

Biodiversity Net Gain Assessment

Land at Thistledown Cottage

Harbolets Road

West Chiltington

RH20 2LG

NGR: TQ 10013 21022



20th September 2025

V1.3

Sylvatica Ecology Ltd

Company Registration Number: 07705793

<https://se-planning.com>

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It should be borne in mind that the behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats, or that they will not occur in locations or habitats that appear unsuitable.

In order to minimise the likelihood of adverse effects on protected animal species over time, it is accepted good practice, in accordance with Natural England (NE) (formerly English Nature) guidance for ecological surveys to be repeated should works be deferred for over 12 - 18 months from the date of initial survey.

It is the duty of the landowner, developer and operations managers to act responsibly and to comply with current environmental legislation if protected species are suspected or found prior to, or during works.

The recommendations and information contained within this report are based on the information provided on the development works prior to the surveys being carried out. Should the development proposals change then the findings and recommendations contained within would potentially require revision.

The findings within this report do not constitute legal advice. Should this be required, then a suitably qualified professional practitioner should be contacted.

Author	Signed	Contact
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1.0 INTRODUCTION

- 1.1 This document presents the small sites biodiversity net gain (BNG) assessment relating to land at Thistledown Cottage, Harbolets Road, West Chiltington, RH20 2LG, NGR: TQ 10013 21022. This assessment aims to quantify the predicted change in ecological value of the site following the proposed development works to be carried out at this location.
- 1.2 BNG became effective in January 2024 (April 2024 for smaller sites) following the Environmental Act 2021, which states that a target of 10% net gain in biodiversity should be achieved, with biodiversity value being maximised on site whenever possible.
- 1.3 Should any changes to the design of the development be made then the BNG score and metric would need to be updated in-line with any such changes. The measures would be carried forward for a period of 30 years after planning permission has been granted and also during the construction phase.

Previous Surveys

- 1.4 A site walkover to map the habitats was conducted in accordance with guidance on the UK Habitat Classification System (UKHab) and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal, in accordance with BS42020:2013 Biodiversity.
- 1.5 A walkover was conducted by Sylvatica Ecology Ltd on the 22nd April 2024.

Development Proposal

- 1.6 It is proposed that two residential properties are installed at this location which will include associated parking, landscaping and hedgerow planting.

Site Description and Adjacent Habitat

- 1.7 Thistledown Cottage was situated within a rural location within West Sussex along Harbolets Road. The site survey area comprised of the ground slightly to the north of the residential building which was within part of a block of deciduous woodland. The surrounding land comprised of a mixture of pasture and arable agricultural land, with horse grazing pasture also present. Some of the agricultural fields were segregated through hedgerows and some with fencing. There were also some residential properties within the surrounding landscape.

1.8 **Figure 1: Site Survey Location (Red Line Boundary)**



2.0 METHODOLOGY

Good Practice Principles

- 2.1 To calculate the ecological value of the pre and post development site, the Department for Environmental, Food & Rural Affairs (DEFRA) Small Sites Statutory Biodiversity Metric (4.0) was used, following best practice from DEFRA and Natural England. The completed statutory biodiversity metric is provided as a separate document and this report provides additional information on how the calculations have been undertaken.
- 2.2 Good practice guidance from the Chartered Institute for Ecology and Environmental Management (CIEEM) provides a framework that helps to improve the UK's biodiversity by contributing towards strategic principles to conserve and enhance nature while progressing with sustainable development. **Table 1** provides additional information on each of these principles and how the development has or can achieve these requirements.

2.3 **Table 1: Good Practice Principles and Discussion**

Good Practice Principle	Discussion
<i>1: Apply the Mitigation Hierarchy</i>	The habitats present within the works impact zone were modified grassland, hard standing and buildings. There was a hedgerow, which would have a small section removed to facilitate access.
<i>2: Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere</i>	There were not any irreplaceable habitats affected by the proposed development. There was deciduous woodland directly adjacent to the works area, which was outside of the development footprint.
<i>3: Be Inclusive and Equitable</i>	The project proposal will result on a net gain of 157.96% with a hedgerow net gain of 34.78%. This is a result of input from a diverse range of individuals who have contributed to the design.
<i>4: Address Risks</i>	The ecologists at Sylvatica Ecology have provided input to both protect and improve biodiversity. The statutory biodiversity metric also included inbuilt risk factors with contribute towards calculating overall biodiversity value.
<i>5: Make a Measurable Net Gain Contribution</i>	The overall design of the scheme will create an overall gain of biodiversity with a gain of hedgerow units.
<i>6: Achieve the Best Outcomes for Biodiversity</i>	The landscape design would need to incorporate ecological enhancement measures.
<i>7: Be Additional</i>	It is possible to provide enhancements that are not included within the BNG assessment such as use of bird and bat boxes.
<i>8: Create a Net Gain Legacy</i>	The scheme will improve the overall biodiversity value of the local area through the planting of the hedgerow throughout the scheme area.
<i>9: Optimise Sustainability</i>	The installation of the hedgerow will ensure that biodiversity will be improved over the 30 year management time frame.
<i>10: Be Transparent</i>	Advice on enhancing the ecological value of the site was provided within the preliminary ecological assessment.

