

Biodiversity Metric Assessment

Twycross Zoo, Burton Road, Atherstone

A Report To: Baker Mallett LLP

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Quality Assurance

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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of Practice for Planning and Development". The information which we have prepared is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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Contents

1. Introduction.....	4
1.1 Project Background	4
1.2 Site Description and Context.....	4
1.3 Project Scope	5
1.4 Summary of Proposals	5
2. Methods.....	6
2.1 Biodiversity Metric	6
2.2. Data Sources.....	6
2.3 Constraints and Assumptions.....	7
3. Biodiversity Metric Calculation	8
3.1 Existing Habitats.....	8
3.2 Future Baseline and Impacts.....	14
3.3 Habitat Creation / Enhancement	14
3.4 Results.....	19
4. Discussion and Recommendations.....	21
4.1 Conclusions	21
4.2 Recommendations.....	21
5. Drawings.....	23
Appendix 1	27
Biodiversity Metric 4.0. Calculation: National Conservation Science Centre, Twycross Zoo....	27
Appendix 2	53
Biodiversity Metric 4.0. Calculation: National Conservation Science Centre, Twycross Zoo - Minimum requirement.....	53

1. Introduction

1.1 Project Background

In November 2022, Baker Mallett LLP commissioned Middlemarch to undertake a Biodiversity Metric Assessment associated with a proposed development at Twycross Zoo, Atherstone.

Since the completion of the Biodiversity Metric Assessment in October 2023 (Rev A), the soft landscaping scheme was amended and discussed further in February, August and November 2024. This necessitates the need to update the Biodiversity Metric Assessment to ensure it remains consistent with the current development proposal.

The assessment is informed by ecological and arboricultural works carried out at the site in November 2022 and September 2023 by Middlemarch. These are:

- Preliminary Arboricultural Assessment, October 2023 (Report RT-MME-159277-01 Rev A);
- Preliminary Ecological Appraisal, December 2022 (Report RT-MME-159277-04);
- Preliminary Bat Roost Assessment, January 2023 (Report RT-MME-159277-05);
- Report To Inform Habitats Regulations Assessment: Stage 1 Screening, October 2023 (Report RT-MME-160474-01);
- Updated Preliminary Ecological Appraisal, October 2023 (Report RT-MME-160474-02 Rev A);
- Updated Preliminary Bat Roost Assessment, October 2023 (Report RT-MME-160474-03 Rev A);
- Great Crested Newt Habitat Suitability Index Assessment, October 2023 (Report RT-MME-160474-05 Rev A);
- Great Crested Newt eDNA Survey, May 2024 (RT-MME-162321-01); and,
- Bat Surveys, October 2024 (RT-MME-162321-02).

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	Twycross Zoo, Burton Road, Atherstone
National Grid Reference	SK 31559 06068
Site Area (ha)	2.189
Topography	Generally flat, slightly sloping to the south.
Land Cover (on site)	The site forms the south-west corner of the larger site of Twycross Zoo and a stretch of land immediately south of the current zoo boundary. Approximately one third of the site was composed of semi-improved grassland with scattered scrub. The remaining land comprised a mosaic of dense scrub, amenity grass, conifer plantation, broad-leaved woodland, scattered and groups of planted trees, hedgerow, pond, hardstanding paths and animal enclosures, the latter mainly containing bark chippings and grasses.

Table 1.1: Summary of Site and Surroundings (continues)

Attribute	Description
Land Cover (site surrounds)	Twycross Zoo dominates the landscape to the north/north-east of the proposed development area with the wider area comprising intensively managed arable farmland dotted with small farmsteads and residential properties. The M42 lies around 3 km to the west.

Table 1.1 (continued): Summary of Site and Surroundings

1.3 Project Scope

The purpose of the Biodiversity Metric Assessment (BMA) is to identify the change in biodiversity value that may result from a change in land use (e.g. development) or management (e.g. biodiversity enhancement) at the site and to establish if a net gain for biodiversity can be achieved. The BMA utilises a biodiversity metric to provide a proxy measure of biodiversity based on habitat attributes, which can then be used to determine the relative change in biodiversity value resulting from any land use or management measures proposed.

It should be noted that the metric is only a proxy for biodiversity using habitat values, and that any proposed enhancements should be designed using appropriate ecological expertise. Existing levels of protection afforded to protected species and to habitats are not changed by use of the metric and statutory obligations will still need to be satisfied. In addition, the metric cannot account for impacts on, or enhancements to, irreplaceable habitats or protected sites, which will need to be assessed separately.

1.4 Summary of Proposals

The proposed development will comprise demolition works and removal of trees and vegetation to make way for a new, National Conservation Science Centre with associated landscaping and tree planting. This assessment is based on the updated documentation detailed in the following Table 1.2 and further email correspondence.

Document / Drawing Number	Author
Soft Landscape Strategy / Drawing: TWZ-DZU-00-00-DR-L-00400-P05	Dearadh Zú

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Biodiversity Metric

The biodiversity calculations used within this assessment were undertaken by Charline Hue using 'The Biodiversity Metric 4.0' and associated User Guide¹ and Technical Supplement². Sections 2.2 and 2.3 describe the data used for the assessment and the assumptions applied.

2.2. Data Sources

Existing Baseline

The baseline habitat data and condition assessment for the site is taken from the Preliminary Ecological Appraisal (Report RT-MME-159277-04) carried out by Middlemarch in November 2022 and the updated Preliminary Ecological Appraisal (Report RT-MME-160474-02 Rev A), based on the new red line boundary, completed in September 2023. The baseline data and condition assessment for the off-site areas were collected on 8th November 2024. Phase 1 Habitat Plans showing the extent and location of each habitat recorded on and off site are included in Section 5 (Drawings C160474-02-01-Rev A and C180537-01).

The Biodiversity Metric 4.0 calculator tool utilises the UK Habitat Classification System (UKHab) as the standard data input for habitats. The Phase 1 Habitat Survey data for the site was subsequently converted for the purposes of the metric calculation using the Phase 1 habitats to UKHab translation feature, included in the Biodiversity Metric 4.0 calculator tool, or using professional opinion.

Each habitat or linear feature recorded within the site is assigned a score for 'Distinctiveness', 'Condition' and 'Strategic Significance'. Table 2.1 below describes how each habitat attribute has been determined for the existing baseline habitats in the metric assessment.

Attribute	Description
Distinctiveness	An automated score based on the type of habitat present and its value to wildlife. Highly diverse habitats such as those listed as Habitats of Principal Importance under the NERC Act (2006) or Annex 1 habitats in the Habitats Directive (1992) score highly in this category, whilst highly modified and low diversity habitats such as arable crops will have low distinctiveness scores.
Condition	A score based on the quality of the habitat parcel against published condition criteria (See Report RT-MME-160474-02 Rev A).
Strategic significance	A score based on information set out in local plans or policies. In this instance, a strategic location was defined as within the Leicestershire & Rutland Biodiversity Action Plan: Space for Wildlife 2016-2026 ³ and Interim Guidance ⁴ .

Table 2.1: Habitat Attributes for Existing Baseline Habitats

¹ Natural England (2023) *The Biodiversity Metric 4.0 – User Guide*. Natural England Joint Publication JP039. Available <http://publications.naturalengland.org.uk/publication/6049804846366720>

² Natural England (2023) *The Biodiversity Metric 4.0 – User Guide: Technical Annex 1 Condition Sheets and Methodology*. Natural England Joint Publication JP039. Available <http://publications.naturalengland.org.uk/publication/6049804846366720>

³ Leicestershire & Rutland Environmental Records Centre (2016). Leicestershire & Rutland Biodiversity Action Plan: Space for Wildlife 2016-2026 (2nd edition)

⁴ Timms, S. (2022). *Applying the Biodiversity Net-Gain Metric – Interim Guidance for Assessing Strategic Significance in Leicestershire and Rutland*. Available at: <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2022/9/20/Biodiversity-net-gain-metric-guidance-for-assessing-strategic-significance-Leicestershire-and-Rutland.pdf>

The value of each habitat parcel (or linear feature) is presented in terms of habitat (or hedgerow/river) 'biodiversity units' (BU).

Future Baseline

The future baseline conditions of the site are based on the soft landscape strategy (TWZ-DZU-00-00-DR-L-00400-P05 Soft Landscape Strategy) and further email correspondence with the client. Table 2.2 below describes how each habitat attribute has been determined for the future baseline habitats in the metric assessment.

Attribute	Description
Distinctiveness	An automated score based on professional opinion about the projected habitat type proposed, taking into account the landscaping proposals detailed in TWZ-DZU-00-00-DR-L-00400-P05 Soft Landscape Strategy.
Condition	A target condition score of the proposed habitat parcel based on professional opinion about the outline enhancement and future management proposals.
Strategic significance	A score based on information set out in local plans or policies. In this instance, a strategic location was defined as within the Leicestershire & Rutland Biodiversity Action Plan: Space for Wildlife 2016-2026 ³ and Interim Guidance ⁴ .
Time to Target Condition	Time to target condition is automatically assigned in accordance with the Biodiversity Metric Tool 4.0. This multiplier can be adapted manually to reflect situations where a habitat is created in advance or where there is a delay in the project timescales for new habitat creation (e.g. project phasing).
Difficulty of Recreation	An automated value based on the difficulty of creating the target habitat. This value is unchanged from the values generated in Metric 4.0.

Table 2.2: Habitat Attributes for Existing Baseline Habitats

Following the calculation of the existing and future biodiversity value of the site, a calculation of the net biodiversity change is carried out to determine the 'Post-intervention habitat (or hedgerow and river) units', along with a figure for the percentage of net biodiversity impact loss (or gain).

2.3 Constraints and Assumptions

The following constraints and assumptions are applied to this report:

- For the purposes of this report, the term 'Habitat Loss' is applied to proposals that result in a change of habitat type or habitat 'distinctiveness'. This is defined in the Biodiversity Metric even where the new habitat type is created without any physical loss of the previous habitat type (e.g. creation of scrub over grassland). 'Habitat Enhancement' is applied where the habitat type and 'distinctiveness' remains the same, but the 'condition' of the habitat is improved.
- The BMA necessitates an estimation of future baseline values, based on professional opinion, to determine the change in biodiversity value that could occur as a result of the proposals at the site. The assumptions about target habitat types or condition in this report are based on professional opinion about the likely achievable outcomes at the site, based on the proposed planting plans and presumed management resources. All target habitats presume the implementation of a long-term Management Plan to achieve these ends and a recommendation to this effect is given in Section 4.
- The area of any new Urban Trees proposed is calculated using the Street Tree Helper (as described above). For the purposes of this assessment, all new trees proposed are assumed to be small (below 1/3 of their life expectancy).

3. Biodiversity Metric Calculation

3.1 Existing Habitats

The habitats identified during the Preliminary Ecological Appraisal (Reports RT-MME-159277-04 and RT-MME-160474-02 Rev A) are described in Table 3.1 and their value in biodiversity units (BU) is provided. The current extent of the habitats present is shown in Drawings C160474-02-01-Rev A and C180537-01 in Section 5. The baseline metric calculations are provided in Appendix 1.

