Former Marchon Works, High Road, Whitehaven CA28 9NF

# **ASSESSMENT OF BIODIVERSITY NET GAIN**

October 2023

ERAP (Consultant Ecologists) Ltd Reference: 2021-138

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# **Document Control**

Survey Type:	Surveyors	Survey Date(s)
UK Habitat Classification	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	30 <sup>th</sup> September 2023
Survey (including Condition	Principal Ecologist	
Assessments of habitats)		
Reporting	Personnel	Date
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	1 <sup>st</sup> October 2023
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Signature(s)		
Checked	Rachel Brown B.Sc. (Hons)	3 <sup>rd</sup> October 2023
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## 1.0 INTRODUCTION

#### 1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Persimmon Homes to carry out an assessment of Biodiversity Net Gain (BNG) at the former Marchon Works site off High Road, Whitehaven (hereafter the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is NX 9649 1615. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested to supplement the *Ecological Survey and Assessment* (ERAP (Consultant Ecologists) Ltd, 2023) report (hereafter referred to as the '2023 ecology report') prepared to inform a "*Hybrid application seeking full planning permission for the erection of 139 residential dwellings (C3), new vehicular accesses off high road, public open space and ancillary infrastructure and outline planning permission for residential development units, retail and ancillary infrastructure with all matters reserved other than access."*
- 1.1.3 This report provides an assessment of the biodiversity value of the baseline of the site, an assessment of the value of post-development habitats based on the site proposals and landscape strategy (with reasonable assumptions in relation to the outline application area of the site), and provides guidance in relation to the requirements in accordance with *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016).
- 1.1.4 The report advises on the application of the Mitigation Hierarchy in relation to the design of the site and, in accordance with Chapter 15, paragraph 180(d) of the *National Planning Policy Framework* (NPPF) (Ministry of Housing, Communities and Local Government, 2021), advises on how 'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate' will be accommodated by the site.

### 1.2 Scope of Study

- 1.2.1 This report has been prepared to accompany a completed assessment of BNG using *The Biodiversity Metric 4.0 Calculation Tool (JP039)* (Natural England, 2023). The completed Microsoft Excel spreadsheet assessment is presented as a separate document, entitled '*ERAP Ltd 2021-138 Biodiversity Metric 4.0 Calculation Tool Marchon Works 02.10.23*', hereafter referred to as the 'BNG Metric'.
- 1.2.2 It is intended that this report provides a transparent assessment to demonstrate the calculation of net gain, based on the reasonable parameters assumed for the proposals (refer to **Section 2.3**). This approach has been applied on a number of other sites ERAP (Consultant Ecologists) Ltd has assisted with and has been accepted by the relevant Local Planning Authorities (LPA) and their ecological advisors to enable a planning application to progress.

### 2.0 METHOD OF SURVEY

### 2.1 Habitat Assessment and Mapping

#### **Baseline Habitats**

- 2.1.1 An updated ecological survey including an assessment in accordance with the UKHab and condition assessments of the habitats present was carried out by Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM on 30<sup>th</sup> September 2023. The weather conditions were dry and overcast with a light breeze (Beaufort scale 2) and an air temperature of 14°C.
- 2.1.2 On site habitat mapping was assisted via use of GPS technology, *ESRI World Imagery* and the topographical survey provided by Persimmon Homes as base plans.
- 2.1.3 Please refer to the 2023 ecology report for a detailed description of the habitats present at the site, photographs and plant species lists.



- 2.1.4 Each of the habitats within the site has been assessed in accordance with the UKHab to determine each habitat type present. This has allowed a reliable classification of habitats in accordance with those used by the BNG Metric.
- 2.1.5 The UKHab has been designed to function at two scales: fine scale (25m<sup>2</sup> or 5 metres length) and large scale (400m<sup>2</sup> or 20m<sup>2</sup> length). It has been considered for the purposes of this survey (where the UKHab has been used to inform the BNG calculation of a relatively small area) that a finer scale of 5m<sup>2</sup> is appropriate for the classification of habitats.
- 2.1.6 A plan showing the baseline habitats present within the site in accordance with UKHab symbology is appended at **Figure 2**.
- 2.1.7 Condition Assessments for each of the habitats present within the site have been completed in accordance with *The Biodiversity Metric 4.0 Technical Annex 1: Condition Assessment Sheets and Methodology* (Natural England, March 2023) (refer to **Section 7.1**).

### Post-development Habitats

- 2.1.8 The post-development habitats have been calculated with reference to the *Persimmon Homes Marchon Whitehaven Phase 1 Landscape Plan with POS Rev E* (Westwood Landscape, 2023) and the *Marchon Phase 1 and 2. Proposed Masterplan August 2023* (Persimmon, 2023) (hereafter collectively referred to as the 'Landscape Strategy').
- 2.1.9 These plans have been provided to ERAP (Consultant Ecologists) Ltd as a spatially referenced .dwg file; the file has been converted to .dxf format and inputted into QGIS.
- 2.1.10 Proposed urban trees have been measured using their specification on the Landscape Strategy and the Urban Tree Calculator provided within the BNG Metric.
- 2.1.11 A plan showing the proposed habitats in accordance with UKHab symbology is appended at **Figure 3**. Target Condition Assessments for each of the proposed habitats are presented at **Section 7.2**.