Habitat Mapping, Condition Assessment and Baseline Calculation Methods

2.4 Habitat mapping was carried out QGIS V 3.22.14-Bailowieza for MacOS 14.1. Habitat areas were calculated using this QGIS software.

2.5 The tree helper within the statutory metric was used to determine the area of the trees based on their size at diameter at breast height (dbh). Trees smaller than 7.5cm dbh were not included in the calculations.

2.6 The site survey data used for the calculations was April 2024 as this appeared to be a good representation of the habitats present on site with an earlier date not required.

Successful Habitat Creation and Condition

2.8 The time that will elapse between site habitat clearance and habitat re-creation is, as yet, unknown. This time is recorded within the Statutory Biodiversity Metric as a temporal multiplier called 'delay in starting habitat', which is added to each post development habitat type, and increases 'time to target condition'. As a general pattern, the longer the time elapsed between habitat clearance and creation, the longer it takes to achieve the targeted habitat condition, which can lower the metric score.

2.9 Currently it is assumed that a 0-year delay has currently been used for each post-development habitat type. The target habitat conditions for the created habitats post development are normally given as moderate/ good.

Competencies

2.10 The survey work and reporting has been led by Richard Law BSc MRes CEnv MCIEEM FLS. Richard has been undertaking ecological survey work within the last 18 years on many different locations throughout the United Kingdom, for a variety of protected species, including bats (Class 2 2015-12576), reptiles, amphibians including great crested newt (*Triturus cristatus*) (Class 1 2016-20290) and terrestrial mammals including dormice (*Muscardinus avellanarius*) (Class 1 2015-13188) and birds including barn owl (*Tyto alba*) licence (CL29/00236). Richard is also qualified in track and sign and trailing *via* an international system of assessment (www.trackercertification.com).

3.0 RESULTS

- 3.1 This section presents the findings of the biodiversity net gain calculation, the units present onsite prior to development (baseline), the units present post development and the total biodiversity net gain change in units as a percentage calculation.

Baseline Conditions

3.2 **Table 2: Onsite Baseline Conditions**

Onsite Baseline	Habitat Units	0.11
	Hedgerow Units	0.86

- 3.3 The size and condition of habitats present onsite (within the development footprint) at the time of the survey gives a total of 0.11 habitat units and 0.86 hedgerow units.
- 3.4 No irreplaceable habitats are present within the development footprint but a block of deciduous woodland was directly adjacent to the development area.

Baseline Habitat Types Impacted by the Scheme and Condition Assessment

- 3.4 **Modified Grassland** - This habitat was concentrated in the northern section of the scheme footprint. There were very few vascular species identified here, with
- 3.5 This grassland was assessed as having a poor condition as it did not meet the essential criteria (Criteria A) related to species richness which is necessary to achieve a condition score above poor. Criteria A which it failed is detailed below.
- 3.6 Criteria A - "There are 6-8 vascular plant species per m² present, including at least 2 forbs.
Note - this criterion is essential for achieving Moderate or Good condition."
- 3.7 **Species Rich Native Hedgerow** - The eastern aspect of the site was demarcated by a hedgerow. The species present were hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, elder *Sambucus nigra* and field maple *Acer campestre*.
- 3.8 This hedgerow was assessed as being of a moderate condition with three criteria not passed and at least one criteria within each functional group passed. The hedgerow failed the following criteria (B2, C1 and D2).
- 3.9 Criteria B2 - "Gaps make up <10% of total length; and No canopy gaps >5 m"

3.10 Criteria C1 - ">1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least)."

3.11 Criteria D2 - ">90% of the hedgerow or undisturbed ground is free of damage caused by human activities."

Post Development Habitats

3.12 **Table 3: Post Development Habitats**

Onsite Post Intervention	Habitat Units	0.29
	Hedgerow Units	1.16

3.13 With the post development habitats created and the associated target conditions achieved, this gives a total of 0.29 habitat units and 1.16 hedgerow units.

