
BIODIVERSITY IMPACT ASSESSMENT

DAISY BANK FARM, UTTOXETER ROAD,
UPPER TEAN

REV. B

2023



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1.0 INTRODUCTION

Site Information

- 1.1 Rachel Hacking Ecology Limited was commissioned in 2022 by Enzo's Estates Ltd to carry out a Biodiversity Impact Assessment of land at Daisy Bank Farm, Uttoxeter Road, Upper Tean, Stoke-on-Trent (O.S. grid reference: SK 0136 3911 – see Figure 1). The proposed development site currently comprises fields of grazed grassland that lies to the north, east and south of Daisy Bank Farmhouse (not within the red line boundary). The village of Upper Tean lies to the north-east of the site and agricultural land lies on all other sites. Uttoxeter Road runs along part of the south-western boundary.
- 1.2 A Biodiversity Impact Assessment is required to provide a measurement of the predicted changes in biodiversity units and demonstrate if the site will be in net gain or net loss as a result of the proposed development.



Figure 1 showing the redline boundary of the site

Description of Development

- 1.3 The site currently has outline planning permission (planning reference: SMD:2018/0509) for a residential development for up to 55 units with associated access and landscaping. The site is currently the subject of a reserved matters planning application with Staffordshire Moorlands District Council (SMDC) to deliver the residential development (SMD/2022/0199).

Biodiversity in Planning

- 1.4 Biodiversity is a material consideration, and Local Planning Authorities (LPAs) have a requirement to consider biodiversity and protected species when determining planning applications. Section 15 of the National Planning Policy Framework (July 2021) gives specific reference to minimising the impacts of development on biodiversity. Local and Neighbourhood plans also provide guidance towards protecting and enhancing biodiversity, including priority habitats and notable species.

2.0 METHODOLOGY

Phase 1 Habitat Survey

- 2.1 A Phase 1 Habitat survey was undertaken to JNCC standards (JNCC, 2010). The site was walked, and each habitat was assigned a Phase 1 habitat category. Species lists were taken at locations of botanical interest. All botanical nomenclature follows Stace, 2019. The preliminary survey was carried out on 11th March 2022 by Kate Reed (Senior Ecologist).
- 2.2 There were no constraints to the survey of the site. All habitats were accessible and all plants identifiable.

DEFRA Biodiversity Metric 3.1 Calculation

- 2.3 Biodiversity net gain was calculated using Biodiversity Metric 3.1 Auditing and accounting for biodiversity Calculation tool.
 - The onsite habitat baseline calculations are measured on MapInfo GIS software using the Phase 1 Habitat map.
 - The Phase 1 habitat classifications are translated to UKHab classifications using the translation tool in the Biodiversity Metric.
 - All habitat conditions are based on the condition assessments listed in the habitat condition sheets excel document.
 - The strategic significance is determined by deciding if the habitat is desirable within the location and seeing if it is identified within a local strategy.
 - The areas to be retained or enhanced habitats are calculated using the Proposed Landscaping Masterplan.
 - The site proposed habitats and associated scores are calculated using measurements and habitat information provided by Enzo's Estates Ltd. and Trevor Bridges Associates Ltd., as well as over-laying site plans onto the MapInfo GIS software and taking area measurements.
- 2.4 The predicted change in habitat units is calculated by calculating the difference between the baseline unit values and the post-development unit values. This is combined with any off-site gains or losses to give a final Biodiversity Unit Value for the scheme.

Personnel and Timing

- 2.5 Thomas Moss (Ecologist) carried out the initial calculations and assessment in January 2023, based on the results of the aforementioned Phase 1 Habitat Survey and the proposed landscape plans and areas provided by Enzo's Estates Ltd (see Appendix A). Tom is an experienced ecologist and trained in biodiversity impact assessment.
- 2.6 Following comments from Staffordshire Wildlife Trust (SWT), the ecological consultee to SMDC, the landscaping design and parts of the developed layout of the site were amended and the BNG assessment was re-calculated.

3.0 RESULTS

Existing Habitats

- 3.1 The current habitats on site provide 24.41 Habitat units. See below for the condition assessment of each habitat.