### 2.2 Survey and Reporting Limitations

- 2.2.1 No access restrictions or survey limitations were encountered.
- 2.2.2 All measurements have been either estimated whilst on site, mapped and then measured using QGIS.

### 2.3 Evaluation Methods and Rules Applied

#### Habitats and Assessment

- 2.3.1 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities* (NERC) *Act 2006.* Where suitable, the ecological value of the habitats present have been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.3.2 The BNG assessment tool used is *Biodiversity Metric 4.0 (JP039)* (Natural England, 2023). Condition Assessments for each of the habitats present within the site (and the target conditions for the post-development habitats) have been taken from *The Biodiversity Metric 4.0 Technical Annex 1: Condition Assessment Sheets and Methodology* (Natural England, March 2023).

#### **Relevant Guidance**

2.3.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration.



### Assumptions

- 2.3.4 Vegetated gardens are included in the post-development calculation. It is recognised that there is limited control over what happens to the gardens in the long term; vegetated gardens are scored accordingly in the BNG Metric. Inclusion of vegetated gardens within the metric is in accordance with the guidance in relation to gardens issued during the Greater Manchester Combined Authority / CIEEM Webinar<sup>1</sup>. It is assumed that Copeland Borough Council will also take garden habitats into account in this manner. In accordance with Section 8.2.13 of *The Biodiversity Metric 4.0 User Guide JP039* (Natural England, 2023) the ratio of 70% 'urban developed land; sealed surface' and 30% 'urban vegetated garden' has been applied for the developed area of the site.
- 2.3.5 Reasonable assumptions have been made in relation to the condition assessments for the proposed habitats at the site; the proposed condition assessment for each habitat is appended at **Section 7.2**.
- 2.3.6 As the planning application for the 'Phase 2' area of the site is made in outline the specific habitats are not confirmed. In this instance it has been appropriate to make reasonable assumptions on the habitats to be created, based on the location of the areas of POS and the areas of the site that cannot, for contaminated land reasons and other reasons, be built on. It is recognised that the BNG Metric will need to be updated when the detailed landscape proposals for Phase 2 are prepared. This assessment of BNG therefore provides a series of parameters that should be adhered to during the preparation of the detailed landscape proposals at 'Phase 2' to have confidence in the delivery of BNG.
- 2.3.7 Long-term management of the proposed habitats is required to secure the proposed condition and will be secured by implementation of actions in a Landscape and Ecological Management Plan as recommended in the 2023 ecology report.

### 3.0 BASELINE HABITATS

#### 3.1 Site Description

- 3.1.1 The 28.52 hectares (ha) site lies to the south of Whitehaven and is an irregularly shaped area occupying land between High Road to the east and St. Bee's Coast to the west. The site encompasses an arable field, a field of improved grassland, part of a former mineral line and part of the former Marchon works which is characterised by neutral grassland, sparse ruderal herbs and hard-standing.
- 3.1.2 The eastern site boundary is defined by High Road. The northern and southern site boundaries are undefined. The southern portion of the western site boundary is defined by the fenceline of the former works and the northern portion is undefined although the boundary meets the steep sloping land leading to the maritime cliffs at St. Bee's Head.
- 3.1.3 The Phase 1 Habitat Survey habitats present at the site comprise:
  - A2.1 Dense continuous scrub
  - B2.1 Neutral grassland unimproved
  - B2.2 Neutral grassland semi-improved
  - C3.1 Other tall-herb and fern tall ruderal
  - D5 Dry heath / acid grassland

<sup>&</sup>lt;sup>1</sup> Advice provided by Natural England in a recent (February 2021) Question and Answer Session on the Greater Manchester Combined Authority / CIEEM Webinar stated 'Q. *How should gardens be treated within the metric? As no control of what happens within these areas is possible, should they be excluded? A. Gardens are included in the metric but the metric assumes that a significant number will disappear and decked over etc. over time. So they are scored accordingly. They still generate biodiversity units, but account has been taken of the fact that, as you say, there is limited control over what happens to them [Natural England]' (GMEU / CIEEM, 2021).* 



- J1.1 Cultivated / disturbed land arable
- J.1.3 Cultivated / disturbed land ephemeral / short perennial
- J4 Bare ground
- 3.1.4 The planning application is approached in two phases:
  - a. 'Phase 1' that comprises fields of arable farmland and improved grassland in agricultural production and the section of mineral line with retaining walls; and
  - b. 'Phase 2' at the southern portion of the site that comprises part of the site of the former Marchon Works off High Road.
- 3.1.5 A plan illustrating the baseline habitats at the site in accordance with the UKHab Classification is presented at **Figure 2**.

### 3.2 Assessment of Baseline Habitats

3.2.1 **Table 3.1** provides a summary of the habitats present, their condition assessment result and their area within the site. Condition assessments for each habitat are appended at **Section 7.1**.