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
On-Site Area Based Habitats				
Amenity grassland (TN13)	Modified grassland (g4)	0.13	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.53
Amenity grassland (TN14 and TN15)	Modified grassland (g4)	0.29	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.57
Building (TN23)	Developed land; sealed surface (u1b5)	0.01	Habitat is automatically classed as being of 'Very Low' distinctiveness and is considered to be of 'Low' strategic significance. A condition assessment is not applicable for this habitat type due to its limited attributes for biodiversity.	0.00
Dense scrub – Mixed (TN6, TN10, TN42, and TN43)	Mixed scrub (h3h)	0.46	Habitat is classed as being of 'Medium' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	1.83
Hardstanding (TN22)	Developed land; sealed surface (u1b)	0.29	Habitat is automatically classed as being of 'Very Low' distinctiveness and is considered to be of 'Low' strategic significance. A condition assessment is not applicable for this habitat type due to its limited attributes for biodiversity.	0.00
Plantation coniferous woodland (TN5)	Other coniferous woodland (w2c)	0.12	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.47

Table 3.1: Summary of Existing Habitats and Linear Features (Continues)

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
On-Site Area Based Habitats				
Plantation broad-leaved woodland (TN1)	Other woodland; broad-leaved (w1g7)	0.11	Habitat is automatically classed as being of 'Moderate' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.90
Plantation broad-leaved woodland (TN24)	Other woodland; broad-leaved (w1g7)	0.01	Habitat is automatically classed as being of 'Moderate' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.04
Semi-improved neutral grassland (TN19)	Other neutral grassland (g3c)	0.62	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as its extent lies outside any strategic areas identified in the local plan.	4.96
Poor semi-improved grassland (TN38)	Other neutral grassland (g3c)	0.01	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.03
Standing water (TN8)	Ponds (priority habitat) (r1, 19)	0.02	Habitat is automatically classed as being of 'High' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as it is formally identified within the local plan.	0.18
Introduced shrub (TN39)	Introduced shrub (48)	0.01	Habitat is automatically classed as being of 'Low' distinctiveness and is considered to be of 'Low' strategic significance as it is not formally identified within the local plan. A condition assessment is not applicable for this habitat type.	0.02
Bare ground (TN16)	Bare ground (73)	0.01	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.01

Table 3.1 (Continued): Summary of Existing Habitats and Linear Features (Continues)

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
On-Site Area Based Habitats				
Other habitat (TN18)	Modified grassland (g4)	0.04	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.08
Plantation broad-leaved woodland (TN17)	Other woodland; broad-leaved (w1g7)	0.04	Habitat comprises 30 early-mature to mature trees. This habitat is automatically classed as being of 'Medium' distinctiveness and the trees were deemed to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.15
Scattered trees (TN28, TN33, TN45, and TN48)	Urban tree (11)	0.04	Habitat comprises 10 semi- to early-mature trees of small size (DBH between 7 cm and 30 cm). This habitat is automatically classed as being of 'Medium' distinctiveness and the trees were deemed to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as mature trees are formally identified within the local plan.	0.38
Scattered trees (TN26, TN27, TN29, TN30, TN31, TN32, TN35, TN36, TN44, TN46, and TN47)	Urban tree (11)	0.39	Habitat comprises 15 semi- mature to mature trees including 1 of large size (DBH greater than 90 cm), 8 of medium size (DBH over 30 cm and up to 90 cm), and 6 of small size. This habitat is automatically classed as being of 'Medium' distinctiveness and the trees were deemed to be in 'Good' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as mature trees are formally identified within the local plan.	5.44
Other habitat (TN40)	Modified grassland (g4)	0.01	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.01

Table 3.1 (Continued): Summary of Existing Habitats and Linear Features (Continues)

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
On-Site Area Based Habitats				
Dense scrub – Mixed (TN37)	Mixed scrub (h3h)	0.02	Habitat is classed as being of ‘Medium’ distinctiveness and was considered to be in ‘Moderate’ condition based on the Phase 1 Habitat survey. This habitat is regarded as having ‘Low’ strategic significance as it is not formally identified within the local plan.	0.18
Total On-Site Area (ha)		2.62	Total On-Site Habitat Baseline (BU)	15.80
Total On-Site Area Excluding Urban Trees (ha)		2.19		
Off-Site Area Based Habitats				
Arable	Cereal crops (c1c)	1.50	Habitat is automatically classed as being of ‘Low’ distinctiveness and is considered to be of ‘Low’ strategic significance. A condition assessment is not applicable for this habitat type due to its limited attributes for biodiversity.	3.01
Dense scrub – Bramble	Bramble scrub (h3d)	0.15	Habitat is automatically classed as being of ‘Medium’ distinctiveness and is considered to be of ‘Low’ strategic significance. A condition assessment is not applicable for this habitat type due to its limited attributes for biodiversity.	0.59
Semi-improved neutral grassland (same as TN19)	Other neutral grassland (g3c)	0.06	Habitat is automatically classed as being of ‘Medium’ distinctiveness and was considered to be in ‘Moderate’ condition based on the Phase 1 Habitat survey. This habitat is regarded as having ‘Low’ strategic significance as its extent lies outside any strategic areas identified in the local plan.	0.48
Scattered trees	Urban tree (11)	0.08	Habitat comprises 2 semi- to early-mature trees of medium size and 1 of small size. This habitat is automatically classed as being of ‘Medium’ distinctiveness and the trees were deemed to be in ‘Moderate’ condition based on the Phase 1 Habitat survey. This habitat is regarded as having ‘High’ strategic significance as mature trees are formally identified within the local plan.	0.71

Table 3.1 (Continued): Summary of Existing Habitats and Linear Features (Continues)

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
Off-Site Area Based Habitats				
Scattered trees	Urban tree (11)	0.04	Habitat comprises 1 mature tree of medium size. This habitat is automatically classed as being of 'Medium' distinctiveness and the tree was deemed to be in 'Good' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as mature trees are formally identified within the local plan.	0.51
Total Off-Site Area (ha)		1.83	Total Off-Site Habitat Baseline (BU)	5.30
Total Off-Site Area Excluding Urban Trees (ha)		1.71		
On-Site Hedgerows				
Line of broad-leaved trees (TN2)	Line of trees (w1g6)	0.15	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.31
Line of coniferous trees (TN3)	Line of trees (w1g6)	0.06	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.11
Species-rich intact hedgerow (TN4)	Species-rich native hedgerow (h2a5)	0.07	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	0.67
Species-poor intact hedgerow (TN9)	Native hedgerow (h2a)	0.11	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	0.51
Species-rich intact hedgerow (TN11)	Species-rich native hedgerow – associated with bank or ditch (h2a5)	0.16	Habitat is automatically classed as being of 'High' distinctiveness and was considered to be in 'Good' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	3.21

Table 3.1 (Continued): Summary of Existing Habitats and Linear Features (Continues)

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity, and strategic significance)	Value (BU)
On-Site Hedgerows				
Species-rich intact hedgerow (TN12)	Species-rich native hedgerow (h2a5)	0.11	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Good' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	1.46
Species-rich intact hedgerow (TN21)	Species-rich native hedgerow (h2a5)	0.03	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	0.12
Total On-Site Length (km)		0.68	Total On-Site Hedgerow Baseline (BU)	6.40
Off-Site Hedgerows				
Species-rich intact hedgerow	Species-rich native hedgerow – associated with bank or ditch (h2a5)	0.33	Habitat is automatically classed as being of 'High' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	4.55
Line of broad-leaved trees	Line of trees – associated with bank or ditch (33)	0.13	Habitat is automatically classed as being of 'Low' distinctiveness and was considered to be in 'Poor' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.26
Total Off-Site Length (km)		0.46	Total Off-Site Hedgerow Baseline (BU)	4.81
On-Site Rivers and Streams				
Wet ditch (TN7)	Ditch (r1)	0.08	Habitat is automatically classed as being of 'Medium' distinctiveness and was considered to be in 'Moderate' condition based on the Phase 1 Habitat survey. This habitat is regarded as having 'Low' strategic significance as it is not formally identified within the local plan.	0.52
Total On-Site Length (km)		0.08	Total On-Site River Baseline (BU)	0.52

Table 3.1 (Continued): Summary of Existing Habitats and Linear Features

3.2 Future Baseline and Impacts

Description of the Future Baseline

The future baseline for the purposes of this assessment is set out in the Soft Landscaping Strategy Drawing TWZ-DZU-00-00-DR-L-00400-P05. An adapted version of this map (Drawing C160474-04-01-Rev E) is included in Section 5 showing how each landscaping area has been translated to a habitat type for the purpose of the Biodiversity Metric Assessment.

3.3 Habitat Creation / Enhancement

Table 3.2 below outlines the value of the proposed habitat creation/enhancements in the development proposals.

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target condition, distinctiveness, connectivity, strategic significance, and risk multipliers)	Value (BU)
On-Site Habitats				
Feature grasses	Vegetated garden (231)	0.02	Comprises the proposed feature grasses (i.e.: block planting of ornamental grasses to provide structure and height). This habitat is automatically assessed as being of 'Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance /within a local plan.	0.03
Habitat planting	Introduced shrub (48)	0.04	Comprises the proposed habitat planting (i.e.: a matrix planting of shrub species within the animal enclosures to provide screening and seasonal interest). This habitat is automatically assessed as being of 'Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance/within a local plan.	0.08
Building/ Hardstanding	Developed land; sealed surface (u1b)	0.99	Comprises the new areas of built development (buildings and hardstanding). This habitat is automatically assessed as being of 'Very Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance/within a local plan.	0.00

Table 3.2: Summary of Habitat Creation and Enhancement Proposals (continues)

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target condition, distinctiveness, connectivity, strategic significance, and risk multipliers)	Value (BU)
On-Site Habitats				
Introduced shrub	Introduced shrub (48)	0.01	Comprises the areas of proposed ornamental planting, including a mix of non-native specimens that will be planted. This habitat is automatically assessed as being of 'Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance/within a local plan.	0.01
Dense scrub – Mixed	Mixed scrub (h3h)	0.15	Comprises the areas of proposed native scrub planting (i.e.: planting of native hedgerow species which will form pockets of mixed scrub). This habitat is automatically assessed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Moderate' condition based on its proposed management and extent on site. The extent of this habitat is not within an area of strategic significance identified within the local plan.	0.99
Pleached trees	Introduced shrub (48)	0.01	Comprises an area of proposed pleached trees. Non-native specimens will be planted to provide screening for the animal enclosures. This habitat is automatically assessed as being of 'Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance/within a local plan.	0.01
Scattered trees	Urban tree (11)	0.57	Comprises the proposed 139 native trees across the site. A mix of native specimens will be planted. These are anticipated to reach a small size (DBH over 7 cm and up to 30 cm) and deemed capable of achieving 'Moderate' condition. This habitat is formally identified within a local plan.	1.99
Themed planting	Introduced shrub (48)	0.06	Comprises the areas of proposed "themed" planting (i.e.: planting of specimen shrubs as well as herbaceous and grass species throughout public areas to evoke a "sense of Indonesia"). This habitat is automatically assessed as being of 'Low' distinctiveness and due to its limited attributes for biodiversity, is not assigned a condition. This habitat is not identified as being of strategic significance/within a local plan.	0.12