3.14 **Native Hedgerow (Moderate Condition)** – There will be extensive hedgerow planting as part of this scheme. The target condition will be moderate as this will be relatively realistic to maintain over the long term.

3.15 This hedgerow was assessed as being of a moderate condition with three criteria not passed and at least one criteria within each functional group passed. The hedgerow failed the following criteria (B2, C1 and D2). The target condition for this habitat will be 'moderate' condition with the following criteria being met through the management objectives. One of each of the groups would be required to be met, with no more than four failures on the below criteria.

3.16 Criteria A1 - ">1.5 m average height along length".

3.17 Criteria A2 - ">1.5 m average width along length".

3.18 Criteria B1 - "Gap between ground and base of canopy <0.5 m for >90% of length".

3.19 Criteria B2 - "Gaps make up <10% of total length; and No canopy gaps >5 m"

- 3.20 Criteria C1 - ">1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least)."
- 3.21 Criteria C2 - "Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground."
- 3.22 Criteria D1 – ">90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA³) and recently introduced species."
- 3.23 Criteria D2- ">90% of the hedgerow or undisturbed ground is free of damage caused by human activities."

4.0 NET GAIN SUMMARY & CONCLUSIONS

- 4.1 The baseline habitats present on site provides xx habitat units. At the post development stage taking into account the retained and newly created habitat, it is anticipated that there will be 0.29 habitat units and 1.16 hedgerow units following implementation of the scheme. **Table 4** below is a summary of the change in habitat and hedgerow units present on site. Full headline results are also shown in **Appendix C**.

4.2 **Table 4: Total Net Unit Change and Percentage Change**

Total Net % Change	Habitat Units	+0.18 (+157.96%)
	Hedgerow Units	+0.30 (+34.78%)

- 4.3 The post development habitat creation within the design of the scheme has resulted in gain of +0.18 habitat units which give a biodiversity net gain of +157.96% and a gain of 0.30 hedgerow units, giving a net gain of 34.78% hedgerow units.

5.0 LONG TERM MANAGEMENT AND DRAFT HABITAT MANAGEMENT AND MONITORING PLAN

Purpose and Scope

- 5.1 This draft Habitat Management and Monitoring Plan (HMMP) was prepared to secure and maintain the biodiversity net gain calculated for the site (Sylvatica Ecology Ltd, 2025), in accordance with the mandatory Biodiversity Net Gain requirements of the Environment Act 2021 and the Town and Country Planning (Biodiversity Gain) Regulations. It sets out the management, monitoring and remedial measures required to establish and maintain the created native hedgerow to its target Moderate condition for the statutory 30-year period following implementation.
- 5.2 As set out in Section 4.0 of the BNG Assessment, the on-site habitat units (0.29 units) were not considered to require dedicated long-term management. The newly created native hedgerow, however, contributes 1.16 hedgerow units (a net gain of +0.30 units, +34.78%), and this HMMP therefore focuses on securing that gain over the required 30-year period.

Habitat Parcel and Target Condition

- 5.3 The managed habitat parcel comprised the native species hedgerow to be planted along the site boundary, replacing and extending the existing eastern boundary hedgerow (hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, elder *Sambucus nigra* and field maple *Acer campestre*), as shown on the approved landscaping plan (Appendix B of the BNG Assessment).
- 5.4 The target condition for this hedgerow was Moderate, requiring at least one criterion within each of the four functional groups of the Statutory Biodiversity Metric hedgerow condition assessment sheet (extent/structure, structure, undisturbed ground, and general condition) to be met, with no more than four of the individual criteria failed overall.

Management Objectives and Prescriptions

- 5.5 Management of the hedgerow should be directed towards achieving and maintaining the following condition criteria:
- *Height and width (Criteria A1/A2, >1.5m average height and width): the hedge should be allowed to establish with minimal cutting for the first 3–5 years, then managed on a rotational (e.g. 2–3 year) cutting cycle rather than annual close-trimming, cut to a trapezoidal ('A') profile to encourage height and width gain.*
 - *Base density (Criterion B1, gap between ground and canopy <0.5m for >90% of length): the base of the hedge should be allowed to grow densely to ground level, avoiding low mechanical flailing, with gapping-up of any thin sections.*

