UK GBC

The voice of our sustainable built environment

BIODIVERSITY NET GAIN: THE BASICS AND BIG PICTURE

WHAT IS BIODIVERSITY NET GAIN, AND WHY IS IT IMPORTANT THIS LEGISLATION IS BEING INTRODUCED?

THE INTRINSIC IMPORTANCE OF NATURE

We are not separate from nature, but are reliant on, and tied to, its systems. This can be understood through:

INTRINSIC VALUE OF NATURE

The fundamental value of nature is it's intrinsic worth, irrespective of human activity. Biodiversity should first be considered valuable in its own right and central to decision making.

INSTRUMENTAL VALUE OF NATURE

Nature is fundamentally embedded in our economy. The goods and services used to meet human needs are provided by the very ecosystems we damage. The regeneration of materials is reliant on retaining ecosystem biodiversity, as a baseline of ecosystem health.

Biodiversity can be considered by its exchange value: the amount it would cost to replace the service provided in monetary terms – i.e. how much would it cost to replace our earth's pollinators? The exchange value of biodiversity in the UK – and globally – is a vast, almost incalculable total.

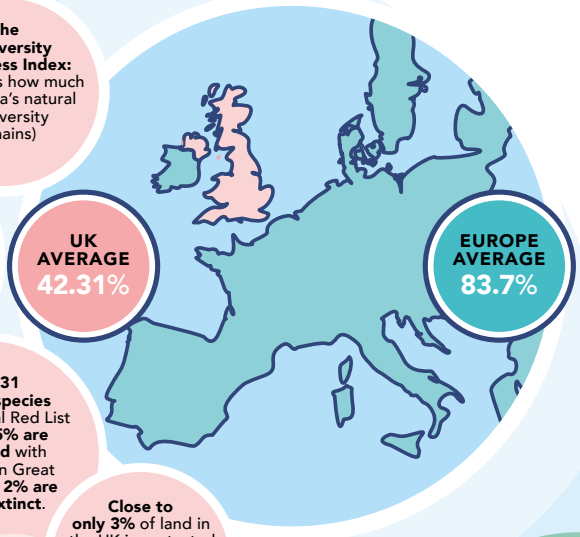
The economic value of nature is commonly understood in terms of *'Provisioning Services'* (materials extracted from nature for use: biomass, wood, grassland, etc) and *'Regulating Services'* (the processes that maintain the health and quality of our ecosystems i.e. carbon sequestration, air pollution removal, etc); all of which rely on biodiversity.

RELATIONAL VALUE OF NATURE

Humans have an indisputable connection to nature. This can only come from our exposure and experiences. Equitable access is important in providing wider health benefits, alongside opportunities for recreation and tourism.

THE UK BIODIVERSITY CRISIS

The Biodiversity Intactness Index: (Estimates how much of an area's natural biodiversity remains)



Of 8,431 assessed species using regional Red List criteria, **15% are threatened** with extinction in Great Britain, and **2% are already extinct**.

Close to only 3% of land in the UK is protected for nature, despite government 30 by 30 targets.

The UK has damaged 50% of its irreplaceable ancient woodland since the 1930s, with just **2%** of the country's land area now covered by this type of woodland.

Butterfly populations in semi-natural habitats have more than halved since 1976.

The UK has seen a **13% decline** in the average abundance of wildlife in the UK since the 1970s and 6% over the past 10 years.

The area of UK heathland, home to multiple species unique to this habitat, has declined by approximately 85% over the past 150 years, primarily due to land use change and fragmentation.

THE MAIN DRIVERS OF BIODIVERSITY LOSS

IPBES and the State of Nature Report Findings

HYDROLOGICAL CHANGE

Hydrological change is an alteration in the quality, quantity or distribution of water in ecosystems through direct or indirect human influence, and can affect biodiversity in both terrestrial and marine environments.

POLLUTION

Air, water, and soil pollution can have significant impacts on ecosystems and the species that depend on them.