Habitat Reference	UK Habitat Classification Type	BNG Habitat Equivalent	Condition Assessment Result	Strategic Significance <sup>1</sup>	Area (ha)	
Habitat 1	h3d Bramble scrub	Heathland and scrub – Bramble scrub grassland	N/A	Low	0.1498	
Habitat 2	g3c other neutral grassland	Grassland – other neutral grassland	Moderate	Low	5.7697	
Habitat 3	g3c other neutral grassland	Grassland – other neutral grassland	Moderate	Low	0.0441	
Habitat 4	g4 modified grassland	Grassland – modified	Poor	Low	1.5264	
Habitat 5	g3c other neutral grassland	Grassland – other neutral grassland	Poor	Low	0.3803	
Habitat 6	h1a lowland heathland (Priority Habitat)	Heathland and scrub – Lowland Heathland	Moderate	Medium	0.0336	
Habitat 7	c1c cereal crops	Cropland – cereal crops	N/A	Low	11.2041	
Habitat 8	u1a open mosaic habitats on previously developed land (Priority Habitat)	Urban - open mosaic habitats on previously developed land	Poor	Low	3.5283	
Habitat 9	u1a open mosaic habitats on previously developed land (Priority Habitat)	Urban – artificial unvegetated unsealed surface	Moderate	Low	0.3942	
Habitat 10	u1b developed land'; sealed surface	Urban – developed land; sealed surface	N/A	Low	5.4937	
		Total:			28.52 ha	
<sup>1</sup> 'Low Strategio 'Medium Strate 'High Strategic	<sup>1</sup> 'Low Strategic Significance' = Area / compensation not in local strategy / no local strategy. 'Medium Strategic Significance' = Location ecologically desirable but not in local strategy. 'High Strategic Significance' = Formally identified in local strategy.					

## Table 3.1: Summary of Baseline Area Based Habitats within Site

3.2.2 The baseline BNG score for the site is provided at **Section 5.0**, below.



## 4.0 POST DEVELOPMENT HABITATS

#### 4.1 Site Layout and Mitigation Hierarchy

- 4.1.1 In terms of the consideration of the 'The Mitigation Hierarchy' (i.e. avoid, mitigate, compensate) the site proposals and Landscape Strategy have been prepared to take account of:
  - a. Retention and conservation of the area of on-site heathland (0.0336ha);
  - b. Owing to the need to remediate the land at the former Marchon Works it is not feasible to retain the OMH Priority Habitat or substrate suitable for future colonisation by OMH at the site. This is an identified impact of the proposals and, as outlined in the 2023 ecology report, the proposals aim to achieve a mosaic of habitats that are complementary to the local area, including retained heathland, coastal grassland, neutral (wildflower) grassland, patches of bare ground, bunds and ditches and scattered scrub. With the appropriate aftercare and management (to be secured by a Landscape and Ecological Management Plan), the proposed habitat creation aims to provide a similar ecological function to the OMH present at the site for both colonisation by plant species and for use by fauna such as reptiles, common toad and nesting birds.
  - c. Allocation of an area of public open space at the western area of 'Phase 1' to provide a significant area of habitats that are complementary to the maritime cliffs and coastal heathland / grassland to include:
    - Coastal wildflower grassland (currently Boston Seeds Coastal Area Wildflower Mix that includes a number of plant species such as Viper's Bugloss, Evening Primrose, Hare's-foot Clover, Kidney Vetch and Wild Carrot that are also typically associated with OMH);
    - Creation of bunds and ditches to create a varied terrain to replicate the ephemeral pools at the OMH and to create microhabitats / opportunities for invertebrates, including prey for reptiles, amphibians and bird species;
    - Creation of hibernacula / log piles for colonisation by sheltering / hibernating reptiles, amphibians and small mammals and for colonisation by fungi and invertebrates;
    - Copses of scrub, including Gorse, that provide opportunities for use by nesting and feeding bird species typical to the area and recorded during the 2019 and 2021 breeding bird surveys such as grasshopper warbler, linnet, stonechat and lesser redpoll;
    - Creation of copses of dense Bramble and Gorse to provide reptile species with a refuge from cat access and the risk of predation (as advised in the *Reptile Habitat Management Handbook* (Edgar, et al., 2010));
    - Designation of specific pathways that act to provide a safe, alternate area for dog walking (away from the maritime cliffs and heath) and direct users towards controlled / designated entrances to the SSSI habitats / England Coastal Path / Cumbria Coastal Way;
    - Demarcation of the interface between the residential area and the POS and controlled access the POS / wider area by the planting of kested<sup>2</sup> hedgerows with scattered trees and an associated linear ditch;
    - Screening of the residential development, particularly areas that will be used by moving vehicles, from the POS and the maritime habitats to the west by the planting of native kested hedgerows and tree lines;
    - Maximised habitat connectivity by use of kested hedgerows and tree planting (where appropriate);
    - Inclusion of benches and seating features along the former mineral line 'Wagon Way' and at the far eastern edge of the POS to provide opportunities for walkers to meet and rest that is away from the designated sites;

<sup>&</sup>lt;sup>2</sup> Native hedgerows planted on low earth bunds



- Installation of litter bins (including dog waste) to encourage users to place dog waste for refuse collection (rather than deposition at the SSSI) which can assist in the reduction of phosphorus pollution (i.e. enrichment of the soil) by dog faeces (as suggested in 'Beware the dog: the ecological and environmental impact of pet dogs' (Harris, S., 2023));
- d. Creation of habitats of benefit to wildlife that are not currently present at the baseline such as hedgerows, tree planting and more permanent pools / ditches;
- e. Creation of other areas of POS around 'Phase 2' to provide a mosaic of habitats including species-rich, wildflower grassland, pools, ditches, bunds, scrub and scattered trees;
- f. Use of seed mixes that contain Yellow-rattle (*Rhinanthus minor*), a plant that is semi-parasitic on grass species and can suppress grass growth and thereby can reduce the mowing management requirements and reduce disturbances close to the SSSI;
- g. Creation of habitat connectivity through the built environment by the planting of hedgerows and trees (that will provide stepping stones);
- h. Landscape planting within the development and areas of green infrastructure / habitat creation to be composed of native species and species such as fruit trees known to be of value for the attraction of wildlife.
- 4.1.2 In addition it is considered that the creation of the significant area of POS at the 'Phase 1' stage will secure the creation and establishment of habitats prior to the construction of the properties in 'Phase 2'. It is advised that this is beneficial as it will permit time for the new habitats to establish and for any remedial actions to be attended to.

