Biodiversity Net Gain Report

Land at the former site of Priesthows

Survey date: 17th February 2026

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1. Introduction

1.1 Report Rationale

This report has been prepared at the request of Mr. Marius Skarbalius. Eco 360 were commissioned to undertake a Biodiversity Net Gain assessment at the land at the former site of Priesthows, Butterwick Road, Messingham, DN17 3PA (OS Grid Reference: SE 88331 04271). The survey effort involved both a desktop study and field survey.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any evidence of protected species usage and/or features of potential ecological interest also included. The field survey was carried out on the 17th of February 2026 by Mr. Nathan O'Shea, BSc (Hons): Consultant Ecologist.

1.2 Site Description

The land at the former site of Priesthows is located on the outskirts of Messingham, Lincolnshire, within a predominantly rural landscape. The application site comprises a medium-sized field supporting neutral grassland.

The grassland is assessed as being in moderate condition and is characterised by a sward dominated by reed canary-grass *Phalaris arundinacea*, tufted hair-grass *Deschampsia cespitosa*, annual meadow-grass *Poa annua*, round-headed club-rush *Scirpoides holoschoenus*, common rush *Juncus effusus*, delicate fern-moss *Thuidium delicatulum*, and a range of common broadleaved herbs. The species assemblage reflects a moderately managed grassland with localised wetter elements.
The northern, western and southern site boundaries are defined by wooden fencing, beyond which native hedgerows are present, contributing to the local green infrastructure network. A medium-sized pond is situated immediately north of the application site within the same land parcel, providing aquatic habitat in close proximity. The eastern boundary is defined by a brick wall, beyond which lies a residential property.

The wider landscape is rural in character and dominated by arable and pastoral farmland. Fields are connected by linear habitat features including native hedgerows and occasional lines of trees. A parcel of deciduous woodland lies approximately 500 metres to the south-west of the site. Beyond this, Messingham Heath Site of Special Scientific Interest (SSSI) is located approximately 700 metres from the site and supports habitats of high ecological value. The surrounding landscape also contains a number of ponds and fisheries, increasing the availability of aquatic and wetland habitats in the locality.

Overall, the site forms part of a semi-improved grassland field within a well-connected rural landscape containing several habitats of elevated ecological importance.

Figure 1: An aerial map showing the location of the site proposed for development (outlined in red).

1.3 Proposals

The application proposes the construction of a stable building and associated training area, together with two residential dwellings, each with private garden space, and a shared parking area.

Scope of Report

This report aims to:

- Establish the total number of baseline and lost habitat, hedgerow, and river units at the site of the proposed scheme.
- Establish the total number of habitat, hedgerow, and river units that are to be created, retained and/or enhanced under landscape and ecological mitigation proposals at the proposed works site.
- Determine whether the proposed scheme will result in a net loss, no net loss, or a net gain for biodiversity.
- Make further recommendations to gain the required 10% minimum net gain for biodiversity.

1.4 Biodiversity Net Gain Relevant Policies

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. These are:

- UK Biodiversity Action Plan (UKBAP)
- The Natural Environment and Rural Communities (NERC) Act 2006
- The UK Post-2010 Biodiversity Framework (2011-2020)
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services
- The National Planning Policy Framework (NPPF) 2021
- Environmental Act 2021
- Local policy

A full explanation of these policies can be found within **Appendix D.**

2. Methodology

Personnel

Field surveys have been undertaken by licensed ecologist/s, members of the Chartered Institute of Ecology & Environmental Management (CIEEM) and members of Eco 360 staff.

The Biodiversity Net Gain Assessment has been carried out in line with CIEEM Guidelines on Good practice principles for development (2016), CIEEM A Practical Guide (2019) and BS 8683:2021 - Process for designing and implementing biodiversity net gain.

Survey of Baseline Habitats and Condition

Habitat typing and condition assessments are undertaken during a Preliminary Ecological Appraisals (PEA) or similar studies. The baseline also considers historic records for the site and local area via a desktop study (satellite imagery, previous ecological reports), as well as additional surveys to assess the presence/absence of species in certain situations. Conditions of habitats and hedgerows are assessed using the scoring systems provided in Technical Annex 1 of the Biodiversity Metric 4.0 Condition Assessment Sheet.

