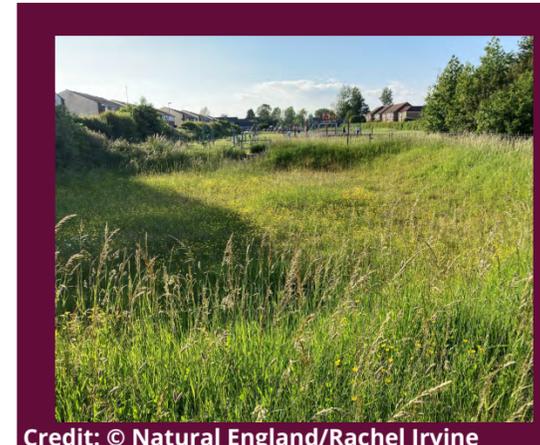
BIODIVERSITY UNITS

The unit of measurement used by the Biodiversity Metric. The units come in three types: area, riverine and hedgerow/line of trees.



HABITAT BANKS

Sites where habitat is created in advance, prior to any loss occurring. This habitat will need to be secured and managed long-term.



LOCAL NATURE RECOVERY STRATEGY (LNRS)

LNRS will set out locally agreed priorities and opportunities for nature recovery in written and cartographic form.



LOCAL PLANNING AUTHORITIES

The public authority whose duty is to carry out specific planning functions for a particular area (Reference: [NPPF, 2021](#)).





MITIGATION HIERARCHY

The principle that environmental harm resulting from a development should be avoided, adequately mitigated, or, as a last resort, compensated for ([NPPF, 2021](#)).



NATURE RECOVERY NETWORK

A national network of wildlife-rich places.

Credit: © Natural England/Catherine Tonge



NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

A document setting out the Government's planning policies for England and how these should be applied ([NPPF, 2021](#)).

Credit: © Natural England/Jane Houghton



NET GAIN AGREEMENT

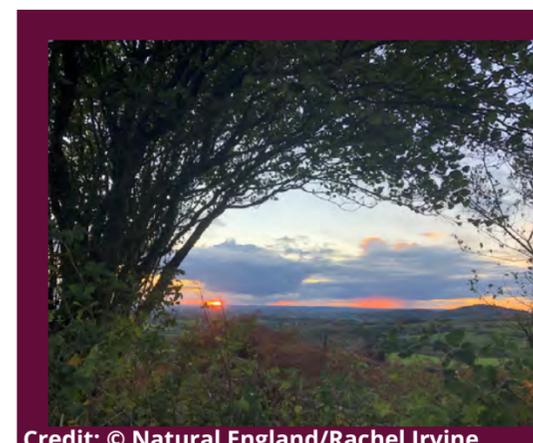
A document that sets out how a site will be managed and maintained over time to deliver the forecast net gain outcome.



NATURE-BASED SOLUTIONS

Actions and solutions for societal challenges that are inspired by processes and the functioning of nature ([Nature-Based Solutions](#)).

Credit: © Natural England/Peter Wakely



STRATEGIC PLAN

Local or national plans or strategies that set out priorities for nature recovery in a place.

Credit: © Natural England/Rachel Irvine