### 4.2 Consideration of Target Condition Assessments

4.2.1 Condition Assessments for each of the retained and proposed habitats as specified on the Landscape Strategy are presented at **Section 7.2**. As it is understood that all habitats outside of the rear gardens will be handed to a Management Company, a long-term habitat management plan with an appropriate monitoring regime is required to secure the condition of these habitats in the long-term.

## 4.3 Assessment of Post-development Habitats

#### Table 4.1: Summary of Area-based Habitats to be Retained and Created at the Site

Habitat Type	BNG Equivalent Habitat	Target Condition	Strategic Significance <sup>1</sup>	Area (ha)
Retained Habitats				
Habitat 6:	Heathland and scrub – Lowland Heathland	Moderate	Medium	0.0336
Proposed Habitats				
Habitat A	Heathland and scrub – Mixed	Poor	Low	0.1881
Proposed shrubs	scrub			
Habitat B	Heathland and scrub – Mixed	Poor	Low	0.0930
Native scrub	scrub			
Habitat CWildflowergrassland(beneathkestedhedgerow)	Grassland – other neutral grassland	Good	Low	0.2366
Habitat D Marginal wetland species around hollows and ephemeral pool	Grassland – other neutral grassland	Poor	Low	0.0534
<i>Habitat E</i> Amenity grassland	Grassland – modified grassland	Good	Low	2.3823



Habitat Type	BNG Equivalent Habitat	Target Condition	Strategic Significance <sup>1</sup>	Area (ha)
Habitat F Introduced / ornamental shrub planting	Urban – introduced shrub	N/A	Low	0.0254
Habitat G Houses, roads and driveways	Urban – developed land; sealed surface	N/A	Low	10.9099
Habitat H Vegetated gardens	Urban – vegetated gardens	N/A	Low	4.6756
Habitat I Coastal wildflower grassland at POS at 'Phase 1'	Grassland – other neutral grassland	Good	Medium	7.3071
Habitat J <sup>2</sup> Neutral grassland in POS at 'Phase 2'	Grassland – other neutral grassland	Good	Low	2.2919
Habitat K <sup>2</sup> Amenity grassland in POS at 'Phase 2'	Grassland – modified grassland	Good	Low	0.3289
		Total		28.52 ha
Habitat L Urban trees (163, small size)	Individual trees – urban trees	Moderate	Low	0.6637

<sup>1</sup> 'Low Strategic Significance' = Area / compensation not in local strategy / no local strategy.
 'Medium Strategic Significance' = Location ecologically desirable but not in local strategy.
 'High Strategic Significance' = Formally identified in local strategy.

<sup>2:</sup> Please note there is flexibility in the portion of neutral grassland and amenity grassland in the POS at 'Phase 2' the current assumptions at Habitats J and K have been made, as illustrated on **Figure 3**.

## Table 4.2: Summary of Hedgerow Habitats to be Created at the Site

Habitat Type	BNG Equivalent Habitat	Target Condition	Length (km)
Proposed Habitats			
Habitat A Kested hedgerows	Hedgerow – native hedgerow with trees – associated with bank or ditch	Good	0.449
<i>Habitat B</i> Native hedgerow	Hedgerow – native hedgerow	Good	0.097
Habitat C Ornamental hedgerows (i.e. Euonymus, Eleagnus and Escallonia)	Hedgerow – non-native and ornamental hedgerow	Poor (default)	0.119
		Total	0.665



## 5.0 HEADLINE RESULTS, EVALUATION AND CONCLUSION

5.1 The headline results of the BNG Calculator are presented at **Table 5.1** below.

#### Table 5.1: Results of Biodiversity Metric 4.0 Calculation Tool

On-site Baseline	Habitat units	100.44	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site Post Intervention	Habitat units	114.30	
	Hedgerow units	4.46	
	Watercourse units	0.00	
On—site net change	Habitat units	13.86	13.80%
(units % percentage)	Hedgerow units	4.46	Gain
	Watercourse units	0.00	0.00%
Off-site Baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site Post Intervention	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change	Habitat units	0.00	0.00%
(units % percentage)	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined Net Unit Change	Habitat units	13.86	
	Hedgerow units	4.46	
	Watercourse units	0.00	
Spatial Risk Multiplier	Habitat units	0.00	
(SRM) Reductions	Hedgerow units	0.00	
	Watercourse units	0.00	
Total Net Unit Change	Habitat units	13.86	
	Hedgerow units	4.46	
	Watercourse units	0.00	
Total Net % Change	Habitat units	13.80%	
	Hedgerow units	Gain	
	Watercourse units	0.00%	