River assessments are carried out through a MoRPH5 Pro survey and River type survey. At least one MoRPH5 is undertaken per reach on site that will be directly or indirectly impacted with a further MorPH5 undertaken upstream to record a more “natural setting” if required. This date is then processed via Cartographer to give the condition of the rivers on site.

Calculations of Baseline Habitats

Using Geographic Information Software (GIS), baseline habitats are measured in hectares (ha) using vector layer polygons. These measurements are then input into the DEFRA Statutory Biodiversity Metric Calculation Tool. Habitat condition and connectivity are then input into the calculator. The area of habitat retained is then entered into the calculation to give a final sum of baseline units and lost unit.

Each habitat has a base score of 1, this is then multiplied by the size of the habitat (ha). The habitat is then multiplied by its distinctiveness:

- Very low – 0
- Low – 2
- Medium – 4
- High – 6

The next multiplier is based on the condition of the habitat:

- N/A-other/agricultural – 0
- Poor – 1
- Fairly poor – 1.5
- Moderate – 2
- Fairly good – 2.5
- Good – 3

Calculations of Post-development Habitats

The calculation is informed by planning design, landscape plans, and proposed ecological mitigation. Plans are georeferenced into GIS and are similarly measured in square meters (m^2) using vector layer polygons. These measurements are then converted into input into the DEFRA Statutory Biodiversity Metric Calculation Tool. A target condition will be assigned to each new habitat following the same scores as above.
The calculator will generate a proposed time to hit this target condition and difficulty score.

3. Baseline Calculation and Proposal Impact

3.1 Baseline Habitats

The table below outlines the existing site status based on the most recent field survey.

Habitats

Habitat Type	Area (m²)	Distinctiveness	Distinctiveness Score	Condition	Condition Score	Total Habitat Units	Baseline Area Retained	Baseline Area Enhanced	Area Lost	Units Lost
Developed land; sealed surface	15	V. low	0	N/A - other	0	0.00	15	0	0	0.00
Other neutral grassland	4305	Medium	4	Moderate	2	3.44	865	0	3440	1.37

Linear Habitats

No linear habitats at baseline.

3.2 Proposed Habitats

Habitats

Habitat Type	Area (m²)	Target Distinctiveness	Score	Target Condition	Score	Habitat Units Delivered
Developed land; sealed surface	2135	V. low	0	N/A - other	0	0.00
Artificial unvegetated; unsealed surface	790	V. low	0	N/A - other	0	0.00
Vegetated garden	498	Low	2	Condition assessment N/A	1	0.10
Individual tress	0.0204	Medium	4	Moderate	2	0.06

Linear Habitats

Habitat Type	Length (m)	Target Distinctiveness	Score	Target Condition	Score	Habitat Units Delivered
Native hedgerow	115	Low	2	Moderate	2	0.46

3.3 Total Net Unit Change

The Net Unit change for area habitats on-site is calculated at **–2.59 units**, which correlates to a **75.19% loss** in habitat biodiversity. This is to be achieved by the replacement of existing modified grassland for the development of two dwellings with associated vegetated garden, a parking area, stables, and an outdoor training area. **Overall, the current scheme does not meet minimum BNG requirements**.

4. Recommendations

4.1 Total Net Unit Change

The development proposals do not currently meet the recommended 10% net gain in biodiversity units. The initial score, without enhancements, resulted in a **2.59 loss** in habitat units **(-75.19%)**. This loss is achieved by the replacement of existing modified grassland for the development of a stables and training area with associated dwellings, parking, and vegetated garden.

This loss of habitat is not currently compensated with habitats of equal or greater distinctiveness under submitted site plans, meaning the proposal does not meet trading rules.

4.2 Recommendations

The current proposal does not meet the minimum required 10% net gain in biodiversity units on-site.
In order to comply with the minimum required 10% net gain in biodiversity, the following additional habitat creation and enhancement recommendations can be made:

On-site creation/enhancement

The post-development Biodiversity Metric calculation identifies a residual shortfall in habitat units. Owing to the scale of built development and the resulting reduction in habitat area, there is insufficient land available within the red line boundary to achieve the statutory minimum 10% Biodiversity Net Gain solely through on-site habitat creation and enhancement.
It is therefore anticipated that the Applicant will be required to secure off-site habitat creation/enhancement or purchase statutory biodiversity credits to address the remaining deficit. The precise quantum of off-site provision will be confirmed through the finalised Biodiversity Metric submission and agreed with the Local Planning Authority.
Notwithstanding this position, the following on-site measures shall be implemented to maximise biodiversity uplift within the site:

Native Tree Planting

A minimum of thirty medium-sized native broadleaved trees shall be planted within retained grassland areas across the site. Trees shall be arranged as clusters and/or short linear features to enhance structural diversity, reinforce boundary habitats, and improve ecological connectivity across the site.

