Biodiversity Net Gain Assessment

Land at Meadowhurst

Lyons Road

Slinfold

West Sussex

RH13 0QS

NGR: TQ 13007 30969



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V1.1

Sylvatica Ecology Ltd

Company Registration Number: 07705793

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Limitations and Liabilities

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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 biodiversity net gain (BNG) assessment relating to the land at Land at Meadowhurst, Lyons Road, Slinfold, West Sussex, RH13 0QS NGR: TQ 13007 30969. 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. This report is designed to provide the LPA with an idea of how +10% net gain can be achieved. 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 un the UK Habitat Classification System (UKHab) and the Charted Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal, in accordance with BS42020:2013 Biodiversity. The overall assessment consisted of:

- Site specific biological information gained from statutory and non-statutory consultation; and,
- A site walkover survey, protected species scoping assessment and UKHAB survey.

1.5 The walkover survey to map the habitats was conducted by Sylvatica Ecology Ltd on the 24th November 2024.

Development Proposal

1.6 A single barn will be installed within the northeastern corner of the field. There is also scope for habitat improvement of the grassland, should there be a requirement to incorporate this into any biodiversity net gain.

Site Description and Adjacent Habitat

1.7 The site was located within Mid Sussex, approximately 5km west of Broadbridge Heath and 1.5km east of the large village of Slinfold. The larger property boundary comprised of wetland meadow to the southwest, with blocks of deciduous woodland around to the east. The dominant land use locally was arable agriculture, with field boundaries of hedgerow. Private

residential properties with associated private gardens were also present 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 Affaires (DEFRA) 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
1: Apply the Mitigation Hierarchy	The habitat present on site are common and widespread with the majority of the site formed of other neutral grassland . The neutral grassland present on site was of a medium distinctiveness which prevented the scheme from only targeting the lowest distinctiveness habitats.
2: Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere	There were not any irreplaceable habitats affected by the proposed development. The habitats present on site were of a medium distinctiveness at most which allows for offsetting to be achieved. The scheme has been designed to allow retention of the boundary hedgerow and treelines.
3: Be Inclusive and Equitable	Sylvatica Ecology has provided advice on measures to achieve the 10% net gain target.
4: Address Risks	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.
5:Make a Measurable Net Gain Contribution	The development can achieve a net gain in biodiversity through both on-site provision. This will ensure that there is both on site local gains whilst also contributing to provision of biodiverse habitats at a wider scale.
6: Achieve the Best Outcomes for Biodiversity	The landscape design improves the biodiversity value on site.
7: Be Additional	The proposals will look to meet 10% BNG for habitat units as well as providing enhancements that are not included within the BNG assessment such as use of bird and bat boxes.
8: Create a Net Gain Legacy	The detail relating to the proposed ecological enhancements will be secured within a planning condition for a Habitat Management and Monitoring Plan (HMMP) and any necessary legal agreements to ensure any net gain on site or off site can be secured for 30years.
9: Optimise Sustainability	The design has been created with biodiversity in mind.
10: Be Transparent	Advice on enhancing the ecological value of the site was provided during the design process and will be used as part of the development of the detailed design should outline planning permission be granted.

Habitat Mapping, Condition Assessment and Baseline Calculation Methods

2.4 Each specific habitat was assessed according to the condition assessment characteristics on the Biodiversity Net Gain Metric 4.0 Technical Annex 1. This provides specific criteria for each habitat classification utilising the United Kingdom Habitat Classification System. The mapping was carried out using QGIS V 3.22.14-Bailowieza for MasOS 14.1. Habitat areas and pond distances from site were calculated using this QGIS software. A check of historical maps is also made using Google Earth, which gives an indication of the age of the habitats present onsite and surrounding.

2.5 The standard statutory metric was used due to the size of the site, potential impact on adjacent habitats and as a precaution.

2.6 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.