- 5.2 Based on the information entered into the BNG Metric a net gain of 13.86 habitat units and 4.46 hedgerow units is achieved.
- 5.3 It is recognised that the trading rules are not satisfied. This is attributed to the deficit of 25.90 units of OMH Priority Habitat. As identified earlier, re-creation of OMH Priority Habitat is not straightforward as this habitat is typically associated with post-industrial sites where there is a history of a specific process / alteration of the soil conditions. It is advised that, the proposed creation of a mosaic of habitats that are complementary to the local area, including coastal grassland, neutral (wildflower) grassland, patches of bare ground, bunds and ditches and scattered scrub aims to provide a similar ecological function to the OMH present at the site for both colonisation by plant species and for use by fauna such as reptiles, common toad and nesting birds.
- 5.4 In addition, it is essential that, in addition to the result of the BNG Metric that the measures to be accommodated and implemented at the site to secure gains and betterment for biodiversity that the BNG Metric cannot take account of are also considered.
- 5.5 At this site it is advised that the following measures are also considered as part of the assessment of biodiversity net gain:
  - a. Incorporation of opportunities for roosting bats at the new properties as, although the habitats are suitable for use by foraging bat species such as *Pipistrellus* species, there are no opportunities for roosting bats (particularly maternity roosts) at the site currently (this is considered to provide additionality);



- b. Incorporation of opportunities for use by nesting birds at the developed site including in both the public open space by landscape planting and at the new properties. This includes a net increase in opportunities for specific species not currently able to breed at the site such as swift (a red-listed bird species<sup>3</sup>) and house sparrow and starling (both red listed and Priority Species);
- c. Eradication / control of invasive plant species from the site including the detected Japanese Rose (*Rosa rugosa*); and
- d. Preparation and implementation of a Landscape and Ecological Management Plan (or similar) to secure long-term management of the retained and created habitats in accordance with conservation targets and objectives.

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<sup>&</sup>lt;sup>3</sup> In accordance with the BOCC: Birds of Conservation Concern (Stanbury, et al., 2021).



Westwood Landscape, 2023. Phase 1 Landscape Plan with POS. Drawing PHM-WW01 Rev E, Carlisle: Westwood Landscape.



# 7.0 APPENDIX: SUPPORTING INFORMATION

### 7.1 Condition Assessments of Baseline Habitats

#### Table 7.1: Condition Assessments for Neutral Grassland Habitat

Condition Assessment Criteria	Habitat 2: Neutral Grassland - Unimproved	Habitat 3: Neutral Grassland – Semi-improved	Habitat 5: Tall-herb Vegetation
<b>A.</b> The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Coord expedition for the specific grassland habitat type and the specific grassland habitat type are consistently present.	~	~	x
B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	x	x	x
<b>C.</b> Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens <sup>1</sup> .	$\checkmark$	$\checkmark$	х
<b>D.</b> Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	$\checkmark$	$\checkmark$	$\checkmark$
<b>E.</b> Combined cover of species indicative of sub-optimal condition <sup>2</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	X	~	~
If any invasive non-native plant species <sup>3</sup> (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.			
Additional Group – non-acid grassland types only			
<b>F.</b> There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count).	x (average of 6.5 species)	x (average of 6.2 species)	x (average of 4.6 species)
Note - this criterion is essential for achieving Good condition for non-acid grassland types only.			
Acid Grassland Types			
Good: passes 5 of 5 criteria	•	•	-
Moderate: passes 3 or 4 of 5 criteria	-	-	-
Mon poid Grapping Types	•	-	-
Good: passes 5 or 6 criteria, including essential criteria A and additional criterion F	X	X	x
Moderate: passes 3, 4 or 5 criteria, including essential criterion A	$\checkmark$	$\checkmark$	Х
Poor: passes 0, 1 or 2 of 6 criteria; OR passes 3 or 4 criteria excluding criterion A and F	Х	х	$\checkmark$

#### Additional Information:

Footnote 1 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 1 - Species indicative of sub-optimal condition for this habitat type include:

Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium vulgare*), Curled Dock (*Rumex crispus*), Broad-leaved Dock (*Rumex obtusifolius*), Common Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Greater Plantain (*Plantago major*), White Clover (*Trifolium repens*), Cow Parsley (*Anthriscus sylvestris*).

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.



### Table 7.2: Condition Assessments for Modified Grassland Habitats

Condition Assessment Criteria	Habitat 4: Modified Grassland		
<b>A.</b> There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	X (average of 4.8 species)		
Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.			
<b>B.</b> Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	x		
<b>C.</b> Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	$\checkmark$		
D. Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	$\checkmark$		
E. Cover of bare ground between 1% and 10%, including localised areas, for example, rabbit warrens <sup>2</sup> .	x		
F. Cover of bracken less than 20%.	✓		
G. There is an absence of invasive non-native species <sup>3</sup> listed on Schedule 9 of WCA.	$\checkmark$		
Good: Passes 6 or 7 of 7 including essential criterion A	x		
Moderate: Passes 4 or 5 criteria including essential criterion A	x		
Poor: Passes 0, 1, 2 or 3 of 7 criteria OR passes 4, 5 or 6 but failing criterion A	$\checkmark$		
Features 4. Creaning Thirtle (Circium an ana) Space Thirtle (Circium underro) Curled Deek (Ruman arianus) Presed leaved			

**Footnote 1** – Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium vulgare*), Curled Dock (*Rumex crispus*), Broad-leaved Dock (*Rumex obtusifolius*), Common Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Greater Plantain (*Plantago major*), White Clover (*Trifolium repens*) and Cow Parsley (*Anthriscus sylvestris*).