Species selection shall comprise locally appropriate native broadleaves suited to the rural landscape context (e.g. pedunculate oak, field maple, hawthorn or similar), unless otherwise agreed in writing with the Local Planning Authority. Planting stock shall be feathered or light standard specification and installed in accordance with best practice, including staking and protective guards where necessary.

A minimum five-year establishment and aftercare regime shall be secured, including watering during dry periods, weed suppression, monitoring, and replacement of any failures in the next planting season.

Collectively, the planting of thirty native trees will provide a meaningful increase in long-term ecological value. As the trees mature, they will:

- Provide nesting and shelter opportunities for birds;
- Enhance foraging habitat for bats and invertebrates;
- Increase vertical habitat structure within retained grassland;
- Contribute to canopy cover and strengthen local green infrastructure connectivity.

The biodiversity value of these features will increase over time, delivering durable habitat enhancement beyond the baseline condition.

Results

Collectively, the proposed enhancements generate an additional **1.71 biodiversity units**, reducing the overall deficit to **–0.88 units (–25.50%)**.

Accordingly, the measures would offset approximately **49.69%** of the total biodiversity unit shortfall. However, despite this measurable improvement, the scheme would still fall short of achieving the statutory minimum 10% Biodiversity Net Gain requirement.

Off-site creation/enhancement

The remaining biodiversity unit deficit will be addressed through the purchase or allocation of off-site biodiversity units from a registered habitat bank or through bespoke off-site habitat creation secured via a legal agreement, in accordance with Schedule 7A of the Town and Country Planning Act 1990 (as amended). The final Biodiversity Metric calculation will confirm the exact quantum of off-site units required.

Subject to the implementation of the on-site measures and the securing of appropriate off-site provision, the development will achieve the statutory minimum 10% Biodiversity Net Gain.

5. References

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Treweek J., Butcher B., and Temple H. (2010) Biodiversity offsets: possible methods for measuring biodiversity losses and gains for use in the UK. CIEEM In Practice.