Baseline Habitat units

Urban – Developed Land; Sealed Surface

- 3.2 Small existing structures are present on site covering 0.002ha. This habitat is Urban – Developed land; sealed surface in the UKHab classification. This is a habitat with low strategic importance and very low distinctiveness. Condition assessment is N/A for this habitat. The habitat scores zero habitat units.

Grassland – Modified Grassland

- 3.3 The site is dominated by three fields of poor-semi-improved grassland. The grassland is grazed by sheep and is short and generally species poor. The total area of this habitat is 2.09ha. This habitat is categorised as Grassland – Modified grassland under the UKHab classification. This is a habitat with low strategic importance and low distinctiveness. The habitat is assessed as being in poor condition as it passes 6 of the 7 assessment criteria but fails the essential criteria for moderate condition (see Table 1 below for the condition assessment). The habitat scores 4.18 habitat units.

Table 1 Showing the condition assessment of the Modified Grassland														
Species include Yorkshire Fog <i>Holcus lanatus</i> , Perennial Rye-grass <i>Lolium perenne</i> , Creeping Bent <i>Agrostis stolonifera</i> , Annual Meadow-grass <i>Poa annua</i> , Red Fescue <i>Festuca rubra</i> , Creeping Buttercup <i>Ranunculus repens</i> , White Clover <i>Trifolium repens</i> and Creeping Thistle <i>Cirsium arvense</i> .														
The scores below show pass 'P' or fail 'F' for each criterion or 'NA' for any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	P	P	P	P	P	P	N/A	N/A	N/A	N/A	N/A	N/A	6
Are any criteria non-negotiable? (Y/N) If Yes are they passed?			Yes – criterion 1 – not passed				Condition (Good/Moderate/Poor):			Poor				

Sparsely Vegetated Land – Ruderal/Ephemeral

- 3.4 Tall ruderal herb occurs in the north-west section of the site, it also occurs as patches within the grassland and covering a mound in the south-west of the site. This habitat is categorised as Sparsely vegetated land – Ruderal/Ephemeral under the UKHab classification. The area of this habitat is measured at 0.24ha. This is a habitat with low strategic importance and low distinctiveness. The tall ruderal habitat is assessed as being in moderate condition as it passes 3 of the 4 assessment criteria (see Table 2 below for the condition assessment). The tall ruderal herb scores 0.96 habitat units.

Table 2 Showing the condition assessment of the tall ruderal habitat														
The tall ruderal is composed of Common Nettle <i>Urtica dioica</i> , Cleavers <i>Galium aparine</i> , Broad-leaved Willowherb <i>Epilobium montanum</i> , Broad-leaved Dock <i>Rumex obtusifolius</i> , Wood Avens <i>Geum urbanum</i> and Cock's-foot <i>Dactylis glomerata</i> .														
The scores below show pass 'P' or fail 'F' for each criterion or 'NA' for any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	P	P	P	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	No					Condition (Good/Moderate /Poor):				Moderate				

Urban – Urban Tree

- 3.5 Scattered trees are present on the site boundaries and in the area of tall ruderal herb in the north-west of the site. This habitat is categorised as Urban – Urban tree under the UKHab classification. The Street Tree Helper tool within the metric was used to calculate the area of trees. The trees have a total measurement of 1.46ha. This habitat is assessed as having good condition having passed 5 of the 6 criteria (see Table 3 below for the condition assessment). The habitat scores 19.27 habitat units. 0.73ha of trees, worth 9.64 habitat units, are to be retained.

Table 3 showing the condition assessment of the Urban Trees														
Species include Cherry <i>Prunus</i> sp., Apple <i>Malus</i> sp., Pedunculate Oak <i>Quercus robur</i> , Hawthorn <i>Crataegus monogyna</i> , Holly <i>Ilex aquifolium</i> , Sycamore <i>Acer pseudoplatanus</i> and Yew <i>Taxus baccata</i> .														
The scores below show pass 'P' or fail 'F' for each criterion or 'NA' for any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	P	F	P	P	P	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N					Condition (Good/Moderate /Poor):				Good				

Baseline Hedgerow Units

Native Hedgerow - 1

- 3.6 There is a 450m (0.45km) length of native hedgerow on the site. This is a habitat of low distinctiveness and low strategic significance. The habitat is assessed as being in good condition as it passes 6 of 7 assessment attributes (see Table 4 below for the condition assessment). The hedgerow scores 2.70 hedgerow units. See Appendix D for the full details.