Table 3.2 (continued): Summary of Habitat Creation and Enhancement Proposals (continues)

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target condition, distinctiveness, strategic significance, and risk multipliers)	Value (BU)
On-Site Habitats				
Standing water	Ponds (non-priority habitat) (r1g, 41)	0.01	Comprises the proposed pond and the waterbody plant mix in the centre/east of the site. This habitat is automatically assessed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Moderate' condition, based on current condition of waterbodies within the zoo. This habitat is not identified as being of strategic significance/within a local plan.	0.03
Semi-improved neutral grassland	Other neutral grassland (g3c)	0.04	Comprises the area of proposed wetland meadow (i.e.: proposed sowing of Emorsgate EG8 to create a low maintenance wetland edge around the existing and proposed ditches). This habitat is automatically assessed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Good' condition based on the proposed management regime. The extent of this habitat is not within an area of strategic significance identified within the local plan.	0.35
Semi-improved neutral grassland	Other neutral grassland (g3c)	0.35	Comprises areas of proposed neutral grassland mix and wildflower mix. At the time of writing, no seed mix was available for all areas, however, it is assumed a mix similar to Cumbria Wildflowers Neutral Hay Meadow Mix will be used. This habitat is automatically assessed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Moderate' condition based on the proposed management regime. The extent of this habitat is not within an area of strategic significance identified within the local plan.	2.37
Scattered trees	Urban tree (11)	0.19	Comprises the proposed 46 feature trees across the site. A mix of non-native specimens will be planted. These are anticipated to be of small size and deemed capable of achieving 'Poor' condition. This habitat is not identified as being of strategic significance/within a local plan.	0.52
Enclosure grassland	Modified grassland (g4)	0.26	Comprises areas of proposed neutral grassland mix within the orang-utan enclosures. A mix similar to Cumbria Wildflowers Neutral Hay Meadow Mix will be used. This habitat is automatically assessed as being of 'Low' distinctiveness and is deemed capable of achieving 'Moderate' condition based on its intended use and the condition of other animal enclosures within the zoo. This habitat is not identified as being of strategic significance/within a local plan.	0.89

Table 3.2 (continued): Summary of Habitat Creation and Enhancement Proposals (continues)

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target condition, distinctiveness, connectivity, strategic significance, and risk multipliers)	Value (BU)
On-Site Habitats				
‘Grasscrete’	Modified grassland (g4)	0.04	Comprises the area of ‘grasscrete’ along the southern boundary. An amenity lawn mix will be used. This habitat is automatically assessed as being of ‘Low’ distinctiveness and is deemed capable of achieving ‘Poor’ condition based on its intended use. This habitat is not identified as being of strategic significance/within a local plan.	0.08
Total Creation (On-Site Area Habitats)		2.71	Total On-Site Habitat Creation (BU)	7.46
Total On-Site Creation Excluding Urban Trees		1.96		
Off-Site Habitats				
Plantation broad-leaved woodland	Other woodland; broad-leaved (w1g7)	0.15	Comprises a mix of native shrub and tree species. This habitat is automatically classed as being of ‘Medium’ distinctiveness and is deemed capable of achieving ‘Moderate’ condition based on its intended use. This habitat is not identified as being of strategic significance/within a local plan.	0.70
Dense scrub – Mixed	Mixed scrub (h3h)	0.70	Comprises the areas of proposed native scrub planting. This habitat is automatically assessed as being of ‘Medium’ distinctiveness and is deemed capable of achieving ‘Moderate’ condition based on its proposed management and extent on site. The extent of this habitat is not within an area of strategic significance identified within the local plan.	4.69
Semi-improved neutral grassland	Other neutral grassland (g3c)	0.66	Comprises areas of proposed neutral grassland mix, it is assumed a mix similar to Cumbria Wildflowers Neutral Hay Meadow Mix will be used. This habitat is automatically assessed as being of ‘Medium’ distinctiveness and is deemed capable of achieving ‘Moderate’ condition based on the proposed management regime. The extent of this habitat is not within an area of strategic significance identified within the local plan.	4.43

Table 3.2 (continued): Summary of Habitat Creation and Enhancement Proposals (continues)

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target distinctiveness, condition, connectivity, strategic significance, and risk multipliers)	Value (BU)
Off-Site Habitats				
Amenity grassland	Modified grassland (g4)	0.05	Comprises an area of grassland where an amenity lawn mix will be used. This habitat is automatically assessed as being of 'Low' distinctiveness and is deemed capable of achieving 'Poor' condition based on its intended use. This habitat is not identified as being of strategic significance/within a local plan.	0.10
Total Creation (Off-Site Area Habitats)		1.56	Total Off-Site Habitat Creation (BU)	9.92
On-Site Hedgerows				
Species-poor non-native hedgerow	Non-native and ornamental hedgerow	0.02	Comprises a proposed green screen in the south of the site. At the time of writing, no species mix was available, however, it is anticipated that this green screen will be species-poor and consist of non-native specimens. Habitat is automatically classed as being of 'Very Low' distinctiveness and is deemed capable of achieving 'Poor' condition based on its intended use and management. This habitat is not identified as being of strategic significance/within a local plan.	0.02
Species-rich intact hedgerow	Species-rich native hedgerow (h2a5)	0.26	Comprises a proposed species-rich hedge with eight species along the south-eastern boundary of the site. Habitat is automatically classed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Good' condition based on its intended use. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	2.31
Total On-Site Creation (Length)		0.28	Total On-Site Hedgerow Creation (BU)	2.33
Species-rich hedgerow with trees	Species-rich native hedgerow with trees (h2a5)	0.11	Comprises the existing species-rich hedge along the southern boundary of the site to which trees will be added to become a hedge with trees. Habitat is automatically classed as being moved from 'Medium' distinctiveness to 'High' distinctiveness and is deemed capable of achieving 'Good' condition based on its intended use. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	1.97
Total On-Site Enhancement (Length)		0.11	Total On-Site Hedgerow Enhancement (BU)	1.97

Table 3.2 (continued): Summary of Habitat Creation and Enhancement Proposals (continues)

Landscape Typology	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (target distinctiveness, condition, connectivity, strategic significance, and risk multipliers)	Value (BU)
Off-Site Hedgerows				
Species-rich intact hedgerow	Species-rich native hedgerow – associated with bank or ditch (h2a5)	0.33	Habitat is automatically classed as being of 'High' distinctiveness and is deemed capable of moving from 'Moderate' to 'Good' condition based on the baseline survey and future management. This habitat is regarded as having 'High' strategic significance as hedgerows are formally identified within the local plan.	6.67
Total Off-Site Enhancement (Length)		0.33	Total Off-Site Hedgerow Enhancement (BU)	6.67
On-Site Rivers and Streams				
Ditch	Ditches	0.06	Comprises new ditches within the central part of the site. The habitat type is automatically assessed as being of 'Medium' distinctiveness and is deemed capable of achieving 'Good' condition based on proposed management. This habitat is not identified as being of strategic significance/within a local plan.	0.38
Total On-Site Creation (Length)		0.06	Total On-Site River Creation (BU)	0.38

Table 3.2 (continued): Summary of Habitat Creation and Enhancement Proposals

3.4 Results

Table 3.3 details the headline and final results. Full details of the biodiversity metric calculations can be found in Appendix 1.

Headline Results				
On-Site Baseline	On-Site Baseline	Habitat units	15.80	
		Hedgerow units	6.40	
		Watercourse Units	0.52	
	On-Site Post Intervention	Habitat units	12.58	
		Hedgerow units	6.40	
		Watercourse Units	0.60	
	On-Site Net Unit Change (units & percentage)	Habitat units	-3.21	-20.33%
		Hedgerow units	0.00	-0.06%
		Watercourse Units	0.09	16.91%

Table 3.3: Biodiversity Metric Assessment – Headline and Final Results (continues)

Headline Results				
Off-Site Baseline	Off-Site Baseline	Habitat units	5.30	
		Hedgerow units	4.81	
		Watercourse Units	0.00	
	Off-Site Post Intervention	Habitat units	11.73	
		Hedgerow units	6.93	
		Watercourse Units	0.00	
	Off-Site Net Unit Change (units & percentage)	Habitat units	6.43	121.38%
		Hedgerow units	2.12	44.05%
		Watercourse Units	0.00	0.00%
Combined Net Unit Change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	3.22	
		Hedgerow units	2.12	
		Watercourse Units	0.09	
Final Results				
Total Net Unit Change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	3.22	
		Hedgerow units	2.12	
		Watercourse Units	0.09	
Total Net % Change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	20.37%	
		Hedgerow units	33.07%	
		Watercourse Units	16.91%	
Trading Rules Satisfied			YES	

Table 3.3 (continued): Biodiversity Metric Assessment – Headline and Final Results

The proposals (habitat loss, retention, and creation combined) for the off-site area have not been finalised at the time of writing, therefore the off-site post-intervention habitat units result is subject to change. However, to make sure that the trading rules are satisfied and a 1% net gain occurs; the project has committed to the following habitat creation as a minimum (full details are provided in Appendix 2):

- Woodland in moderate condition: 0.076 ha providing 0.36 BU
- Mixed scrub in moderate condition: 0.28 ha providing 1.87 BU
- Neutral grassland in moderate condition: 0.49 ha providing 3.25 BU

The above ensures the trading rules are satisfied and provide a **1.10%** net gain.

4. Discussion and Recommendations

4.1 Conclusions

Biodiversity Change

Net Gains

The BMA identified that the proposed development will result in a net gain of **3.22 BU** (Habitats), **2.12 BU** (Hedgerows) and **0.09 BU** (Rivers and streams). These gains compensate for all loss of these features and secures a net gain for biodiversity.

The Leicester, Leicestershire, and Rutland Biodiversity Action Plan⁵ highlights that future development should have regard to the (then) future requirements of Schedule 14 of the Environment Act 2021. Upon its enactment (on the 12th of February 2024) this schedule had the function of amending the Town and Country Planning Act 1990 to mandate the delivery of the Biodiversity Gains Objective (BGO) for all new developments of applicable type. As this development was validated prior to the 12th of February 2024 it is not of a type required to meet the BGO (i.e., deliver +10% to biodiversity), as is now specified in Schedule 7A of the Town and Country Planning Act 1990 (as amended).

However, this exemption does not extend to the development's need to comply with local planning policy (for both biodiversity in general and hedgerow features), nor does it allow the scheme to result in a net-loss to biodiversity, as this is a pre-existing statutory minimum specified in Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended).