6. Appendices

Appendix A: Baseline habitat map

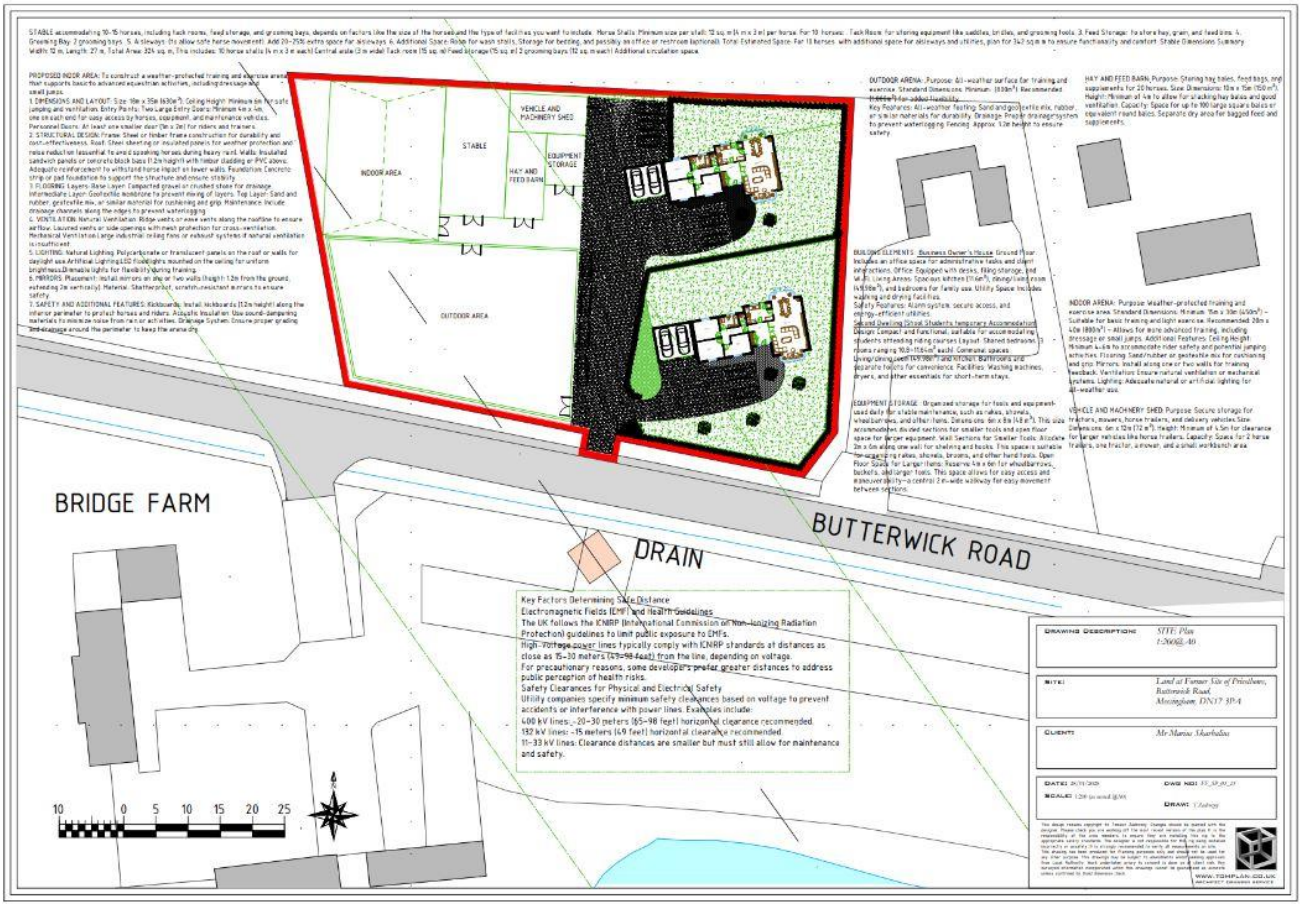
Appendix B: Proposed Site Plans

Appendix C: Proposed habitat map

Appendix D: Biodiversity Net Gain Relevant Policies

