



www.osecology.co.uk

Biodiversity Net Gain Assessment

Jack Lawson Terrace, Wheatley Hill

February 2024

Gleeson Regeneration Ltd



Client	Gleeson Regeneration Ltd
Project Name	Jack Lawson Terrace, Wheatley Hill
Project Number	23175
Report Type	Biodiversity Net Gain Assessment
Version	V4
Metric Reference	23175 BNG v1

	Name	Position	Date
Report Originator	James Streets	Director	August 2023
Updated	James Streets	Director	November 2023
Reviewed	Mark Osborne	Director	February 2024

This report is issued to the Client for the purpose stated in the Agreement between the Client and OS Ecology Ltd, under which this work was undertaken. The report may only be used for this aforementioned purpose and copyright remains with OS Ecology Ltd. The report is only intended for the Client and must not be relied upon or reproduced by anyone other than the Client without the express written agreement of OS Ecology Ltd. The use of this report by unauthorised persons is at their own risk. OS Ecology Ltd accepts no duty of care to any such party.

OS Ecology Ltd has exercised due care and attention in the preparation of this report. Unless specifically stated, there has been no independent verification of information provided by others. No other warranty, express or implied, is made in relation to the content of this report and OS Ecology Ltd accepts no liability for any loss or damage resulting from errors, omissions or misrepresentations of others.

The findings of the report and subsequent assessment and opinions of OS Ecology Ltd are based entirely on the facts and circumstances at the time the work was undertaken. OS Ecology Ltd have produced this report in line with best practice guidance and following the principles and requirements of British Standard BS42020. The report has been provided taking due regard of the provisions of the CIEEM Code of Professional Conduct.

It must be noted that the none of the information provided within this report constitutes legal opinion.

Where required to do so by law or regulatory authority, OS Ecology Ltd may disclose any information obtained from the Client to a third party. Should OS Ecology Ltd become aware that the Client has breached or is likely to breach legislation relating to wildlife or the environment, OS Ecology Ltd will be entitled to disclose such information to the relevant authority, including the relevant governmental body or the police.

Contents

Summary	4
1. Introduction	5
Site Location.....	5
Site Description.....	5
Development Proposals	5
Purpose of Report.....	5
Planning Policy.....	5
2. Methodology	6
Desk Study	6
Field Survey	6
Habitat Mapping	6
Condition Assessment.....	7
Limitations	7
Approach to Biodiversity Net Gain.....	7
Biodiversity Metric 4.0 Calculation Tool.....	7
3. Baseline Conditions	9
Baseline Habitat Types and Condition Assessment.....	9
Baseline Biodiversity Units	11
Post Development – Baseline Habitat Retention Category.....	11
Post Development – Habitat Enhancement.....	11
Post Development – Habitat Creation	11
4. Net Gain Assessment	13
Appendix 1: Condition Assessment	14
Appendix 2: Figures	16

Tables

Table 2.1: Survey Conditions.....	6
Table 2.2: Biodiversity Net Gain – Good Practice Principles for Development.....	7
Table 3.1: Baseline Habitat Types.....	9
Table 3.2: Baseline Biodiversity Units	11
Table 3.3: Post Development Habitats - Biodiversity Units Delivered.....	12

Summary

OS Ecology Ltd were commissioned by Gleeson Regeneration Ltd in 2023 to undertake a Biodiversity Net Gain Assessment of land at Jack Lawson Terrace, Wheatley Hill. The site is proposed for residential development.

The site comprises two parcels of land within an existing residential area, totalling approximately 2.65ha in size and comprising areas of amenity grassland with scattered trees.

This report includes recommendations to maximise benefits for biodiversity and to ensure the implementation of the mitigation hierarchy in relation to the proposed development.

The site does not support any irreplaceable habitats. Habitats are assessed as being of less than district value¹. The site is considered to be of no more than local value to bats, birds and hedgehog.

The following is recommended to deliver a measurable net gain in relation to the development of this site:

- Retain the existing trees as far as practicable. Where trees are to be affected, this should be compensated through provision of additional tree planting.
- Landscape planting should seek to create semi-natural habitats where possible, such as native scrub, species rich grassland and/or ponds; these habitats are of moderate or high distinctiveness and will deliver a greater number of biodiversity units per unit area.

Should proposals result in the loss of all existing habitats more than 11.46 units will be needed to be delivered within the 'habitats' element of the metric through the landscape scheme to achieve a measurable biodiversity net gain on-site.

Site design should seek to incorporate the recommendations detailed within this report and to maximise the biodiversity units delivered on-site. Where measurable gain is not achieved on-site, off-site compensation may be considered appropriate only where all other options have been explored.

¹ Ecological Appraisal, Land at Wheatley Hill, August 2023, OS Ecology Ltd

1. Introduction

1.1 OS Ecology Ltd were commissioned by Gleeson Regeneration Ltd in 2023 to undertake a preliminary Biodiversity Net Gain Appraisal of land at Jack Lawson Terrace, Wheatley Hill. The site is proposed for residential development.