With this considered it has been agreed with the local planning authority that a gain of at least 1% will be appropriate at this site, along with compliance of trading rules. This gain has been achieved with the combination of on-site (red-line boundary) and off-site (within the wider Twycross Zoo ownership) landscaping.

Landscape and Ecological Management Plan

The projected onsite habitat values given in this report are based on the assumption that an appropriate management plan will be implemented to ensure that the habitats, hedgerows, and river and stream features will be established and maintained to fulfil their intended biodiversity value. Biodiversity Net Gain Principles⁶ necessitates that any biodiversity units claimed must be deliverable over a minimum period of 30 years. As such, the recommended management plan must provide long-term management proposals and provide scope for monitoring and reporting, to demonstrate that the intended values will be achieved over a minimum 30-year period. A recommendation to this effect is included in Section 4.2 below.

4.2 Recommendations

R1 Landscape and Ecological Management and Monitoring Plan (LEMMP): A Landscape and Ecological Management and Monitoring Plan should be produced for all habitats, hedgerows, river and stream features proposed within the site (as well as within any biodiversity offsetting area located on land in the wider ownership of the zoo). The LEMMP

⁵ Timms, S. (2022). *Biodiversity Net Gain (Interim Approach Before Mandatory BNG Goes 'Live')*. Available at <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2022/10/5/Biodiversity-net-gain-interim-approach.pdf>

⁶ CIRIA, CIEEM, IEMA (2016) *Biodiversity Net Gain: Good Practice Principles for Development* [Available <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>]

should set out the appropriate establishment works, and management prescription required to achieve and maintain the intended type and condition of each habitat/hedgerow/river and stream feature proposed. The LEMMP should cover a minimum period of 30 years and include provisions for monitoring, review, reporting and contingency throughout. The LEMMP could be produced as part of a planning condition for the proposed development.

5. Drawings

Drawing C160474-02-01 Rev A – On Site Phase 1 Habitat Survey

Drawing C180537-01 – Off Site Phase 1 Habitat Survey

Drawing C160474-04-01 Rev E – Drawing Adaptation of the Landscape Masterplan for Purposes of the BMA



Legend

- Site boundary
- Scattered scrub
- Scattered tree
- Dry ditch
- Fence
- Line of broad-leaved trees
- Line of coniferous trees
- Species-poor intact hedgerow
- Species-rich intact hedgerow
- Wet ditch
- Wall
- Amenity grassland
- Bare ground
- Building
- Dense scrub
- Hardstanding
- Introduced shrub
- No access
- Other habitat
- Plantation broad-leaved woodland
- Plantation coniferous woodland
- Poor semi-improved grassland
- Semi-improved neutral grassland
- Standing water
- Target note (feature)
- Target note (habitat)

Project	Twycross Zoo		
Drawing	Phase 1 Habitat Map		
Client	Baker Mallett c/o Twycross Zoo		
Drawing Number	C160474-02-01-RevA	Revision	Rev A
Scale @ A3	1:700	Date	October 2023
Approved By	CH	Drawn By	BD
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C160474-02-01-RevA



C180537-01

Legend

Site boundary

Scattered tree - Medium

Fence

Line of trees

Species-rich intact hedgerow

Arable farmland

Dense scrub

Target note - habitat parcel

Project

Twycross Zoo Offsetting Area

Drawing

Phase 1 Habitat Map

Client

Baker Mallet LLP

Drawing Number

C180537-01

Revision

00

Scale @ A3

1:800

Date

November 2024

Approved By

CH

Drawn By

BD

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Legend

- Proposed feature tree planting

Proposed native tree planting

Tree to be removed

Tree to be retained

Translocated tree

Site boundary

Hedgerow with ditch to be removed

Hedgerow with ditch to be retained

Hedgerow to be enhanced

Hedgerow to be removed
- Hedgerow to be retained

Line of trees to be removed

Line of trees to be retained

Proposed green screen

Proposed ditch

Proposed hedgerow

Wet ditch to be removed

Wet ditch to be retained

Proposed fence

Existing pond

Proposed enclosure modified grassland
- Proposed grasscrete

Proposed habitat feature grassland

Proposed habitat planting

Proposed meadow mix 1

Proposed meadow mix 2

Proposed native mix scrub

Proposed neutral grassland mix

Proposed ornamental planting

Proposed pleached trees

Proposed pond
- Proposed 'themed' planting

Proposed water body mix

Proposed wetland meadow mix

Retained habitat

Proposed building and hardstanding

Project	Twycross Zoo		
Drawing	Biodiversity Metric Assessment		
Client	Baker Mallett c/o Twycross Zoo		
Drawing Number	C160474-04-01-RevE	Revision	Rev E
Scale @ A3	1:700	Date	December 2024
Approved By	CH	Drawn By	BD
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C160474-04-01-RevE

Appendix 1

Biodiversity Metric 4.0. Calculation: National Conservation Science Centre, Twycross Zoo

The Biodiversity Metric 4.0 - Calculation Tool

Start page

Project details			
Planning authority:	Leicestershire County Council		
Project name:	National Science Conservation Centre, Twycross Zoo		
Applicant:	Baker Mallett LLP		
Application type:			
Planning application reference:			
Completed by:	Charline Hue		
Date of metric completion:	12 December 2024		
Reviewer:			
Version control:	Based on TWZ-DZU-00-00-DR-L-00400-P05 Soft Landscape Strategy		
Consenting body reviewer:			
Date of consenting body review:			
Target % net gain:	1%	Target set below 10% ▲	
Irreplaceable habitat present on-site at baseline:	No		
Total site area (including irreplaceable habitat area):	4.45	Irreplaceable habitat area at baseline:	0.00

Instructions

Main menu

Results

Cell style conventions	
▲	Attention required
▲	Input error/rules and principles not met
	Use of this cell is not appropriate
	Enter data
	Automatic lookup
	Result

View all

Reset view

On-site baseline map

Insert

On-site post intervention map

Insert

On-site baseline map reference number

On-site post-intervention map reference number

Off-site baseline map

Insert

Off-site post intervention map

Insert

Off-site baseline map reference number

Off-site post-intervention reference number

The Biodiversity Metric 4.0 - Calculation Tool Instructions

Double click the front page below to open the file

Start page

Main menu

Phase 1 - metric
habitat translation
tool

**This guide can also be found as an Appendix to the main
Biodiversity Metric 4.0 – User guide.**

The Biodiversity Metric 4.0

Short Data Input Guide

First published March 2023

Natural England Joint Publication JP039

www.gov.uk/natural-england



The Biodiversity Metric 4.0 - Calculation Tool Results

Return to start
page

Headline results

Detailed results

Habitat trading
summaries

Off-site
summary

National Science Conservation Centre, Twycross Zo

Headline Results

Scroll down for final results ⚠

Return to results menu

On-site baseline	Habitat units	15.80		
	Hedgerow units	6.40		
	Watercourse units	0.52		
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	12.58		
	Hedgerow units	6.40		
	Watercourse units	0.60		
On-site net change (units & percentage)	Habitat units	-3.21	-20.33%	On-site net gain is less than target set ⚠
	Hedgerow units	0.00	-0.06%	On-site net gain is less than target set ⚠
	Watercourse units	0.09	16.91%	

Off-site baseline	Habitat units	5.30		
	Hedgerow units	4.81		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	11.73		
	Hedgerow units	6.93		
	Watercourse units	0.00		
Off-site net change (units & percentage)	Habitat units	6.43	121.38%	
	Hedgerow units	2.12	44.05%	
	Watercourse units	0.00	0.00%	

Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	3.22		
	Hedgerow units	2.12		
	Watercourse units	0.09		
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	3.22
	Hedgerow units	2.12
	Watercourse units	0.09
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	20.37%
	Hedgerow units	33.07%
	Watercourse units	16.91%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	1.00%	15.80	15.95	0.00	Unit requirement met or surpassed ✓
Hedgerow units	1.00%	6.40	6.46	0.00	Unit requirement met or surpassed ✓
Watercourse units	1.00%	0.52	0.52	0.00	Unit requirement met or surpassed ✓

Trading
summary
hedgerows

Trading
summary
Watercourses

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

High Distinctiveness						
Habitat group	Group	On-site	Off-site	Project-wide	Lessons not yet accounted for	

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit: Like for like not satisfied	0.00

Medium Distinctiveness					
		On-site	Off-site	Project wide mit.	Cumulative broad habitat

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset Lower Distinctiveness Deficit	6.61
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up	0.00
Higher Distinctiveness Surplus Units minus Medium Distinctiveness Broad Habitat Deficit	0.00
Cumulative surplus of units	6.61

Low Distinctiveness				
Habitat group	Group	On-site	Off-site	Project wide unit

Low Distinctiveness Summary	
Low Distinctiveness net change in units	-3.39
Cumulative surplus of units	3.22

Return to results menu

Trading summary Area habitats

Trading summary Watercourses

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Selected?
Very High	Same habitat required =	Yes ✓
High	Like for like or better	Yes ✓
Medium	Same distinctiveness or better habitat required	Yes ✓
Low/Very Low	Same distinctiveness or better habitat required	Yes ✓

Very High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow with trees - associated with bank or ditch	0.00	0.00	0.00
	0.00	0.00	0.00

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deduct: Like for like not applied	0.00

High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow with trees	-1.80	0.00	-1.80
Species-rich native hedgerow - associated with bank or ditch	-1.80	2.12	0.32
Native hedgerow with trees - associated with bank or ditch	0.00	0.00	0.00
	0.00	2.12	2.12

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	2.12
High Distinctiveness Deduct to be offset by a higher up	0.00
Higher Distinctiveness surplus units minus any high distinctiveness deficit	0.00

Medium Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow	0.73	0.00	0.73
Native hedgerow - associated with bank or ditch	0.00	0.00	0.00
Native hedgerow with trees	0.00	0.00	0.00
Ecologically valuable low of trees	0.00	0.00	0.00
Ecologically valuable low of trees - associated with bank or ditch	0.00	0.00	0.00
	0.73	0.00	0.73

Medium Distinctiveness Summary	
Units available from higher distinctiveness habitats	0.73
Medium Distinctiveness not available in units	0.73
Compensate availability of units	0.00

Low/Very Low Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Native hedgerow	-0.00	-0.00	-0.00
Native hedgerow	-0.00	-0.00	-0.00
Low of trees - associated with bank or ditch	0.00	0.00	0.00
New native and enhanced hedgerow	0.00	0.00	0.00
	-0.00	0.00	-0.00

Low Distinctiveness Summary	
Low Distinctiveness not change in units	-0.00
Compensate availability of units	0.00

Return to results menu

Trading summary Area Habitats

Trading summary hedgerows

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required ✖	Yes ✓
High	Same habitat required =	Yes ✓
Medium	Same habitat required =	Yes ✓
Low	Better distinctiveness habitat required	Yes ✓

Very High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Priority habitat	0.00	0.00	0.00
	0.00	0.00	0.00

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Other rivers and streams	0.00	0.00	0.00
	0.00	0.00	0.00