Appendix A: Baseline habitat map

Appendix B: Proposed Site Plans



Appendix C: Proposed habitat map

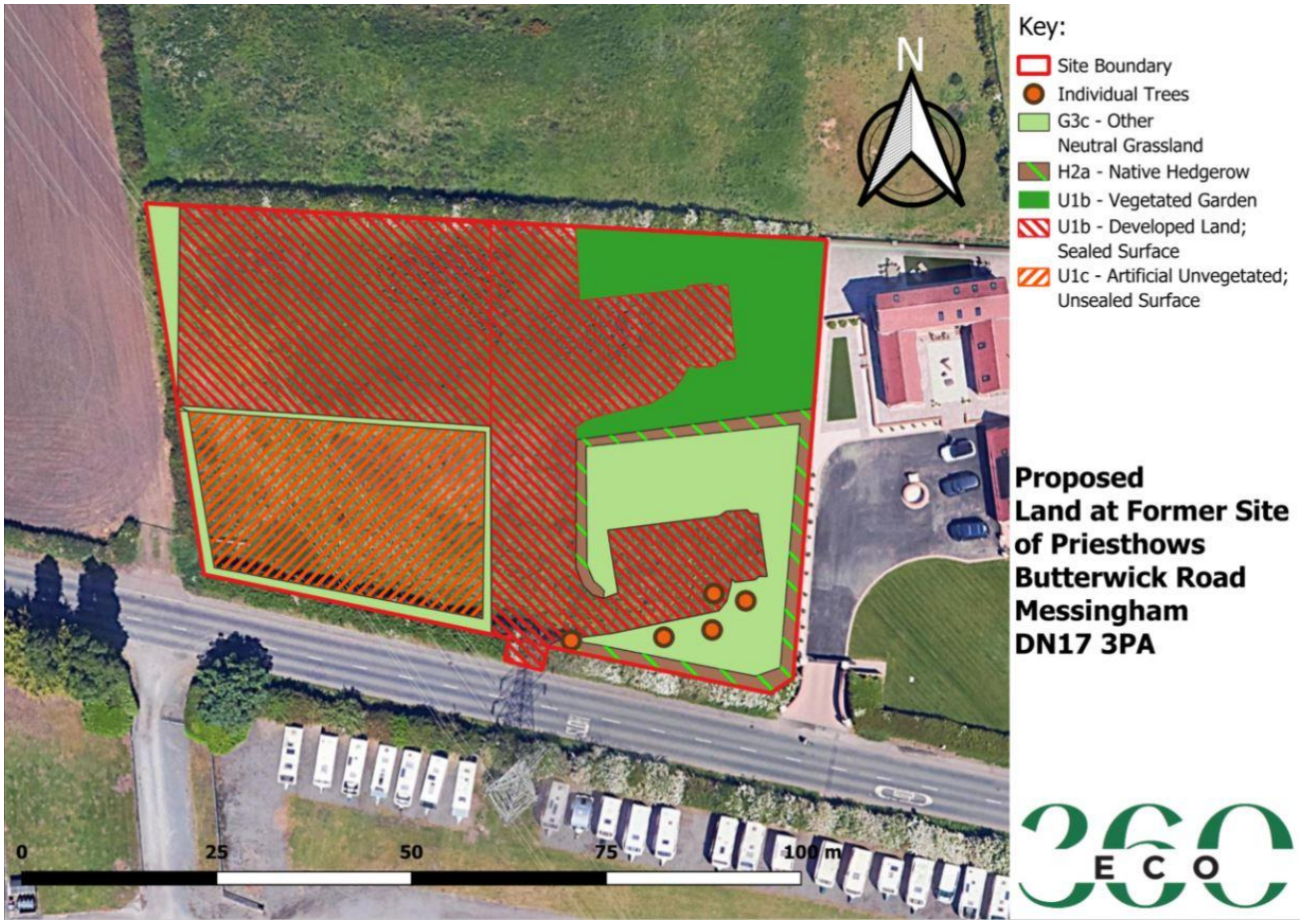


Figure 1. Proposed development habitat map.