Table 4 Showing the condition assessment of the native hedgerow														
Species within the native intact hedgerows include Hawthorn <i>Crataegus monogyna</i> , Elder <i>Sambucus nigra</i> and Blackthorn <i>Prunus spinosa</i> , with occasional Holly <i>Ilex aquifolium</i> , Hazel <i>Corylus avellana</i> and Beech <i>Fagus sylvatica</i> .														
The scores below show pass 'P' or fail 'F' for each criterion or 'NA' for any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.														
Criterion	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	C11	C12	C13	TOTAL
Result	P	P	P	P	P	F	P	P	N/A	N/A	N/A	N/A	N/A	6
Are any criteria non-negotiable? (Y/N) If Yes are they passed?			N/A				Condition (Good/Moderate /Poor):			Good				

Native Hedgerow – 2

- 3.7 There is a 140m (0.14km) length of defunct native hedgerow on site. This is a habitat of low distinctiveness and low strategic significance. The habitat is assessed as being in poor condition as it fails in 4 assessment attributes and fails in both attributes in functional groups B and C (see Table 5 below for the condition assessment). The hedgerow scores 0.28 hedgerow units. See Appendix D for the full details.

Table 5 Showing the condition assessment of the defunct native hedgerow														
The defunct hedgerow is composed of Hawthorn <i>Crataegus monogyna</i> , Pedunculate Oak <i>Quercus robur</i> and Holly <i>Ilex aquifolium</i> .														
The scores below show pass 'P' or fail 'F' for each criterion or 'NA' for any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.														
Criterion	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	C11	C12	C13	TOTAL
Result	P	P	F	F	F	F	P	P	N/A	N/A	N/A	N/A	N/A	4
Are any criteria non-negotiable? (Y/N) If Yes are they passed?			N/A				Condition (Good/Moderate /Poor):			Poor				

Baseline River Units

- 3.8 There are no aquatic habitats on site, therefore no river units exist.

Proposed (Post Development) Habitats

Retained Habitats

Urban – Urban Tree

- 3.9 The proposals include the retention of 20 of the 37 scattered trees currently on site. This area measures 0.73ha and retains 9.64 habitat units.

Native Hedgerow – 1

- 3.10 The proposals include the retention of 0.34km of the native hedgerow currently present on site. This retains a total of 2.04 hedgerow units.

Habitat Creation

- 3.11 The proposed landscape plans for the site provide 27.09 habitat units. See below for a description and proposed final condition of each habitat. Appendix A shows the proposed plan.

Urban – Developed Land; Sealed Surface

- 3.12 Much of the site will be covered with buildings, calculated to be approximately 0.316ha. Hardstanding, paths, and other sealed surfaces will also exist on site, calculated to be approximately 0.952ha. These are classified under Urban – Developed land; sealed surface in the UKHab classification. Condition assessment is N/A for this habitat, which is of very low distinctiveness and low strategic significance. The developed land delivers zero habitat units.

Urban – Vegetated Garden

- 3.13 Turfed rear and front gardens, with Bioretention Planting included (non-native shrubs), will cover 0.645ha. This originally was classed as Grassland – Modified grassland under the UKHab classification but to follow BNG rules, it should now be placed within Urban – Vegetated Garden, which scores the same habitat units as the former. This habitat requires no condition assessment and achieves 1.24 habitat units.

Grassland – Modified Grassland

- 3.14 Amenity grassland will be created within the Public Open Space (POS), using a species-rich turf. This will measure 0.089ha. This is classed as Grassland – Modified grassland under the UKHab classification. The proposed final condition of the grassland is moderate, given the number of species per m² expected to establish, which will take 4 years to achieve and delivers 0.31 habitat units.