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit; Like for like not satisfied	0.00

Medium Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Ditches	0.09	0.00	0.09
Canals	0.00	0.00	0.00
	0.09	0.00	0.09

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset Lower Distinctiveness Deficit	0.09
Unit Deficit; Like for like not satisfied	0.00

Low Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Culvert	0.00	0.00	0.00
	0.00	0.00	0.00

Low Distinctiveness Summary	
Low Distinctiveness net change in units	0.00
Cumulative availability of units	0.09

Project Name: National Science Conservation Centre, Twycross Zoo

Map Reference:

A-1 On-Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Area habitat summary	
Total Net Unit Change	3.22
Total Net % Change	20.37%
Trading Rules Satisfied	Yes ✓

Ref	Existing area habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Modified grassland	0.132	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.53
2	Grassland	Modified grassland	0.286	Low	2		1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.57
3	Urban	Developed land; sealed surface	0.01	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
4	Heathland and shrub	Mixed scrub	0.458	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	1.83
5	Urban	Developed land; sealed surface	0.29	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
6	Woodland and forest	Other coniferous woodland	0.117	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.47
7	Woodland and forest	Other woodland; broadleaved	0.113	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.90
8	Woodland and forest	Other woodland; broadleaved	0.011	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.04
9	Grassland	Other neutral grassland	0.62	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	4.96
10	Grassland	Other neutral grassland	0.008	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.03
11	Lakes	Ponds (non-priority habitat)	0.02	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.18
12	Urban	Introduced shrub	0.012	Low	2	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.02
13	Urban	Bare ground	0.006	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.01
14	Grassland	Modified grassland	0.04	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.08
16	Woodland and forest	Other woodland; broadleaved	0.038	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.15
18	Individual trees	Urban tree	0.041	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.38
17	Individual trees	Urban tree	0.394	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	5.44
18	Urban	Modified grassland	0.003	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.01
19	Heathland and shrub	Mixed scrub	0.023	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.18
20												
21												
22												
23												
24												

Total habitat area	2.82
Site Area (Excluding area of Individual trees and Green walls)	2.19

M² to hectares conversion tool:	Select a unit	Hectares	M²

Retention category biodiversity value						Beespoke compensation agreed for unacceptable losses	Comments		
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		User comments	Consenting body comments	GIS reference number
0	0	0.00	0.00	0.13	0.53		Amenity grassland		TN13
0	0	0.00	0.00	0.29	0.57		Amenity grassland		TN14 and 15
0	0	0.00	0.00	0.01	0.00		Building		TN23
0.091	0	0.36	0.00	0.37	1.47		Dense scrub, mixed		TN 6, 10, 42, and 43
0.001	0	0.00	0.00	0.29	0.00		Hardstanding		TN22
0	0	0.00	0.00	0.12	0.47		Conifer plantation woodland		TN5
0.093	0	0.74	0.00	0.02	0.16		Broad-leaved plantation woodland		TN1
0	0	0.00	0.00	0.01	0.04		Broad-leaved plantation woodland		TN24
0.026	0	0.21	0.00	0.59	4.75		Semi-improved neutral grassland		TN19
0	0	0.00	0.00	0.01	0.03		Poor semi-improved grassland		TN38
0.02	0	0.18	0.00	0.00	0.00		Pond		TN8
0	0	0.00	0.00	0.01	0.02		Ornamental planting		TN39
0	0	0.00	0.00	0.01	0.01		Bare ground		TN16
0	0	0.00	0.00	0.04	0.08		Other habitat -ground within the primate enclosure comprising bare ground, bark chippings, and common and introduced grass species		TN18
0	0	0.00	0.00	0.04	0.15		30 early-mature to mature, hybrid black poplars situated close together in the tufted deer enclosures forming a plantation woodland		TN17
0.029	0	0.27	0.00	0.01	0.11		10 moderate condition trees; all of small size, 6 of these to be retained (TN28 x 1, TN33 x 1, TN45 x 4) and 1 to be relocated (TN33 x 1). Most of the trees are deemed to be semi-mature to mature. Mature trees are formally identified within the LRAP.		TN28 (Sx3), TN33 (Sx2), TN45 (Sx4), and TN48 (Sx1)
0.243	0	3.35	0.00	0.15	2.08		15 good condition trees; 1 of large size, 8 of medium size, and 6 of small size, 10 of these are to be retained including 1 in good condition and of large size (TN32); 4 in good condition and of med size (TN27, TN36 and TN46 x 2), and 5 in good condition and of small size (TN26, TN30, TN44 x 3). Most of the trees are deemed to be semi-mature to mature. Mature trees are formally identified within the LRAP.		TN26 (Sx1), TN27 (Mx1), TN29 (Sx1), TN30 (Sx1), TN31 (Mx1), TN32 (Lx1), TN35 (Mx1), TN36 (Mx1), TN44 (Sx3), TN46 (Mx2) and TN47 (Mx2)
0	0	0.00	0.00	0.00	0.01		No access but anticipated to be similar to TN16		TN40
0	0	0.00	0.00	0.02	0.18		Dense scrub, mixed		TN37
0.50	0.00	5.12	0.00	2.12	10.68				

Total area lost (excluding area of Individual trees and Green walls)	1.96
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Project Name: National Science Conservation Centre, Twycross Zoo	Map Reference:
A-2 On-Site Habitat Creation	

Condense / Show Columns	Condense / Show Rows
Main Menu	Instructions

Area habitat summary	
Total Net Unit Change	3.22
Total Net % Change	20.31%
Trading Rules Satisfied	Yes ✓
Area Check (excluding individual trees and green walls)	Area Acceptable ✓

Post development/ post intervention habitats																									
Breed Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		Strategic significance					Temporal multiplier					Difficulty multipliers					Habitat units delivered	Comments		OS reference number
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	User comments	Consenting body comments				
Urban	Vegetated garden	0.016	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.03	Proposed feature grasses (i.e.: block planting of ornamental grasses)				
Urban	Introduced shrub	0.041	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.08	Proposed habitat planting (i.e.: matrix planting of shrub species within animal habitats to provide screening)				
Urban	Developed hard sealed surface	0.987	V Low	0	N/A - Other	0	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00	Proposed hardscaping				
Urban	Introduced shrub	0.003	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.01	Proposed ornamental planting				
Heathland and shrub	Mixed scrub	0.148	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.99	Proposed native mix scrub				
Urban	Introduced shrub	0.004	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.01	Proposed planted non-native trees				
Individual trees	Urban tree	0.566	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	27	0	0	Standard time to target condition applied	27	0.382	Low	Standard difficulty applied	Low	1	1.99	Proposed 139 native trees will be planted. Assumed small and moderate conditions				
Urban	Introduced shrub	0.062	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.12	Proposed themed planting (i.e.: planting of specimen shrubs, herbaceous and grass species throughout public realm evoking a "sense of folklore")				
Lakes	Ponds (non-priority habitat)	0.004	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	3	0	0	Standard time to target condition applied	3	0.999	Low	Standard difficulty applied	Low	1	0.03	Proposed pond and waterbody signs				
CroSSLand	Other neutral grassland	0.042	Medium	4	Good	3	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	0.35	Proposed wetland meadow mix (Incorporate EGS) (i.e.: to create a low maintenance wetland edge around the existing and proposed ditch)				
CroSSLand	Other neutral grassland	0.354	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	2.37	Proposed neutral grassland mix and wildflower mix (Neutral Hay Meadow mix - site cut per year; remove arisings) and meadow mix 1 and mix 2				
Individual trees	Urban tree	0.187	Medium	4	Poor	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	0.52	Proposed 46 feature trees, assumed of small size and capable of reaching criteria for poor condition only, non-native specimens will be chosen				
CroSSLand	Modified grassland	0.256	Low	2	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	4	0	0	Standard time to target condition applied	4	0.867	Low	Standard difficulty applied	Low	1	0.89	Proposed enclosure grassland				
CroSSLand	Modified grassland	0.04	Low	2	Poor	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.08	Proposed grasscrete				

Site Area (Excluding area of individual trees and Green walls)		1.00	
M² to hectares conversion tool:	Select a unit	Hectares	M²

[illegible]

Area habitat summary					
Total Net Unit Change	9.22				
Total Net % Change	80.87%				
Tracing Rules Satisfied	Yes ✓				
Area Check (excluding individual trees and green walls)	Area Acceptable ✓				
D-2 Off-Site Habitat Creation					
Condense / Show Columns	Condense / Show Rows				
Main Menu	Instructions				

Post development/ post intervention habitats																											
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance		Temporal risk multiplier						Difficulty risk multipliers				Spatial risk multiplier		Habitat units delivered	Comments					
							Strategic significance	Strategic position multiplier	Standard time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	Spatial risk category	al risk mult		User comments	Consenting body comments	GIS reference number	Off-site reference		
Woodland and forest	Other woodland/ broadleaved	0.15	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0	0	Standard time to target condition applied	15	0.586	Low	Standard difficulty applied	Low	1	Compensation inside LPA boundary or NCA of impact site	1	0.70					
Heathland and shrub	Mixed scrub	0.7	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	Compensation inside LPA boundary or NCA of impact site	1	4.69					
Grassland	Other neutral grassland	0.663	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	Compensation inside LPA boundary or NCA of impact site	1	4.43					
Grassland	Modified grassland	0.05	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.966	Low	Standard difficulty applied	Low	1	Compensation inside LPA boundary or NCA of impact site	1	0.10					
Total habitat area		1.68																									
Site Area (Excluding area of individual trees and Green walls)		1.68																									
M² to hectares conversion tool:		Select a unit	Hectares	M²																							

Total Units: 9.92

ct Name: National Science Conservation Centre, Twycross Zoo Map Reference:
B-1 On-Site Hedge Baseline

Condense / Show Columns Condense / Show Rows
Main Menu Instructions

Hedgerow summary	
Total Net Unit Change	2.12
Total Net % Change	33.07%
Trading Rules Satisfied	Yes ✓

Baseline ref	Existing hedgerow habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline Total hedgerow units
	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		
1	TN2	Line of trees	0.154	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.31
2	TN3	Line of trees	0.057	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.11
3	TN9	Native hedgerow	0.111	Low	2	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.51
4	TN4	Species-rich native hedgerow	0.073	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.67
5	TN21	Species-rich native hedgerow	0.027	Medium	4	Poor	1	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.12
6	TN11	Species-rich native hedgerow - associated with bank or ditch	0.155	High	6	Good	3	Formally identified in local strategy	High strategic significance	1.15	Like for like or better	3.21
7	TN12	Species-rich native hedgerow	0.106	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	1.46
8												
9												
10												
			0.68									6.40

Retention category biodiversity value						Comments		GIS reference number
Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	User comments	Consenting body comments	
0	0	0.00	0.00	0.15	0.31			TN2
0.057	0	0.11	0.00	0.00	0.00			TN3
0	0	0.00	0.00	0.11	0.51			TN9
0.073	0	0.67	0.00	0.00	0.00			TN4
0	0	0.00	0.00	0.03	0.12			TN21
0.063	0	1.30	0.00	0.09	1.90			TN11
0	0.106	0.00	1.46	0.00	0.00			TN12
0.19	0.11	2.09	1.46	0.38	2.88			