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.



### Table 7.3: Condition Assessments for Heathland Habitats

Condition Assessment Criteria	Habitat 6: Dry Heath / Acid
	Heath
<b>A.</b> The heathland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific heathland habitat type. Indicator shrubs, grasses, forbs and lower (non-vascular) plants listed by UKHab for the specific heathland habitat type are consistently present.	x
Note - this criterion is essential for achieving Good condition.	
<b>B.</b> There are at least two dwarf shrub species frequent, and cover of dwarf shrubs is between 25 and 75% for Lowland heathland, 50 and 75% for upland dry heath, or greater than 20% for upland wet heath.	x
Note - this criterion is essential for achieving Good condition.	
<b>C.</b> All Heather ( <i>Calluna vulgaris</i> ) age-classes (pioneer, degenerate and mature) present with at least 10% pioneer heather in the lowlands or at least 10% degenerate or mature in the uplands.	x
NB - this criterion is essential for achieving Good condition.	
<b>D.</b> Unshaded bare ground is between 1-10%.	х
NB - this criterion is essential for achieving Good condition.	
E. There is an absence of invasive non-native plant species listed on Schedule 9 of WCA and Shallon ( <i>Gaultheria shallon</i> ) <sup>3</sup> .	✓
NB - this criterion is essential for achieving Good condition.	
<b>F.</b> No signs of disturbance of sensitive areas <sup>4</sup> , including managed burns.	✓
<b>G.</b> No more than 33% of heather shoots have been recently grazed, or flowering heather plants are at least frequent <sup>1</sup> in autumn.	✓
<ul> <li>H. The canopy cover of scattered trees and or scrub (not including Gorse (<i>Ulex</i> spp.)) is:</li> <li>less than 20% for upland heaths:</li> </ul>	$\checkmark$
less than 15% for lowland dry heaths; and	
less than 10% for lowland wet heaths.	
I. Total gorse cover is less than 50%, with common Gorse ( <i>Ulex europaeus</i> ) less than 25%.	$\checkmark$
J. The cover of Bracken ( <i>Pteridium aquilinum</i> ) is less than 5% <sup>5</sup>	$\checkmark$
<b>K.</b> No signs of any damaging activities <sup>6</sup> or contamination to the habitat such as: artificial drains, peat extraction, silt, leachate or eutrophication.	$\checkmark$
Good: Passes 9-11 criteria including all essential criteria A-E	х
Moderate: Passes 7 or 8 of 11 criteria; OR	✓
Passes 9 or 10 criteria excluding any of the essential criteria A-E	
<b>Poor:</b> Passes 0, 1, 2, 3, 4, 5 or 6 of 11 criteria	х
Additional Information:	
<b>Footnote 3</b> – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies a split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to into adjacent habitat, using professional judgement.	cross the habitat, its risk of spread

**Footnote 4** – Professional judgement should be used to assess this and evidence should be provided according to the INSTRUCTIONS Tab of this spreadsheet.

Definition of sensitive areas:

(a) Vegetation severely wind-clipped, mostly forming a mat less than 10 cm thick.

(b) Areas where soils are thin and less than 5 cm deep.

(c) Hill slopes greater than 1 in 2 (260), and all the sides of gullies.

(d) Ground with abundant, and or an almost continuous carpet of Sphagnum moss (*Sphagnum* spp.), Bilberry (*Vaccinium myrtillus*), liverworts and or lichens.

(e) Areas with noticeably uneven structure, at a spatial scale of around 1 m2 or less. The unevenness (more commonly found in very old heather stands) will relate to distinct, often large, spreading dwarf shrub bushes. The dwarf shrub canopy will not be completely continuous, and some of its upper surface may be twice as high as other parts. Layering is likely to be present and may be common.

(f) Pools, wet hollows, peat haggs and erosion gullies within 10 m of the edge of watercourses.

**Footnote 5** - Cover of bracken may exceed 5% where there is an identified biodiversity benefit, for example Bracken beds in the South Pennines as nesting sites for Twite (*Linaria flavirostris*).

**Footnote 6** - Damaging activities include: accidental or unmanaged fires; managed fires on wet heath; excessive poaching; damage from machinery use or storage; and damaging levels of public access resulting in trampling and or litter.