Site Location

1.2 The site is located in Wheatley Hill, County Durham, at an approximate central grid reference of NZ 37395 38711. The site location is illustrated within figure 1 in the appendices.

Site Description

The site comprises two parcels of land within an existing residential area, totalling approximately 2.5ha in size and comprising areas of mown grassland with scattered trees.

Development Proposals

1.3 It is proposed to develop the site for residential use with associated landscaping.

Purpose of Report

1.4 The objectives of this report are:

- To assess and map the habitats present within the proposed development area using the UK Habitat Classification² criteria.
- To calculate the baseline 'Biodiversity Units' using Natural England's Biodiversity Metric 4.0³.
- To review the Biodiversity Net Gain (BNG) Principles⁴ and assess whether Biodiversity Net Gain can be delivered in relation to site development.
- To provide advice as to how the project can maximise its ability to deliver BNG.
- To consider the potential for on-site or off-site delivery of BNG.

Planning Policy

1.1 Planning policy relevant to this site (National Planning Policy Framework, the County Durham Local Plan) can be found within Appendix 2.

² Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

³ Natural England Joint Publication JP039 Biodiversity Metric 4.0 User Guide, March 2023

⁴ Biodiversity Net Gain Good Practice Principles for Development CIEEM CIRIA IEMA (2016)

2. Methodology

Desk Study

2.1 Desk study was undertaken to assess the nature of the surrounding habitats and included:

- Assessment of aerial imagery and Ordnance Survey mapping.
- A search of the MAGIC website⁵ for designated sites and European protected species within 2km of the survey area.
- A data search request submitted to the Local Record Centre.

2.2 The results of the desk study are detailed within the Preliminary Ecological Appraisal report for this site⁶.

Field Survey

Habitat Mapping

2.1 The proposed development site was mapped as different habitat types using the habitat classifications detailed within the UK Habitat Classification User Manual⁷.

2.2 Habitat maps were digitised and area calculations for each UK Habitat Classification habitat type present within the site were undertaken using QGIS.

2.3 Area measurements are provided in hectares with linear features measured in metres.

2.4 Survey was undertaken by James Streets CEcol MCIEEM, an experienced surveyor who holds protected species licences for a range of species including bats and great crested newts.

2.5 The following equipment was utilised during survey:

- Zeiss 8x30 binoculars.
- Digital camera.

2.6 The survey was undertaken on the 12th July 2023 in the following weather conditions:

Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
12 th July 2023	18°C	100%	Light rain	F1-2

⁵ Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)

⁶ Ecological Appraisal, Land at Wheatley Hill, August 2023, OS Ecology Ltd

⁷ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

Condition Assessment

- 2.7 Each area of habitat was assigned a condition score based on the relevant 'habitat condition sheet' as per the Biodiversity Metric 4.0 – Technical Annex⁸.
- 2.8 Habitat parcels are assigned one of three categories: Good, Moderate or Poor. If condition varies across an area of the same habitat type, the habitat will be split into separate parcels, each assigned a different condition category.
- 2.9 Certain habitat categories are allocated a fixed condition score and do not need the condition assessed as per the Technical Annex⁸.
- 2.10 Where appropriate, completed habitat condition sheets for each parcel of habitat are provided within the appendices.

Limitations

- 2.11 There were not considered to be any significant constraints to the survey.

Approach to Biodiversity Net Gain

- 2.12 This report considers the good practice principles of Biodiversity Net Gain⁹, of which delivering a measurable net gain, in this case assessed using Metric 4.0 (see below), is one element.
- 2.13 The following table details the ten principles. These ten principles form a single approach and must all be applied.

Principle 1	Apply the mitigation hierarchy
Principle 2	Avoid losing biodiversity that cannot be offset by gains elsewhere
Principle 3	Be inclusive and equitable
Principle 4	Address risks
Principle 5	Make a measurable Net Gain contribution
Principle 6	Achieve the best outcomes for biodiversity
Principle 7	Be additional
Principle 8	Create a Net Gain legacy
Principle 9	Optimise sustainability
Principle 10	Be transparent

Biodiversity Metric 4.0 Calculation Tool

- 2.14 The Biodiversity Metric 4.0 Calculation Tool is used to calculate biodiversity units for the existing baseline conditions within the proposed development area.

⁸ Natural England Joint Publication JP039 Biodiversity Metric 4.0 User Guide – Technical Annex 2, March 2023

⁹ Biodiversity Net Gain Good Practice Principles for Development CIEEM CIRIA IEMA (2016)


- 2.15 Habitat type, area/length (ha)/(m) and condition score as calculated above are entered into the metric for each parcel of habitat present within the proposed development site.
- 2.16 The metric assigns a 'Distinctiveness' category and score to each habitat parcel.
- 2.17 A 'Strategic Significance' score is then assigned to each habitat parcel. The assessment of strategic significance is based on local planning policy in the first instance. For example, if the site is located within a Nature Recovery Area then it would be of 'High Strategic Significance'.
- 2.18 Areas of 'Moderate Strategic Significance' would be classified as areas not formally designated, but which are ecologically desirable. 'Areas of Low Strategic Significance' are those which do not meet the above criteria.
- 2.19 Based on the above information, the metric then calculates Biodiversity Units for each habitat parcel and a total number of Biodiversity Units for the proposed development area.