Site Name: National Science Conservation Centre, Twycross Zoo Map Reference: B-2 On-Site Hedge Creation
Condense / Show Columns
Condense / Show Rows
Main Menu
Instructions

Hedgerow summary	
Total Net Unit Change	2.12
Total Net % Change	33.07%
Trading Rules Satisfied	Yes ✓

		Proposed habitats		Distinctiveness		Condition		Strategic significance			Temporal multiplier					Difficulty risk multipliers				Hedge units delivered	Comments			
Baseline ref	New hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation		Difficulty multiplier applied	User comments	Consenting body comments	GIS reference number
1		Non-native and ornamental hedgerow	0.019	V.Low	1	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.955	Low	Standard difficulty applied	Low	1	0.02	Proposed green screen (no species mix available at the time of writing, but anticipated to be species-poor and non-native)		
2		Species-rich native hedgerow	0.257	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	12	0	0	Standard time to target condition applied	12	0.652	Low	Standard difficulty applied	Low	1	2.31	Processed native hedgerow with 8 species		
3																								
4																								
5																								
6																								
			0.28																	2.33				

[illegible]

he: National Science Conservation Centre, Twycross Zoo Map

E-1 Off-Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Hedgerow summary	
Total Net Unit Change	2.12
Total Net % Change	33.07%
Trading Rules Satisfied	Yes ✓

Existing hedgerow habitats				Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Spatial risk multiplier		Ecological baseline	Retention category biodiversity value						Comments		GIS reference number	Off-site reference
Baseline ref	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		Spatial risk category	Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	User comments	Consenting body comments			
1	TN1	Species-rich native hedgerow - associated with bank or ditch	0.33	High	6	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Like for like or better	Compensation inside LPA boundary or NCA of impact site	4.55	0	0.33	0	4.554	0.00	0.00			TN1		
2	TN4	Line of trees - associated with bank or ditch	0.13	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness based or better	Compensation inside LPA boundary or NCA of impact site	0.26	0.13	0	0.26	0	0.00	0.00			TN4		
3																								
4																								
5																								
6																								
7																								
			0.46												0.13	0.33	0.26	4.56	0.00	0.00				

Project Name: National Science Conservation Centre, Twycross Zoo		Map References	
E-2 Off-Site Hedge Creation			
Condense / Show Columns		Condense / Show Rows	
Main Menu		Instructions	
Hedgerow summary			
Total Net Unit Change		2.18	
Total Net % Change		33.07%	
Trading Rules Satisfied		Yes ✓	

[Condense / Show Columns](#)
[Condense / Show Rows](#)
[Main Menu](#)
[Instructions](#)

Hedgerow summary	
Total Net Unit Change	2.12
Total Net % Change	22.97%

[illegible]

Project Name: National Science Conservation Centre,
C-1 On-Site WaterC' Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Watercourse summary	
Total Net Unit Change	0.08
Total Net % Change	18.81%
Trading Rules Satisfied	Yes ✓

Existing watercourse type			Distinctiveness		Condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Required Action to Meet Trading Rules	Ecological baseline Total watercourse units	Retention category biodiversity value					Bespoke compensation agreed for unacceptable losses	Comments		GIS reference number
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost	User Comments	Consenting body comments	
1	Ditches	0.077	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	No Encroachment	1	Major/Minor	0.84	Same habitat required =	0.52	0.033	0	0.22	0.00	0.04	0.30		Part of wet ditch to be lost for the proposed rectangular enclosure, rest to be retained as is	TNT
2																								
3																								
4																								
5																								
6																								
7																								
		0.08														0.03	0.00	0.22	0.00	0.04	0.30			

Project Name: National Science Conservation Centre, 1wy008s Z00

Map Reference:

C-2 On-Site WaterC^o Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Watercourse summary	
Total Net Unit Change	0.08
Total Net % Change	18.81%
Trading Rules Satisfied	Yes ✓

Proposed habitats			Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty multipliers				Watercourse encroachment		Riparian encroachment		Watercourse units delivered	Comments		
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier		User comments	Consenting body comments	
1	Ditches	0.06	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	Minor	0.8	Minor/ Minor	0.95	0.38			
2																											
3																											
4																											
5																											
6		0.08																						0.38			

[illegible]

Return to List		All Habitats Based on UK Fish										Land 1 Habitats										Land 2 Habitats										Land 3 Habitats										Land 4 Habitats										Land 5 Habitats										Land 6 Habitats										Land 7 Habitats										Land 8 Habitats										Land 9 Habitats										Land 10 Habitats										Land 11 Habitats										Land 12 Habitats										Land 13 Habitats										Land 14 Habitats										Land 15 Habitats										Land 16 Habitats										Land 17 Habitats										Land 18 Habitats										Land 19 Habitats										Land 20 Habitats										Land 21 Habitats										Land 22 Habitats										Land 23 Habitats										Land 24 Habitats										Land 25 Habitats										Land 26 Habitats										Land 27 Habitats										Land 28 Habitats										Land 29 Habitats										Land 30 Habitats										Land 31 Habitats										Land 32 Habitats										Land 33 Habitats										Land 34 Habitats										Land 35 Habitats										Land 36 Habitats										Land 37 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Return to start

⚠ This tool is intended to be used for historic data. Any suggested translation between a phase 1 habitat and metric habitat should not be considered a rule - there may be circumstances where a more appropriate metric habitat may be chosen when ecological expertise is applied.

[illegible]

Appendix 2

Biodiversity Metric 4.0. Calculation: National Conservation Science Centre, Twycross Zoo - Minimum requirement

The Biodiversity Metric 4.0 - Calculation Tool

Start page

Project details			
Planning authority:	Leicestershire County Council		
Project name:	National Science Conservation Centre, Twycross Zoo		
Applicant:	Baker Mallett LLP		
Application type:			
Planning application reference:			
Completed by:	Charline Hue		
Date of metric completion:	12 December 2024		
Reviewer:			
Version control:	Based on TWZ-DZU-00-00-DR-L-00400-P05 Soft Landscape Strategy		
Consenting body reviewer:			
Date of consenting body review:			
Target % net gain:	1%	Target set below 10% ▲	
Irreplaceable habitat present on-site at baseline:	No		
Total site area (including irreplaceable habitat area):	4.45	Irreplaceable habitat area at baseline:	0.00

Instructions

Main menu

Results

Cell style conventions	
▲	Attention required
▲	Input error/rules and principles not met
	Use of this cell is not appropriate
	Enter data
	Automatic lookup
	Result

View all

Reset view

On-site baseline map

Insert

On-site post intervention map

Insert

On-site baseline map reference number

On-site post-intervention map reference number

Off-site baseline map

Insert

Off-site post intervention map

Insert

Off-site baseline map reference number

Off-site post-intervention reference number

The Biodiversity Metric 4.0 - Calculation Tool Instructions

Double click the front page below to open the file

Start page

Main menu

Phase 1 - metric
habitat translation
tool

**This guide can also be found as an Appendix to the main
Biodiversity Metric 4.0 – User guide.**

The Biodiversity Metric 4.0

Short Data Input Guide

First published March 2023

Natural England Joint Publication JP039

www.gov.uk/natural-england





Area habitats



Hedgerows and lines of trees



Watercourses

The Biodiversity Metric 4.0 - Calculation Tool

Main menu

Tree helper						
Tree size	Number of trees and area (ha) for each condition state					
	Poor	Area	Moderate	Area	Good	Area
Small	46	0.1873	139	0.5659	5	0.0204
Medium		0.0000	2	0.0733	4	0.1466
Large		0.0000		0.0000	1	0.0765
Total	46	0.1873	141	0.6392	10	0.2434

Start here

Start page

Instructions

Technical data

Results

1

2

3

4

On-site baseline

A-1 On-site Area Habitat Baseline



B-1 On-site Hedge Baseline



C-1 On-site Watercourse Baseline



On-site post development

A-2 On-site Area Habitat Creation



A-3 On-site Area Habitat Enhancement



B-2 On-site Hedge Creation



B-3 On-site Hedge Enhancement



C-2 On-site Watercourse Creation



C-3 On-site Watercourse Enhancement



Off-site baseline

D-1 Off-site Area Habitat Baseline



E-1 Off-site Hedge Baseline



F-1 Off-site Watercourse Baseline



Off-site post development

D-2 Off-site Area Habitat Creation



D-3 Off-site Area Habitat Enhancement



E-2 Off-site Hedge Creation



E-3 Off-site Hedge Enhancement



F-2 Off-site Watercourse Creation



F-3 Off-site Watercourse Enhancement



The Biodiversity Metric 4.0 - Calculation Tool

Results

Return to start
page

Headline results

Detailed results

Habitat trading
summaries

Off-site
summary

National Science Conservation Centre, Twycross Zo

Headline Results

Scroll down for final results ⚠

Return to results menu

On-site baseline	Habitat units	15.80		
	Hedgerow units	6.40		
	Watercourse units	0.52		
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	12.58		
	Hedgerow units	6.40		
	Watercourse units	0.60		
On-site net change (units & percentage)	Habitat units	-3.21	-20.33%	On-site net gain is less than target set ⚠
	Hedgerow units	0.00	-0.06%	On-site net gain is less than target set ⚠
	Watercourse units	0.09	16.91%	

Off-site baseline	Habitat units	5.30		
	Hedgerow units	4.81		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	8.68		
	Hedgerow units	6.93		
	Watercourse units	0.00		
Off-site net change (units & percentage)	Habitat units	3.39	63.90%	
	Hedgerow units	2.12	44.05%	
	Watercourse units	0.00	0.00%	

Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.17		
	Hedgerow units	2.12		
	Watercourse units	0.09		
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	0.17
	Hedgerow units	2.12
	Watercourse units	0.09
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	1.10%
	Hedgerow units	33.07%
	Watercourse units	16.91%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	1.00%	15.80	15.95	0.00	Unit requirement met or surpassed ✓
Hedgerow units	1.00%	6.40	6.46	0.00	Unit requirement met or surpassed ✓
Watercourse units	1.00%	0.52	0.52	0.00	Unit requirement met or surpassed ✓

Return to results menu	Trading Summary		
	Distress Group	Trading Rule	Trading Satisfied?
	Very High	Response compensation likely to be required %	Yes ✓
	High	Same habitat required =	Yes ✓
	Medium	Same or better habitat or a higher disturbance habitat required >	Yes ✓
Trading summary helpdesks	Low	Same disturbance or better habitat required >	Yes ✓