### Table 7.4: Condition Assessments for Urban Areas (OMH)

Condition Assessment Criteria	Habitat 8: OMH	Habitat 9: OMH
A. Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to	Х	Х
live, eat and breed. A single structural habitat component or vegetation type does not		
account for more than 80% of the total habitat area.		
B. The habitat parcel contains different plant species that are beneficial for wildlife, for	$\checkmark$	$\checkmark$
example flowering species providing nectar sources for a range of invertebrates at different		
times of year.		
<b>C.</b> Invasive non-native plant species (listed on Schedule 9 of WCA1) and others which are	$\checkmark$	$\checkmark$
to the detriment of native wildlife (using professional judgement) <sup>2</sup> cover less than 5% of the		
total vegetated area <sup>3</sup> .		
Note - to achieve Good condition, this criterion must be satisfied by a complete absence of		
invasive non-native species (rather than <5% cover).		
Additional Criteria – only applicable to OMH		
D1. The site shows spatial variation, forming a mosaic of at least four early successional	Х	$\checkmark$
communities (a) to (h) PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts;	(no pools)	(a, b, d, and f)
(c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland;		
(h) heathland.		
<b>D2.</b> The parcel contains pools of water such as permanent and ephemeral waterbodies.	Х	✓
Additional Criteria – only applicable to Bioswale and SUDS		
E1. Plant species are mostly native. If non-native species are present, they should not be	N/A	N/A
detrimental to the habitat or native wildlife <sup>4</sup> .	N1/A	N1/A
E2. The vegetation is comprised of plant species suited to wetland or riparian situations.	N/A	N/A
Additional Criterion – only applicable for Intensive green roots	N1/A	N1/A
F. The root has a minimum of 50% native and non-native wildflowers. 70% of the root area	N/A	N/A
Is soil and vegetation (including water features).		
Additional Criterion – only applicable for Biodiverse green roots	N1/A	N1/A
<b>G.</b> The foot has a valieu depth of 60 – 150 min, at least 50% is at 150 min and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers.	IN/A	IN/A
Note - to achieve Good condition some additional babitat such as sand niles stones logs		
etc are present		
If only 3 core Criteria Assessed (All except OMH, Bioswale, SuDS and green roofs):		
Good: Passes all 3 core criteria: AND Meets the requirements for Good condition within	N/A	N/A
criterion C.		
Moderate: Passes 2 of 3 core criteria; OR Passes 3 of 3 core criteria but does not meet the	N/A	N/A
requirements for Good condition within criterion C.		
Poor: Passes 0 or 1 of 3 core criteria	N/A	N/A
Results for Green roofs (requiring assessment of 4 criteria only - core criteria plus		
additional criterion specified for habitat type):		
Good - Passes all 3 core criteria; AND meets the requirements for Good condition within	N/A	N/A
criterion C; AND Passes additional criterion relevant to specific habitat type (F or G).		
Moderate- Passes 2 or 3 of 4 criteria; OR Passes 4 of 4 criteria but does not meet the	N/A	N/A
requirements for Good condition within criterion C.		
Poor - Passes 0 or 1 of 4 criteria	N/A	N/A
Results for Open mosaic habitat on previously developed land, Bioswale or SuDS		
(requiring assessment of 5 criteria - core criteria plus additional criteria specified for		
habitat type):		
Good - Passes all 3 core criteria; AND Meets the requirements for Good condition within	х	x
Criterion C; AND Passes all additional criteria relevant to specific habitat type (Group D or		
Group E)		
moderate - Passes 3 or 4 or 5 criteria; UK Passes 5 or 5 criteria but does not meet the	Х	v
Poor - Descos 2 or fower of 5 criterio	✓	v
Additional notes:	•	^

**Footnote 2** – Sources of information about detrimental non-native species can be found on the GB Non-native Species Secretariat (GBNNSS) website: Home » NNSS (nonnativespecies.org) and Natural England Access to Evidence page should also be checked for up-to-date information: Horizon-scanning for invasive non-native plants in Great Britain - NECR053 (naturalengland.org.uk).

For criterion C – For green roof habitat types only – Buddleia (*Buddleja davidii*) should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years.

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

**Footnote 4** – Use professional judgement. Sources of information about non-native species that are not detrimental to native wildlife can be found on the GBNNSS website: Alternative plants » NNSS (nonnativespecies.org).



# 7.2 Target Condition Assessments of Created Habitats

### Table 7.5: Condition Assessments for Proposed Mixed Scrub

Condition Assessment Criteria	Habitat A: Mixed Scrub	Habitat B: Mixed Scrub
<b>A.</b> The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type.	Х	x
At least 80% of scrub is native, and there are at least three native woody species <sup>1</sup> , with no single species comprising more than 75% of the cover, except Hazel ( <i>Corylus avellana</i> ), Common Juniper ( <i>Juniperus communis</i> ), Sea Buckthorn ( <i>Hippophae rhamnoides</i> ) or Box ( <i>Buxus sempervirens</i> ), which can be up to 100% cover.		
<b>B.</b> Seedlings, saplings, young shrubs and mature (or ancient or veteran <sup>2</sup> ) shrubs are all present.	Х	х
<b>C.</b> There is an absence of invasive non-native plant species <sup>3</sup> (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition <sup>5</sup> make up less than 5% of ground cover.	$\checkmark$	~
<b>D.</b> The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	$\checkmark$	~
<b>E.</b> There are clearings, glades or rides present within the scrub, providing sheltered edges.	х	х
Good: passes 5 of 5 criteria	Х	x
Moderate: passes 3 or 4 of 5 criteria	Х	х
Poor: passes 0, 1 or 2 of 5 criteria	✓	✓

#### Additional Information:

**Footnote 1** – Native woody species as defined and listed in the Hedgerow Survey Handbook: DEFRA (2007) Hedgerow Survey Handbook: A standard procedure for local surveys in the UK. 2nd ed. [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).

**Footnote 2** - See gov.uk standing advice on ancient and veteran species. Available from *Keepers of time: ancient and native woodland and trees policy in England* (publishing.service.gov.uk) and *Ancient woodland, ancient trees and veteran trees: advice for making planning decisions* (www.gov.uk).