2.7 The site survey data used for the calculations was 24th November 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 given as 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**	**7.26**
	Hedgerow Units	**0.00**

3.3 The size and condition of habitats present onsite at the time of the survey gives a total of 7.26 habitat units and 0.00 hedgerow units. This is comprised of other neutral grassland and bare ground.

3.4 No irreplaceable habitats are present within the development site.

Baseline Habitat Types and Condition Assessment

3.5 ***Other Neutral Grassland –***The grassland had species such as false oatgrass *Arrhenatherum elatius,* Yorkshire fog *Holcus lanata*, sweet vernal grass *Anthoxanthum odoratum*, cocksfoot *Dactylis glomerata*, black knapweed *Centaurea nigra*, meadow vetchling *Lathyrus pratensis*, meadowsweet *Filipendula ulmaria,* common sorrel *Rumex acetosa*, lesser stitchwort *Stellaria graminea* and meadow buttercup *Ranunculus acris*. Five 1m by 1m quadrats recorded an average of 4.8 species per m2. Overall, the grassland was considered to be of a moderate condition.

3.6 Overall, the grassland, was considered, to be of moderate condition. It met three of the criteria and did not meet the essential criteria for good condition (F) which requires at least 10 vascular plants per m^2. It failed three additional criteria below.

3.7 *Criteria B- "Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed."*

3.8 Criteria C- *"Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens."*

3.9 Criteria F- *"There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only."*

Post Development Habitats

3.10 ***Table 3: Post Development Habitats***

Onsite Post Intervention	**Habitat Units**	**9.69**
	Hedgerow Units	**0.00**

3.11 With the post development habitats created and the associated target conditions achieved, this gives a total 9.69 habitat units and a total 0.00 hedgerow units.

3.12 Post development the site is proposed to contain the following habitats: Developed land; sealed surface and other neutral grassland.

3.13 ***Developed land; sealed surface*** **-** New residential properties, patios, pathways, access and parking. No condition assessment is required for this habitat type and it is automatically given a very low distinctiveness.

3.14 ***Other Neutral Grassland*** – To achieve the good condition the following conditions would have to be achieved

3.15 Criteria B- *"Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed."*

3.16 Criteria C- *"Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens."*

3.17 Criteria F- *"There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only."*

4.0 NET GAIN SUMMARY & CONCLUSIONS

4.1 The onsite baseline habitats present on site provided 7.26 habitat units and 0.00 hedgerow linear unit and it is anticipated that, the majority, of the habitat units will be retained as a result of the proposal. Post development, taking into account, retained and improved habitat it is anticipated that there will be 9.69 habitat units following implementation of the scheme. ***Table 6*** below is a summary of the change in habitat and hedgerow units present on site, exclusive of the off-site measures.

4.2 ***Table 6: Total Onsite Net Unit Change and Percentage Change***

Total Net % Change	**Habitat Units**	**2.43 (33.53%)**
	Hedgerow Units	**N/A**

4.3 The post development habitat creation within the design of the scheme has resulted in a total gain of 2.43 habitat units which gives a net gain of 33.53%.

5.0 LONG TERM MANAGEMENT

5.1 To ensure at least 10% net gain is secured and the necessary condition for each of the habitats created or retained is met and continues to be met throughout a 30-year time period it will be necessary to secure management for any habitats where a condition assessment is required. The developed land habitats present on site will not require long term management and as such it is not anticipated that the proposals will require an on-site Habitat Management and Monitoring Plan (HMMP). However, as off-site provision will be required it will be necessary for any off-site habitat creation to be subject to management for at least 30 years.