Trading summary Watercourses	Very High Distinctiveness					
	Habitat group	Group	On-site unit change	Off-site unit change	Project-wide unit change	Unit losses
	Grassland - Lowland dry acid grassland	Grassland	0.00	0.00	0.00	
	Grassland - Lowland meadows	Grassland	0.00	0.00	0.00	
	Channelled - Lowland tree meadows	Grassland	0.00	0.00	0.00	
	Heathland and shrub - Mountain heaths and yellow scrub	Heathland and shrub	0.00	0.00	0.00	
	Lakes - Aquatic bed naturally forming water bodies	Lakes	0.00	0.00	0.00	
	Scrubby openated land - Calluna heath	Scrubby openated land	0.00	0.00	0.00	
	Seasonally occupied land - Irrigation investment	Seasonally occupied land	0.00	0.00	0.00	
	Wetland - Broadleaf bog	Wetland	0.00	0.00	0.00	
	Wetland - Depositional on peat substrates (B115)	Wetland	0.00	0.00	0.00	
	Wetland - Fens (upland and lowland)	Wetland	0.00	0.00	0.00	
	Wetland - Lowland raised bog	Wetland	0.00	0.00	0.00	
	Wetland - Oceanic valley mire (B12)	Wetland	0.00	0.00	0.00	
	Wetland - Purple moor grass and rush heath	Wetland	0.00	0.00	0.00	
	Wetland - Transition mire and quality bog (B116)	Wetland	0.00	0.00	0.00	
	Woodland and forest - Wood pasture and pastured	Woodland and forest	0.00	0.00	0.00	
	Rocky shores - High energy littoral rock - on peat, clay or chalk	Rocky shores	0.00	0.00	0.00	
	Rocky shores - Moderate energy littoral rock - on peat, clay or chalk	Rocky shores	0.00	0.00	0.00	
	Rocky shores - Low energy littoral rock - on peat, clay or chalk	Rocky shores	0.00	0.00	0.00	
	Rocky shores - Flattened of littoral rock - on peat, clay or chalk	Rocky shores	0.00	0.00	0.00	
	Intertidal sediments - Littoral sands on peat, clay or chalk	Intertidal sediments	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

Habitat group	Group	On-site unit change	Off-site unit change	Project-wide unit change	Looses not yet accounted for
Grassland - Traditional orchards	Grassland	0.00	0.00	0.00	
Grassland - Phloxideria wetland meadow and CPOM	Grassland	0.00	0.00	0.00	
Grassland - Lowland calcareous grassland	Grassland	0.00	0.00	0.00	
Grassland - Tall herb communities (H167)	Grassland	0.00	0.00	0.00	
Grassland - Upland calcareous grassland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Lowland heathland	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Heath with oak treechests (H116)	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Upland heathland	Heathland and shrub	0.00	0.00	0.00	
Lalane - High alpine lalane	Lalane	0.00	0.00	0.00	
Lalane - Low alpine lalane	Lalane	0.00	0.00	0.00	
Lalane - Mall lalane	Lalane	0.00	0.00	0.00	
Lalane - Middle-range alpine lalane	Lalane	0.00	0.00	0.00	
Lalane - Pure lalane	Lalane	0.00	0.00	0.00	
Lalane - Purple increase habitat	Lalane	0.00	0.00	0.00	
Lalane - Temporary lalane ponds and pools (H117)	Lalane	0.00	0.00	0.00	
Sparingly vegetated land - Coastal sand dunes	Sparingly vegetated land	0.00	0.00	0.00	
Sparingly vegetated land - Coastal vegetated strand	Sparingly vegetated land	0.00	0.00	0.00	
Stony open-wooded land - Mixed rock outcrop and stone	Stony open-wooded land	0.00	0.00	0.00	
Stonely increased land - Maritime cliff and slope	Stonely increased land	0.00	0.00	0.00	
Ullene - Open moor; Ullene or naturally developed land	Ullene	0.00	0.00	0.00	
Wetland - Reedbeds	Wetland	0.00	0.00	0.00	
Woodland and forest - Forest	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland birch and pine woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland mixed deciduous woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Native pure woodlands	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland birchwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland mixed hardwood	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland oakwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Wet woodshed	Woodland and forest	0.00	0.00	0.00	
Crozier landscape - Crozier landscape	Crozier landscape	0.00	0.00	0.00	
Body shore - High energy littoral rock	Body shore	0.00	0.00	0.00	
Body shore - Moderate energy littoral rock	Body shore	0.00	0.00	0.00	
Body shore - Low energy littoral rock	Body shore	0.00	0.00	0.00	
Body shore - Features of littoral rock	Body shore	0.00	0.00	0.00	
Intertidal sediments - Littoral mud	Intertidal sediments	0.00	0.00	0.00	
Intertidal sediment - Littoral muddy sand	Intertidal sediment	0.00	0.00	0.00	
Coastal saltmarsh - Saltmarshes and saline reeds	Coastal saltmarsh	0.00	0.00	0.00	
Intertidal saltmarsh - Littoral inclosure only - Mosaic	Intertidal saltmarsh	0.00	0.00	0.00	
Intertidal saltmarsh - Littoral inclosure - reef / Sublance	Intertidal saltmarsh	0.00	0.00	0.00	
Intertidal saltmarsh - Ponds of tidal water	Intertidal saltmarsh	0.00	0.00	0.00	
Intertidal saltmarsh - Littoral muddy sand	Intertidal saltmarsh	0.00	0.00	0.00	
Intertidal saltmarsh - Littoral seagrass	Intertidal saltmarsh	0.00	0.00	0.00	0.00

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit: Taken for likes not satisfied	0.00

[illegible]

Medium Distinctiveness Summary		
Medium Distinctiveness Units available to offset Lower Distinctiveness Deficit		2.27
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up		0.00
Higher Distinctiveness Surplus Units minus Medium Distinctiveness Broad Habitat Deficit		0.00
Cumulative number of units		2.27

[illegible]

Low Distinctiveness Summary	
Low Distinctiveness net change in units	-2.09
Cumulative surplus of units	0.17

Return to results menu

Trading summary Area habitats

Trading summary Watercourses

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Selected?
Very High	Same habitat required =	Yes ✓
High	Like for like or better	Yes ✓
Medium	Same distinctiveness or better habitat required	Yes ✓
Low/Very Low	Same distinctiveness or better habitat required	Yes ✓

Very High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow with trees - associated with bank or ditch	0.00	0.00	0.00
	0.00	0.00	0.00

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deduct: Like for like not applied	0.00

High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow with trees	-1.80	0.00	-1.80
Species-rich native hedgerow - associated with bank or ditch	-1.80	2.12	0.32
Native hedgerow with trees - associated with bank or ditch	0.00	0.00	0.00
	0.00	2.12	2.12

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	2.12
High Distinctiveness Deduct to be offset by a higher up	0.00
Higher Distinctiveness surplus units minus any high distinctiveness deficit	0.00

Medium Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Species-rich native hedgerow	0.73	0.00	0.73
Native hedgerow - associated with bank or ditch	0.00	0.00	0.00
Native hedgerow with trees	0.00	0.00	0.00
Ecologically valuable low of trees	0.00	0.00	0.00
Ecologically valuable low of trees - associated with bank or ditch	0.00	0.00	0.00
	0.73	0.00	0.73

Medium Distinctiveness Summary	
Units available from higher distinctiveness habitats	0.73
Medium Distinctiveness not available in units	0.73
Compensate availability of units	0.00

Low/Very Low Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Native hedgerow	-0.00	0.00	-0.00
Native hedgerow	-0.00	0.00	-0.00
Low of trees - associated with bank or ditch	0.00	0.00	0.00
New native and enhanced hedgerow	0.00	0.00	0.00
	-0.00	0.00	-0.00

Low Distinctiveness Summary	
Low Distinctiveness not change to units	-0.00
Compensate availability of units	0.00

Return to results menu

Trading summary Area Habitats

Trading summary hedgerows

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required ✖	Yes ✓
High	Same habitat required =	Yes ✓
Medium	Same habitat required =	Yes ✓
Low	Better distinctiveness habitat required	Yes ✓

Very High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Priority habitat	0.00	0.00	0.00
	0.00	0.00	0.00

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Other rivers and streams	0.00	0.00	0.00
	0.00	0.00	0.00

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit; Like for like not satisfied	0.00

Medium Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Ditches	0.09	0.00	0.09
Canals	0.00	0.00	0.00
	0.09	0.00	0.09

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset Lower Distinctiveness Deficit	0.09
Unit Deficit; Like for like not satisfied	0.00

Low Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Culvert	0.00	0.00	0.00
	0.00	0.00	0.00

Low Distinctiveness Summary	
Low Distinctiveness net change in units	0.00
Cumulative availability of units	0.09

Project Name: National Science Conservation Centre, Twycross Zoo

Map Reference:

A-1 On-Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Area habitat summary	
Total Net Unit Change	0.17
Total Net % Change	1.10%
Trading Rules Satisfied	Yes ✓

Ref	Existing area habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Modified grassland	0.132	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.53
2	Grassland	Modified grassland	0.286	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.57
3	Urban	Developed land; sealed surface	0.01	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
4	Heathland and shrub	Mixed scrub	0.458	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	1.83
5	Urban	Developed land; sealed surface	0.29	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
6	Woodland and forest	Other coniferous woodland	0.117	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.47
7	Woodland and forest	Other woodland; broadleaved	0.113	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.90
8	Woodland and forest	Other woodland; broadleaved	0.011	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.04
9	Grassland	Other neutral grassland	0.62	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	4.96
10	Grassland	Other neutral grassland	0.008	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.03
11	Lakes	Ponds (non-priority habitat)	0.02	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.18
12	Urban	Introduced shrub	0.012	Low	2	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.02
13	Urban	Bare ground	0.006	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.01
14	Grassland	Modified grassland	0.04	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.08
16	Woodland and forest	Other woodland; broadleaved	0.038	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.15
18	Individual trees	Urban tree	0.041	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.38
17	Individual trees	Urban tree	0.394	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	5.44
18	Urban	Modified grassland	0.003	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.01
19	Heathland and shrub	Mixed scrub	0.023	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.18
20												
21												
22												
23												
24												

Total habitat area	2.82
Site Area (Excluding area of Individual trees and Green walls)	2.19