- *Continuity (Criterion B2, gaps <10% of length, no canopy gaps >5m): dead or failed whips should be replaced within the first two growing seasons, and the hedge line protected from vehicle or grazing damage during establishment using appropriate guards or fencing.*
- *Undisturbed margin (Criterion C1, >1m width of undisturbed ground with perennial herbaceous vegetation on at least one side): a minimum 1m grass/wildflower margin should be established and retained along at least one side of the hedgerow, cut no more than once or twice a year with arisings removed, and free of herbicide or fertiliser application.*
- *Nutrient enrichment (Criterion C2, <20% cover of nutrient-enrichment indicator species): fertiliser or manure should not be applied near the hedgerow margin, and any dominance of nettle, cleavers or dock should be managed by cutting or removal.*
- *Invasive species (Criterion D1, >90% free of Schedule 9 WCA species): only native, local-provenance, disease-free planting stock should be used, and the hedge base and margin checked annually for invasive non-native species, with any recorded promptly controlled or removed.*
- *Freedom from damage (Criterion D2, >90% free of damage from human activities): the hedgerow line should be protected from vehicle parking, storage, trampling or mowing/herbicide damage from adjacent garden management, throughout the 30-year period.*

Establishment Specification

- 5.6 Planting should follow the species list and specification set out in the approved landscape plan, using native, local-provenance whips at an appropriate density (typically 5–6 plants per metre in a double staggered row), individually protected, and watered and maintained through the establishment period (the first 2–3 growing seasons) to ensure successful establishment.

Monitoring Schedule

- 5.7 Monitoring should be undertaken by a suitably competent ecologist against the Statutory Biodiversity Metric hedgerow condition criteria set out above, at Year 1 (establishment check), Year 2, Year 3, Year 5, and thereafter at five-yearly intervals to Year 30 (i.e. Years 10, 15, 20, 25 and 30), or following any significant management operation or damage event.
- 5.8 Each monitoring visit should record hedgerow height and width, the presence and extent of any gaps, the condition of the undisturbed margin, the presence of any invasive or nutrient-enrichment indicator species, and any damage, supported by photographs taken from fixed points.

Remedial Action

- 5.9 Where monitoring identified that the hedgerow was failing to achieve or maintain Moderate condition, for example through poor establishment, dieback or damage, remedial action should be implemented within the following growing season. This may include replacement or gapping-up planting, adjustment of the cutting regime, reinstatement of the herbaceous margin, or additional protective fencing.

Responsibility, Delivery and Reporting

- 5.10 Responsibility for implementation of this HMMP should rest with the landowner or an appointed management company, with delivery secured for the full 30-year period through an appropriate mechanism, such as a planning condition, Section 106 obligation or conservation covenant. A monitoring report should be submitted to the Local Planning Authority at each monitoring interval, or as otherwise agreed through the securing mechanism, to demonstrate ongoing compliance with this HMMP.

Review

- 5.11 This HMMP should be reviewed and updated should the approved scheme design change, or following any monitoring visit that identifies a significant departure from the target condition trajectory set out above.