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

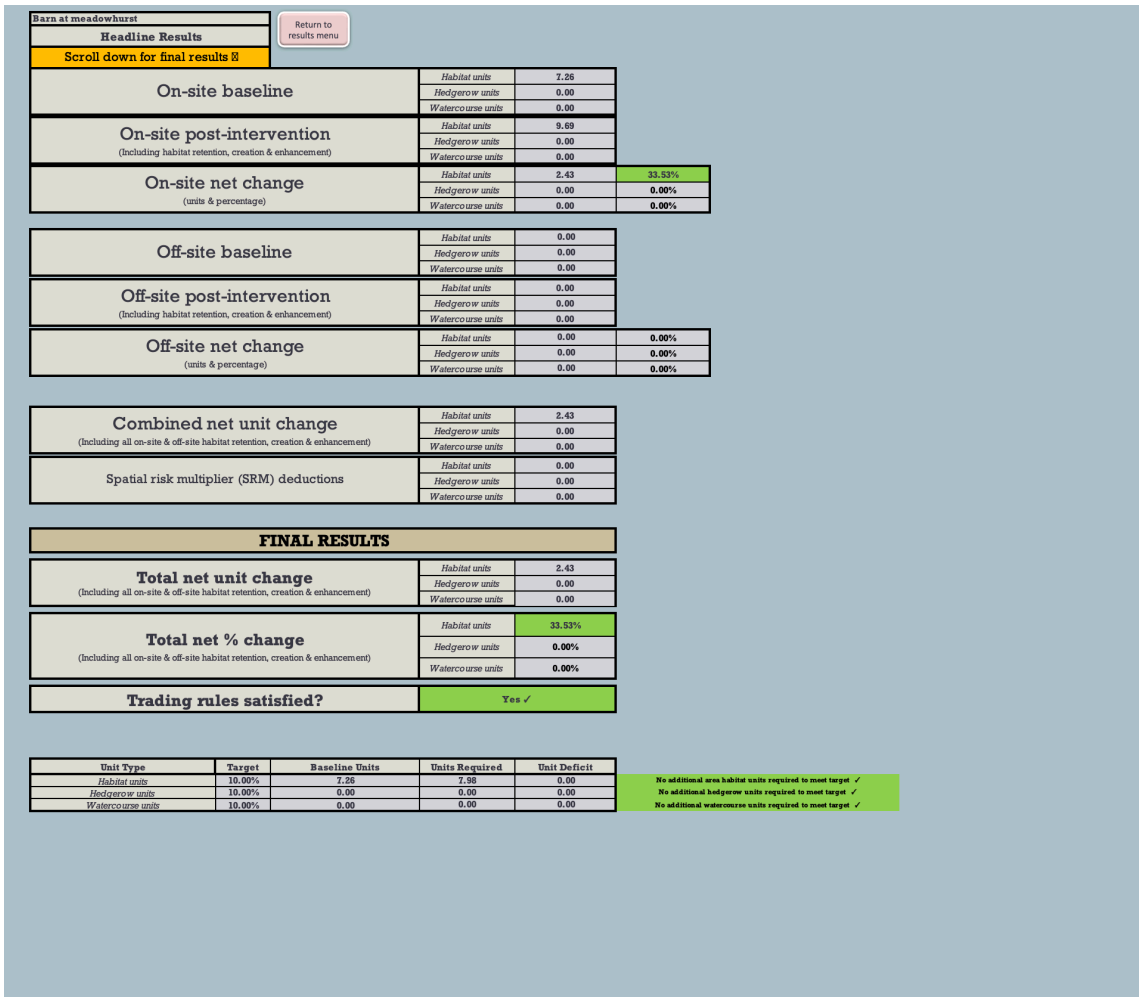
APPENDIX A: BASELINE HABITATS



APPENDIX B: HABITATS POST DEVELOPMENT



APPENDIX C: HEADLINE RESULTS OF NET GAIN ASSESSMENT



Barn at meadowhurst

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Headline Results

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On-site baseline	*Habitat units*	7.26	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	9.69	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	2.43	33.53%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Off-site baseline	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.43	
	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	

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.43
	Hedgerow units	0.00
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	33.53%
	Hedgerow units	0.00%
	Watercourse units	0.00%
Trading rules satisfied?		Yes ✓

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	7.26	7.98	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