M² to hectares conversion tool:	Select a unit	Hectares	M²

Retention category biodiversity value						Beespoke compensation agreed for unacceptable losses	Comments		
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		User comments	Consenting body comments	GIS reference number
0	0	0.00	0.00	0.13	0.53		Amenity grassland		TN13
0	0	0.00	0.00	0.29	0.57		Amenity grassland		TN14 and 15
0	0	0.00	0.00	0.01	0.00		Building		TN23
0.091	0	0.36	0.00	0.37	1.47		Dense scrub, mixed		TN 6, 10, 42, and 43
0.001	0	0.00	0.00	0.29	0.00		Hardstanding		TN22
0	0	0.00	0.00	0.12	0.47		Conifer plantation woodland		TN5
0.093	0	0.74	0.00	0.02	0.16		Broad-leaved plantation woodland		TN1
0	0	0.00	0.00	0.01	0.04		Broad-leaved plantation woodland		TN24
0.026	0	0.21	0.00	0.59	4.75		Semi-improved neutral grassland		TN19
0	0	0.00	0.00	0.01	0.03		Poor semi-improved grassland		TN38
0.02	0	0.18	0.00	0.00	0.00		Pond		TN8
0	0	0.00	0.00	0.01	0.02		Ornamental planting		TN39
0	0	0.00	0.00	0.01	0.01		Bare ground		TN16
0	0	0.00	0.00	0.04	0.08		Other habitat -ground within the primate enclosure comprising bare ground, bark chippings, and common and introduced grass species		TN18
0	0	0.00	0.00	0.04	0.15		30 early-mature to mature, hybrid black poplars situated close together in the tufted deer enclosures forming a plantation woodland		TN17
0.029	0	0.27	0.00	0.01	0.11		10 moderate condition trees; all of small size, 6 of these to be retained (TN28 x 1, TN33 x 1, TN45 x 4) and 1 to be relocated (TN33 x 1). Most of the trees are deemed to be semi-mature to mature. Mature trees are formally identified within the LRAP.		TN28 (Sx3), TN33 (Sx2), TN45 (Sx4), and TN48 (Sx1)
0.243	0	3.35	0.00	0.15	2.08		15 good condition trees; 1 of large size, 8 of medium size, and 6 of small size, 10 of these are to be retained including 1 in good condition and of large size (TN32); 4 in good condition and of med size (TN27, TN36 and TN46 x 2), and 5 in good condition and of small size (TN26, TN30, TN44 x 3). Most of the trees are deemed to be semi-mature to mature. Mature trees are formally identified within the LRAP.		TN26 (Sx1), TN27 (Mx1), TN29 (Sx1), TN30 (Sx1), TN31 (Mx1), TN32 (Lx1), TN35 (Mx1), TN36 (Mx1), TN44 (Sx3), TN46 (Mx2) and TN47 (Mx2)
0	0	0.00	0.00	0.00	0.01		No access but antipated to be similar to TN16		TN40
0	0	0.00	0.00	0.02	0.18		Dense scrub, mixed		TN37
0.50	0.00	5.12	0.00	2.12	10.68				

Total area lost (excluding area of Individual trees and Green walls)	1.96
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Project Name: National Science Conservation Centre, Twycross Zoo	Map Reference:
A-2 On-Site Habitat Creation	

Condense / Show Columns

Condense / Show Rows

[Main Menu](#)

[Instructions](#)

Area habitat summary	
Total Net Unit Change	0.17
Total Net % Change	1.10%
Trading Rules Satisfied	Yes ✓
Area Check (excluding individual trees and green walls)	Area Acceptable ✓

Post development/ post intervention habitats																								OS reference number	
Breed Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		Strategic significance					Temporal multiplier					Difficulty multipliers					Habitat units delivered	Comments		
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	User comments	Consenting body comments				
Urban	Vegetated garden	0.016	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.03	Proposed feature grasses (i.e.: block planting of ornamental grasses)				
Urban	Introduced shrub	0.041	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.08	Proposed habitat planting (i.e.: matrix planting of shrub species within animal habitats to provide screening)				
Urban	Developed hard sealed surface	0.987	V Low	0	N/A - Other	0	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00	Proposed hardsurfacing				
Urban	Introduced shrub	0.003	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.01	Proposed ornamental planting				
Heathland and scrub	Mixed scrub	0.148	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.99	Proposed native mix scrub				
Urban	Introduced shrub	0.004	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.01	Proposed planted non-native trees				
Individual trees	Urban tree	0.566	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	27	0	0	Standard time to target condition applied	27	0.382	Low	Standard difficulty applied	Low	1	1.99	Proposed 139 native trees will be planted. Assumed small and moderate conditions				
Urban	Introduced shrub	0.062	Low	2	Condition Assessment N/A	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.12	Proposed themed planting (i.e.: planting of specimen shrubs, herbaceous and grass species throughout public realm evoking a "sense of folklore")				
Lakes	Ponds (non-priority habitat)	0.004	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	3	0	0	Standard time to target condition applied	3	0.999	Low	Standard difficulty applied	Low	1	0.03	Proposed pond and waterbody signs				
Croftland	Other neutral grassland	0.042	Medium	4	Good	3	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	0.35	Proposed wetland meadow mix (Encourage EGS) (i.e.: to create a low maintenance wetland edge around the existing and proposed ditch)				
Croftland	Other neutral grassland	0.354	Medium	4	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	2.37	Proposed neutral grassland mix and wildflower mix (Neutral Hay Meadow mix - site cut per year; remove stinging nettle and meadow mix 1 and mix 2) Proposed 46 feature trees, assumed of small size and capable of reaching criteria for poor condition only, non-native specimens will be chosen				
Individual trees	Urban tree	0.187	Medium	4	Poor	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	0.52	Proposed enclosure grassland				
Croftland	Modified grassland	0.256	Low	2	Moderate	2	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	4	0	0	Standard time to target condition applied	4	0.867	Low	Standard difficulty applied	Low	1	0.89	Proposed grasscrete				
Croftland	Modified grassland	0.04	Low	2	Poor	1	Avoidance/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.08					

Site Area (Excluding area of individual trees and Green walls)	1.96
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M² to hectares conversion tool:	Select a unit	Hectares	M²

[illegible]

ct Name: National Science Conservation Centre, Twycross Zoo Map Reference: B-1 On-Site Hedge Baseline

Condense / Show ColumnsMain Menu

Condense / Show RowsInstructions

Hedgerow summary	
Total Net Unit Change	2.12
Total Net % Change	33.07%
Trading Rules Satisfied	Yes ✓

Baseline ref	Existing hedgerow habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		
1	TN2	Line of trees	0.154	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.31
2	TN3	Line of trees	0.057	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.11
3	TN9	Native hedgerow	0.111	Low	2	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.51
4	TN4	Species-rich native hedgerow	0.073	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.67
5	TN21	Species-rich native hedgerow	0.027	Medium	4	Poor	1	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.12
6	TN11	Species-rich native hedgerow - associated with bank or ditch	0.155	High	6	Good	3	Formally identified in local strategy	High strategic significance	1.15	Like for like or better	3.21
7	TN12	Species-rich native hedgerow	0.106	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	1.46
8												
9												
10			0.68									6.40

Retention category biodiversity value						Comments		
Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	User comments	Consenting body comments	GIS reference number
0	0	0.00	0.00	0.15	0.31			TN2
0.057	0	0.11	0.00	0.00	0.00			TN3
0	0	0.00	0.00	0.11	0.51			TN9
0.073	0	0.67	0.00	0.00	0.00			TN4
0	0	0.00	0.00	0.03	0.12			TN21
0.063	0	1.30	0.00	0.09	1.90			TN11
0	0.106	0.00	1.46	0.00	0.00			TN12
0.19	0.11	2.09	1.46	0.38	2.85			

National Science Conservation Centre, Wyvern Zoo												M	
B-3 On-Site Hedge Enhancement													
Candidate / Show Columns						Candidate / Show Rows							
Main Menu						Navigation							
Hedge row summary													
Total Net Dist Change						A 12							
Total Net % Change						18.25%							
Treating Rules Initiated						Year 7							
Post development/ post intervention habitat													
Hedge row habitat													
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[illegible]

Project Name: National Science Conservation Centre,
C-1 On-Site WaterC' Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Watercourse summary	
Total Net Unit Change	0.08
Total Net % Change	16.81%
Trading Rules Satisfied	Yes ✓

Existing watercourse type			Distinctiveness		Condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Required Action to Meet Trading Rules	Ecological baseline Total watercourse units	Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments		GIS reference number
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost		User Comments	Consenting body comments	
1	Ditches	0.077	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	No Encroachment	1	Major/Minor	0.84	Same habitat required =	0.52	0.033	0	0.22	0.00	0.04	0.30	Part of wet ditch to be lost for the proposed orangutan enclosure, rest to be retained as is		TNT	
2																									
3																									
4																									
5																									
6																									
7																									
		0.08														0.52	0.03	0.00	0.22	0.00	0.04	0.30			

Project Name: National Science Conservation Centre, 1wy008s Z00

Map Reference:

C-2 On-Site WaterC^o Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Watercourse summary	
Total Net Unit Change	0.08
Total Net % Change	18.81%
Trading Rules Satisfied	Yes ✓

Proposed habitats			Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty multipliers				Watercourse encroachment		Riparian encroachment		Watercourse units delivered	Comments		
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier		User comments	Consenting body comments	
1	Ditches	0.06	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	Minor	0.8	Minor/ Minor	0.95	0.38			
2																											
3																											
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5																											
6		0.08																						0.38			

National Science Conservation Centre, Teyateyan Zoo										Map 1A	
G-3 On-Site WaterO' Enhancement											
Conservation Action Addressed:		Conservation Project Name:									
Project Location:		Field Station:									
Watercourse summary											
Total Net Unit Change:										6.00	
Total Net % Change:										16.97%	
Trailing Total Condition:										Top 2	
Post development post conservation status											
Proposed Watercourse Type (Pre-populated was to over/under)											
Channel in daylight/cross-section condition											
Length (m)											
Habitat disturbance											
Habitat condition											
Strategic significance											
Temporal sensitivity											
Difficulty sensitivity											
Watercourse environment											
Egretta environment											
Watercourse maintenance											
Comments											
Use comments											
Consulting body comments											
CR project manager											
Date											

Return to start		All Habitats Based on UK Fish										Land 1 Habitats										Land 2 Habitats										Land 3 Habitats										Land 4 Habitats										Land 5 Habitats										Land 6 Habitats										Land 7 Habitats										Land 8 Habitats										Land 9 Habitats										Land 10 Habitats										Land 11 Habitats										Land 12 Habitats										Land 13 Habitats										Land 14 Habitats										Land 15 Habitats										Land 16 Habitats										Land 17 Habitats										Land 18 Habitats										Land 19 Habitats										Land 20 Habitats										Land 21 Habitats										Land 22 Habitats										Land 23 Habitats										Land 24 Habitats										Land 25 Habitats										Land 26 Habitats										Land 27 Habitats										Land 28 Habitats										Land 29 Habitats										Land 30 Habitats										Land 31 Habitats										Land 32 Habitats										Land 33 Habitats										Land 34 Habitats										Land 35 Habitats										Land 36 Habitats										Land 37 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[illegible]

Hedgerows and lines of trees

[illegible]

Watercourses

[illegible][illegible][illegible]

Return to start

* This tool is intended to be used for historic data. Any suggested translation between a phase 1 habitat and metric habitat should not be considered a rule - there may be circumstances where a more appropriate metric habitat may be chosen when ecological expertise is applied.

[illegible]

The Biodiversity Metric 4.0 - Calculation Tool

Technical Data

Return to start
page

All area habitats

Area habitat groups

Multipliers

Temporal multipliers

Enhancement
temporal multipliers

Hedgerow data

Watercourse data

Condition data

Phase 1 - metric
habitat translation tool