3. Baseline Conditions

Baseline Habitat Types and Condition Assessment

3.1 The following table details the results of the habitat survey and assigns the relevant UK Habitat Classification to each parcel of habitat, the metric category to which this relates and the condition of the habitat. Full survey information is provided within Ecological Appraisal report for the site. Figures illustrating the habitat within the site are provided within the appendices with relevant condition assessment forms.

Table 3.1: Baseline Habitat Types				
Habitat Description	Photographs	UK Habs. Category	Metric Category	Condition
The grassland is closely mown and comprise a range of locally common species. It is used for amenity purposes. It was previously developed land with high density housing present.		Other Neutral Grassland	Other Neutral Grassland	Poor

Table 3.1: Baseline Habitat Types				
Habitat Description	Photographs	UK Habs. Category	Metric Category	Condition
<p>Across the site area, there are a number amenity trees with a large, mature ash located along the eastern site boundary.</p>		N/A	Urban Trees	Poor

Baseline Biodiversity Units

3.2 Based on the results of field survey, the following table details the baseline Biodiversity Units associated with the proposed development area.

Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units
Area Habitats					
Other neutral grassland	2.40	Medium	Poor	Low	9.60
Developed land; sealed surface	0.25	V.Low	N/A - Other	Low	0
Urban tree	0.3135	Medium	Poor	Low	1.25
Baseline Habitat Units:					10.85

Post Development – Baseline Habitat Retention Category

3.3 The following table details for each of the baseline habitat types present on site the relevant retention category (retained, enhanced or lost) as a result of the proposed development.

3.4 For each category the area of each habitat type that falls into each category is provided. Where habitat is to be lost the number of Biodiversity Units to be lost is provided. In this case, all existing habitats are anticipated to be lost through development of the site.

Habitat Type	Area Retained (Ha)	Area Enhanced (Ha)	Area Lost (Ha)	Biodiversity Units Lost
Habitat Element				
Urban tree	0.0407	0	0.27	1.09
Habitat Units Lost:				1.09

Post Development – Habitat Enhancement

3.5 Given the nature of the existing site and the current development proposals, the existing habitats are anticipated to be lost and no habitat enhancement is proposed.

Post Development – Habitat Creation

3.6 For the purposes of the metric, it is assumed that a detailed management plan will be produced and adhered to, to ensure delivery of the target habitats and conditions.

3.7 A figure illustrating the location of habitat creation proposals is provided within the appendices. The following table details each element of the habitat creation proposed, including the target condition, other criteria assigned by the metric and the associated biodiversity units delivered by each element.

3.8 For the areas of modified grassland and tree planting it is anticipated that a target condition of 'moderate' can be achieved given the nature of the habitats and urban location. For the

remaining habitat types, the metric assigns a condition of 'poor', or a condition assessment is not applicable based on the habitat type.

Table 3.3: Post Development Habitats - Biodiversity Units Delivered							
Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Time to target condition/years	Difficulty of Creation	Biodiversity Units Delivered
Habitat Creation							
Other neutral grassland	0.11	Medium	Poor	Low	2	Low	0.41
Developed land; sealed surface	1.778	V.Low	N/A	Low	0	Low	0.00
Vegetated garden	0.762	Low	N/A	Low	1	Low	1.47
Habitat Units:							1.88

4. Net Gain Assessment

- 4.1 The following table details the anticipated change in Biodiversity Units as a result of the proposed development, including the associated habitat creation proposals. The full results broken down per habitat type, are detailed within the Biodiversity Metric 4.0 – Calculation Tool for this site which can be provided on request.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	-8.81
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	-81.18%
	<i>Hedgerow units</i>	0.00%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	No - Check Trading Summaries ▲	

- 4.2 The current proposals will result in a **net loss in biodiversity units** with a **net loss of 8.81 units**.
- 4.3 The following table details the recommendations of the metric with regard to the anticipated habitat losses to the development; it can be seen that these recommendations have not been met and the **trading rules of the metric have not been satisfied**.
- 4.4 To deliver net gain in relation to the proposed development it is anticipated that off-site compensation will be required. To achieve net gain and to satisfy the trading rules of the metric, proposals will need to deliver more than 8.92 units to achieve a 1% gain in biodiversity. Delivery of units should be achieved through the creation/enhancement of any grassland habitats as well as tree planting.

Appendix 1: Condition Assessment

Tree Condition Assessment

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The tree is a native species (or at least 70% within the block are native species).	No
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	No
C	The tree is mature (or more than 50% within the block are mature).	No
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes
Number of criteria passed		
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/□
Passes 5 or 6 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	Yes

Grassland Condition Assessment

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	No
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.	No
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ¹ .	No
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes
E	Combined cover of species indicative of sub-optimal condition ² and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴) are present, this criterion is automatically failed.	Yes
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	No
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No
Number of criteria passed		2

Appendix 2: Figures