Grassland – Other Neutral Grassland

- 3.15 Grassland sown with a wildflower mix, within POS, will cover 0.052ha. This is classed as Grassland – Other neutral grassland under the UKHab classification. The proposed final condition of the grassland is moderate which will take 5 years to achieve and delivers 0.38 habitat units.

Urban – Introduced Shrub

- 3.16 Introduced shrub beds and non-native ground cover will be created on the site covering an area of 0.041ha. This habitat is Urban – Introduced shrub in the UKHab classification. Condition assessment is N/A for this habitat, which will take 1 year to achieve, and delivers 0.08 habitat units.

Heathland and Shrub – Mixed Scrub

- 3.17 A belt of mixed scrub will be created on the edges of the site, measuring a total of 0.088ha. The target condition is moderate due to the linear connectivity, adjacent habitats and species mixture. This will take 5 years to achieve and scores 0.59 habitat units.

Heathland and Shrub – Other Woodland, Broadleaved

- 3.18 A linear belt of woodland planting, including canopy and understorey species, will be created on the edges of the site, to join with the mixed scrub habitat. This measures 0.146ha in total and will achieve moderate condition, which will take 15 years to achieve. Th woodland planting delivers 0.68 habitat units.

Urban – Urban Trees

- 3.19 55 heavy-standard trees will be planted covering an area of 2.0144ha. This habitat is Urban – Urban Trees in the UKHab classification. The proposed final condition of the trees is moderate which will take 27 years to achieve and delivers 6.77 habitat units.

Urban – Urban Trees

- 3.20 60 feathered medium trees will be planted covering an area of 2.1975ha. This habitat is Urban – Urban Trees in the UKHab classification. The proposed final condition of the trees is moderate which will take 27 years to achieve and delivers 7.39 habitat units.

Hedgerow Unit Creation

Native Mixed Hedgerow

- 3.21 A species-rich native hedgerow will be created on site totalling 0.197km. The hedgerow will take 5 years to achieve moderate condition and delivers 0.66 hedgerow units.

Native Hedgerow

- 3.22 A native hedgerow will be created on site totalling 0.41km. The hedgerow will take 1 year to achieve poor condition and delivers 0.79 hedgerow units.

Hedge Ornamental Non-Native

- 3.23 An ornamental non-native hedgerow will be created on site totalling 0.034km. The hedgerow will take 1 year to achieve poor condition and delivers 0.03 hedgerow units.

4.0 ASSESSMENT

HABITAT UNITS

- 4.1 The baseline habitat units of the site are calculated to be 24.41. The proposed landscaping plans are calculated to provide 27.09 habitat units. The Biodiversity Impact Assessment shows a predicted net gain of 2.68 habitat units, which is **10.97%** Biodiversity Net Gain.

HEDGEROW UNITS

- 4.2 The baseline hedgerow units are calculated to be 2.98. The proposed landscaping plans provide 3.52 hedgerow units. The Biodiversity Impact Assessment shows a predicted net gain of 0.54 hedgerow units, which is **18.24%** Biodiversity Net Gain.