The Environment Agency estimates that fewer than half (42%) of English rivers are achieving 'good status' for fish populations overall, **while just 16% of our waters (14% of rivers)** meet the criteria for 'good ecological status'.

Some pollutant concentrations in urban and industrial soils are **1.5 times higher** than in rural areas, showing strong contaminant retention in soil particles.

OVEREXPLOITATION

Overexploitation of natural resources, such as overfishing or hunting, can contribute to natural degradation.

POOR WOODLAND MANAGEMENT

Poor forestry and woodland conservation strategies can have negative consequences for ecosystem health and associated species communities.

URBANISATION

HABITAT LOSS

Habitat loss is the most significant driver of biodiversity loss in the UK. The country has lost a large amount of its natural habitats, including woodlands, grasslands, and wetlands, due to agricultural intensification, urbanisation, and infrastructure development. **Around 41% of species in the UK are declining and 15% are at risk of extinction** due to habitat loss and degradation.

CLIMATE CHANGE

Changes in temperature and precipitation patterns can have a significant impact on the distribution and abundance of plant and animal species. **Many birds, butterflies, moths, and dragonflies have moved northward over the past four decades**, by an average of 23km per decade including **⅛ of UK butterflies**. Increasingly **extreme weather events**, such as floods and droughts, have also led to **changes in plant communities and woodland structure.**

INVASIVE SPECIES

Invasive non-native species can also be a significant driver of biodiversity loss in the UK. These species can outcompete native species for resources and disrupt ecosystem processes, leading to a decline in biodiversity. The UK Government reports that **non-native invasive species cost the economy at least £1.7 billion per year in damages and control measures.**

A 20-30% increase in alien species could cause massive global biodiversity loss.

There are currently around **2000 non-native species in Britain with 10-12 new species establishing themselves every year.**

THE BUILT ENVIRONMENT BIODIVERSITY FOOTPRINT

90% of man-made pressure on biodiversity is driven by **four key industries;** food, energy, infrastructure and fashion.

Globally, **infrastructure is the second largest driver**.

URBANISATION

As human populations continue to rise in urban areas, increases in 'hard infrastructures' have had a **significant impact on species and biodiversity.** Large-scale infrastructure developments to meet the demands of urbanisation have resulted in habitat loss, fragmentation, and changes to natural areas.

The proportion of England's urban areas made up of green space declined from 63% in 2001 to 55% in 2018. Urban environments are lower in biodiversity than natural and semi-natural habitats but can provide opportunities some mammal, bird, and pollinator species.

The proportion of the UK population living in urban areas between 1970 and 2018 increased by 8%.

POLLUTION

The built environment industry is a **significant source of pollution**, including air and water pollution, which can harm or even kill wildlife.

INTRODUCTION OF NON-NATIVE SPECIES

Urbanisation and the built environment have created ideal conditions for invasive plant species to thrive.

HABITAT FRAGMENTATION

Within urban areas, habitats can be fragmented and often degraded. The noise and light pollution that come with urban life can negatively affect **wildlife such as birds and bats.**

PROJECT PARTNERS

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THE HUMAN-ECOSYSTEM INTERCONNECT

HUMAN INDUCED DOWNWARD PRESSURE

HUMAN SOCIETY

ECONOMIC ACTIVITY

ECOSYSTEM SERVICES

BIODIVERSITY
As a component of Natural Capital

Supports

CLIMATE STABILITY

Underpins

Supports the health of

NATURAL ECOSYSTEMS

Underpins

Biodiversity is the bedrock of health for nature's eco-systems, supporting the regulation of ecosystems services on which human societies and economic activity rely, yet also act as negative pressures.

WHAT IS BIODIVERSITY NET-GAIN?

The introduction of BNG into law through the UK Environment Act 2021 will require developers to consider the impact of their projects on biodiversity and implement measures to improve it.