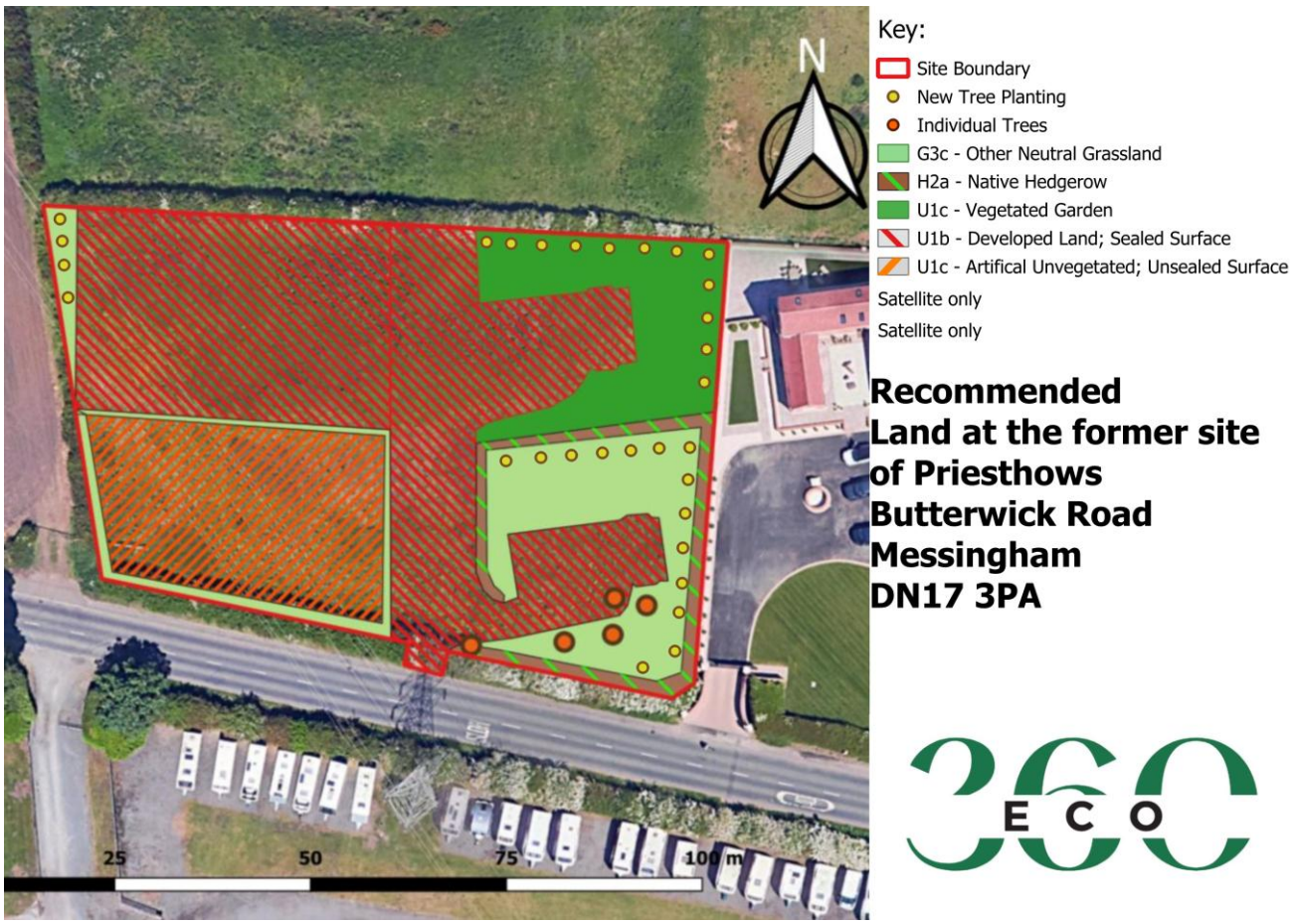


Figure 2. Proposed development habitat map, with additional recommendations to meet required BNG targets.

Appendix D: Biodiversity Net Gain Relevant Policies

Environmental Act 2021

Part 6 on nature and biodiversity covers all areas of biodiversity net gain across two core sections. This Act mandates that all planning meets a minimum of a 10% gain in biodiversity calculated using the appropriate Metric and that the newly created habitats are secured for at least 30 years.

National Planning Policy Framework (NPPF)

While currently not a legal obligation, biodiversity and environmental net gains are mentioned in the revised National Planning Policy Framework (NPPF) within the following paragraphs (please refer to the NPPF for the full quotations):

Achieving sustainable development

Paragraph 8 Section C. "*an environmental objective – **to protect and enhance our natural,** built and historic **environment**; including making effective use of land, **improving biodiversity**, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy*."

Preparing and reviewing plans

Paragraph 32. "*Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This **should demonstrate how the plan** has addressed relevant economic, social and **environmental objectives** (including **opportunities for net gains**). Significant **adverse impacts on these objectives should be avoided** and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered)*."

Identifying land for homes

Paragraph 73 section C. "*consider the opportunities presented by existing or planned investment in infrastructure, the area's economic potential and the scope for **net environmental gains***"

Transport infrastructure:

Paragraph 104. "*Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*
*d) the environmental impacts of traffic and transport infrastructure can be identified assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for **net environmental gains.***

Planning decisions:

Paragraph 119 "*Planning decisions and planning policy should a) encourage multiple benefits from both urban and rural land … and taking opportunities to **achieve net environmental gains - such as developments that would enable new habitat creation."***

Conserving and enhancing the natural environment

Paragraph 174 Section D. "***minimising impacts on and providing net gains for biodiversity****, including by establishing coherent ecological networks that are more resilient to current and future pressures*"

Habitats and biodiversity

Paragraph 179. "*To protect and enhance biodiversity and geodiversity, plans should:*

a) Identify, map and ***safeguard components of local wildlife-rich habitats*** *and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management,* ***enhancement, restoration or creation****;*

and b) promote ***the conservation, restoration and enhancement of priority habitats,*** *ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing* ***measurable net gains for biodiversity***."

Paragraph 180. "*When determining planning applications, local planning authorities should apply the following principles:*

a) *if* ***significant harm to biodiversity*** *resulting from a development* ***cannot be avoided*** *(through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then* ***planning permission should be refused;***

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the ***loss or deterioration of irreplaceable habitats*** *(such as ancient woodland and ancient or veteran trees)* ***should be refused,*** *unless there are wholly exceptional reasons and a suitable compensation strategy exists;*

and d) development ***whose primary objective is to conserve or enhance biodiversity should be supported;*** *while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can* ***secure measurable net gains for biodiversity*** *or enhance public access to nature where this is appropriate*."

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