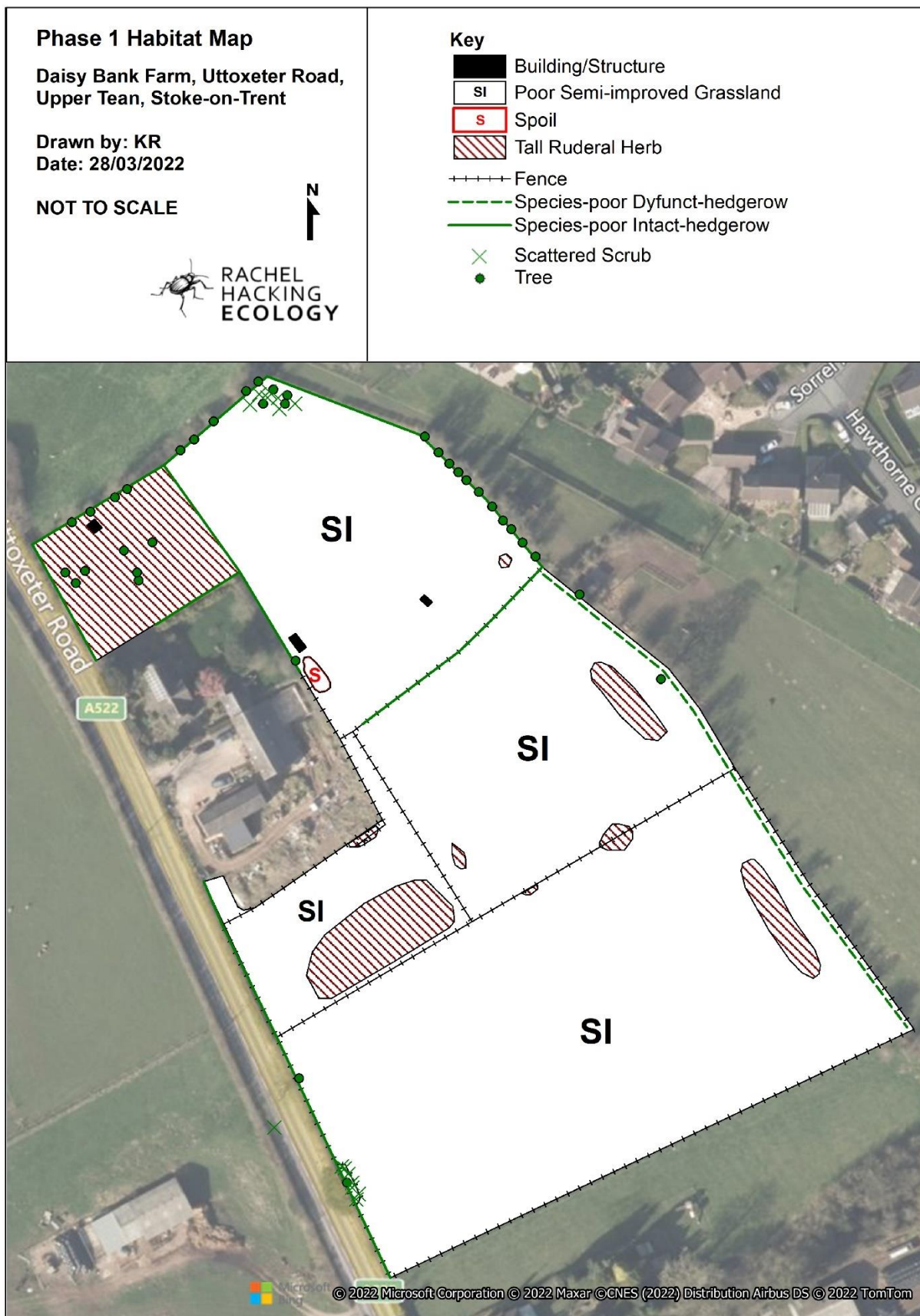
5.0 SUMMARY

- 5.1 The proposed development at Daisy Bank Farm, in its current layout, is predicted to result in a net gain of habitat and hedgerow units, both of over 10%.
- 5.2 The proposals should also include measures not quantified by the DEFRA 3.1 Metric, such as the installation of bat and bird boxes as well as insect hotels and brash piles on site which will further increase the ecological value of the site.
- 5.3 It is considered the proposed plans for the development provides adequate mitigation resulting in biodiversity net gain in both habitat units and hedgerow units for the size and location of the site.

APPENDIX A – Proposed Layout Plan (courtesy of TBA)



APPENDIX B – Phase 1 Habitat Survey Map



APPENDIX C – Headline Results

DAISY BANK FARM, UTTOXETER ROAD

Headline Results

Return to results menu

On-site baseline	Habitat units	24.41
	Hedgerow units	2.98
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	27.09
	Hedgerow units	3.52
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	10.97%
	Hedgerow units	18.24%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	2.68
	Hedgerow units	0.54
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	10.97%
	Hedgerow units	18.24%
	River units	0.00%
Trading rules Satisfied?	Yes ✓	