The requirement for a net gain in biodiversity will incentivise developers to prioritise the protection and enhancement of nature, ensuring that new developments do not lead to a further decline in UK biodiversity.

BNG is a concept that aims to ensure that all new development projects have a positive impact on biodiversity by requiring a measurable increase in biodiversity from the baseline state.

ENVIRONMENT ACT
POLICY ENGLAND

Not only should any unavoidable damage to biodiversity caused by a development be, as a last resort, offset by a gain in biodiversity, but an overall, measurable improvement for nature must be delivered.

A CHANCE TO INTRODUCE NATURE-POSITIVE DESIGN

BNG BUSINESS CASE AND GOING FURTHER

Maximising the wide-ranging benefits of BNG unlocks the potential to meet multiple organisational, environmental, and social targets; demonstrating a strong business case for 'nature positive' design.

1 LEGAL COMPLIANCE

BNG for large sites will be legally mandatory in England from November; while independent Scottish and Welsh strategies are in development. Regardless of geography, applying BNG principles ensures that organisations are practising in line with current and future statutory requirements.

2 BNG AND CORPORATE TARGETS

By focusing on nature positive projects, BNG acts as a potential stepping-stone towards meeting the following:

A NATURE TARGETS

The Global Biodiversity Framework's Target 15 sends a strong message to large and transnational businesses, and financial institutions. They need to prepare as governments will mandate the assessment and disclosure of biodiversity risk, dependencies and impacts by 2030.

B NO NET-ZERO WITHOUT NATURE

Taking steps for biodiversity and nature positive action is crucial for businesses to meet their net zero goals; as climate and nature are widely recognised as being strongly interconnected.

Collectively, land and oceans absorb over 50% of carbon emissions. By enhancing nature's capacity to absorb emissions, through mechanisms like biodiversity, we can potentially accomplish **approximately 1/3 of the required greenhouse gas** reductions in the next decade; supporting both our climate and nature recovery goals.

3 BNG, SOCIETAL AND WELLBEING TARGETS

Wildlife's positive impact on human well-being is undisputed. Urban macro-biodiversity (plants, trees) **promotes diverse environmental microbes** benefiting the human microbiome and overall health.
A large-scale study of 10,000 UK residents also revealed that living in green urban areas is correlated with higher life satisfaction.

4 CORPORATE REPUTATION

5 ECONOMIC ADVANTAGE

MACRO-ECONOMIC BNG BENEFITS

63% of investors want fund managers to focus on natural capital and biodiversity engagement, surpassing the percentage for climate related investments (59%), making BNG schemes an attractive investment asset.

Investing in off-site BNG habitat, or rewilding, projects presents a **significant land investment opportunity** for both investors and developers. Rewilding land has increasingly attracted prospective buyers, driving demand forward.

ON-SITE BNG/ENG BENEFITS

Incorporating well-designed green spaces, wildlife corridors, green roofs, and natural landscaping is shown to enhance the aesthetic and marketability of developments, increasing both current and future value. Studies indicate a **strong preference** for sustainable and ecofriendly developments. Consumers, home buyers, and tenants clearly prioritise green features, proximity to nature and eco credentials when choosing their homes or workplaces – a trend backed by **increasing market demand**.

Integrating BNG early is a key mechanism to reduce both short – and long-term development costs. Following biodiversity guidelines reduces the risk of future redesign and avoids costs of retrofit, by staying ahead of both the market and statutory guidelines.

6 ADAPTATION AND VULNERABILITY MITIGATION

BNG implementation on-site supports climate resilience and the 'future proofing' of developments. Diverse habitats provide natural solutions for climate adaptation, such as flood mitigation, carbon sequestration, and temperature regulation. Using **Nature Based Solutions** not only delivers wide ranging socio-environmental benefits, but mitigates against greater future costs for repair and disaster relief.

By integrating biodiversity, developers can contribute towards creating resilient and sustainable communities in the face of climate challenges, helping to 'future proof' local and national infrastructure.

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