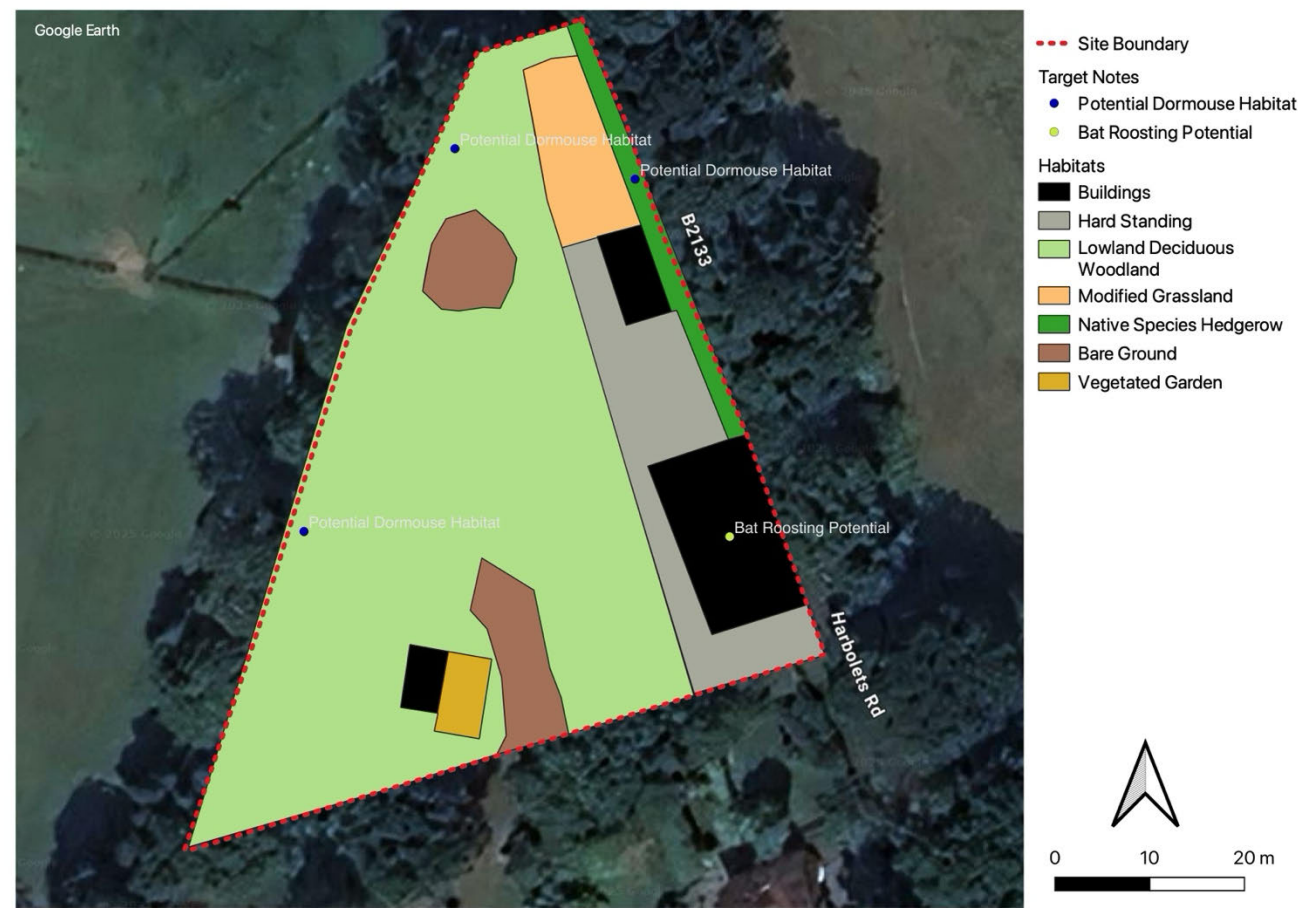
6.0 REFERENCES

CIEEM (2016) Biodiversity Net Gain – Good Practice Principles for Development

DEFRA (2023) Statutory Biodiversity Metric Draft User Guide

Natural England (2023) The Statutory Biodiversity Metric and Small Sites Metric – QGIS Template and QGIS Import Tool User

APPENDIX A: BASELINE HABITATS



APPENDIX B: HABITATS POST DEVELOPMENT



APPENDIX C: HEADLINE RESULTS OF NET GAIN ASSESSMENT

Thistledown Cottage

Headline Results

Scroll down for final results

Return to results menu

On-site baseline

Habitat units0.11

Hedgerow units0.86

Watercourse units0.00

On-site post-intervention

(Including habitat retention, creation & enhancement)

Habitat units0.29

Hedgerow units1.16

Watercourse units0.00

On-site net change

(units & percentage)

Habitat units0.18157.96%

Hedgerow units0.3034.78%

Watercourse units0.000.00%

Off-site baseline

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

Off-site post-intervention

(Including habitat retention, creation & enhancement)

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

Off-site net change

(units & percentage)

Habitat units0.000.00%

Hedgerow units0.000.00%

Watercourse units0.000.00%

Combined net unit change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units0.18

Hedgerow units0.30

Watercourse units0.00

Spatial risk multiplier (SRM) deductions

Habitat units0.00

Hedgerow units0.00

Watercourse units0.00

FINAL RESULTS

Total net unit change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units0.18

Hedgerow units0.30

Watercourse units0.00

Total net % change

(Including all on-site & off-site habitat retention, creation & enhancement)

Habitat units157.96%

Hedgerow units34.78%

Watercourse units0.00%

Trading rules satisfied?

Yes

Unit Type

Target

Baseline Units

Units Required

Unit Deficit

Habitat units

10.00%

0.11

0.13

0.00

Hedgerow units

10.00%

0.86

0.94

0.00

Watercourse units

10.00%

0.00

0.00

0.00

No additional area habitat units required to meet target

No additional hedgerow units required to meet target

No additional watercourse units required to meet target