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

**Footnote 5** - Species indicative of sub-optimal condition for this habitat type may include: non-native conifers, Tree-of-heaven (*Alianthus altissima*), Holm Oak (*Quercus ilex*), European Turkey Oak (*Quercus cerris*), Cherry Laurel (*Prunus laurocerasus*), Snowberry (*Symphoricarpos spp.*), Shallon (*Gaultheria shallon*), American Skunk Cabbage (*Lysichiton americanus*), Buddleia (Buddleja spp.), Cotoneaster (*Cotoneaster spp.*), Spanish Bluebell (*Hyacinthoides hispanica*) and Hybrid Bluebells (*Hyacinthoides x massartiana*). There may be additional relevant species local to the region and or site.



### Table 7.6: Condition Assessments for Wildflower Grassland Habitats

Condition Assessment Criteria	Habitat C: Wildflower Grassland	Habitat D: Marginals (i.e. Neutral grassland in ephemeral pool area)	Habitat I: Coastal Wildflower Grassland in POS (Boston's Seeds)	Habitat J: Neutral grassland in POS at 'Phase 2'
A. The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or	V	x	~	~
<ul> <li>Good condition for non-acid grassland types only.</li> <li>B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds</li> </ul>	✓	×	~	~
and small mammals to live and breed. <b>C.</b> Cover of bare ground between 1% and 5%, including leading areas for expender rabbit warrang1	X	✓	✓	✓
D. Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%	$\checkmark$	✓	✓	√
<b>E.</b> Combined cover of species indicative of sub-optimal condition <sup>2</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	V	V	V	V
If any invasive non-native plant species <sup>3</sup> (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.				
Additional Group – non-acid grassland types only				
<b>F.</b> There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count).	~	x	~	~
Note - this criterion is essential for achieving Good condition for non-acid grassland types only.				
Acid Grassland Types				
Good: passes 5 of 5 criteria	N/A	N/A	N/A	N/A
Moderate: passes 3 or 4 of 5 criteria	N/A	N/A	N/A	N/A
Poor: passes 0, 1 or 2 of 5 criteria	N/A	N/A	N/A	N/A
Non-acid Grassland Types				
Good: passes 5 or 6 criteria, including essential criteria A and additional criterion F	✓	X	✓	✓
Moderate: passes 3, 4 or 5 criteria, including essential criterion A	Х	X	X	X
Poor: passes 0, 1 or 2 of 6 criteria; OR passes 3 or 4 criteria excluding criterion A and F	х	✓	X	x

#### Additional Information:

**Footnote 1** – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 1 - Species indicative of sub-optimal condition for this habitat type include:

Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium vulgare*), Curled Dock (*Rumex crispus*), Broad-leaved Dock (*Rumex obtusifolius*), Common Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Greater Plantain (*Plantago major*), White Clover (*Trifolium repens*), Cow Parsley (*Anthriscus sylvestris*).

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.



#### Table 7.7: Condition Assessments for Modified Grassland Habitats

Condition Assessment Criteria	Habitat E: Modified Grassland	Habitat K: Modified Grassland at 'Phase 2'
<b>A.</b> There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	$\checkmark$	$\checkmark$
Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		
<b>B.</b> Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	x	X
<b>C.</b> Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	$\checkmark$	~
<b>D.</b> Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	√	~
E. Cover of bare ground between 1% and 10%, including localised areas, for example, rabbit warrens <sup>2</sup> .	✓	✓
F. Cover of bracken less than 20%.	✓	✓
G. There is an absence of invasive non-native species <sup>3</sup> listed on Schedule 9 of WCA.	$\checkmark$	✓
Good: Passes 6 or 7 of 7 including essential criterion A	$\checkmark$	✓
Moderate: Passes 4 or 5 criteria including essential criterion A	х	x
Poor: Passes 0, 1, 2 or 3 of 7 criteria OR passes 4, 5 or 6 but failing criterion A	х	х
Footnote 1 – Creeping Thistle (Cirsium arvense), Spear Thistle (Cirsium vulgare), Curled Dock (Rur	nex crispus), Bro	pad-leaved Dock

**Footnote 1** – Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium vulgare*), Curled Dock (*Rumex crispus*), Broad-leaved Dock (*Rumex obtusifolius*), Common Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Greater Plantain (*Plantago major*), White Clover (*Trifolium repens*) and Cow Parsley (*Anthriscus sylvestris*).

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

**Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.



# Table 7.8: Condition Assessment for Individual Trees

Condition Assessment Criteria	
	Urban Trees
A. The tree is a native species (or more than 70% within the block are native species)	$\checkmark$
<b>B.</b> Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. Individual trees automatically pass this criterion.	$\checkmark$
<b>C.</b> The tree is mature (or more than 50% within the block are mature).	Х
<b>D.</b> There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	$\checkmark$
<b>E.</b> Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	х
F. More than 20% of the tree canopy area is oversailing vegetation beneath	х
Good: Passes 5 or 6 of 6 criteria	х
Moderate: Passes 3 or 4 of 6 criteria	$\checkmark$
Poor: Passes 0, 1 or 2 of 6 criteria	Х
Additional information / definitions:	

Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from:

Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and Ancient woodland, ancient trees and veteran trees: advice for making planning decisions (www.gov.uk)



# Table 7.9: Condition Assessments for Hedgerows

Note: Ornamental hedgerows are 'poor condition' by default.

Condition Assessment Criteria	Native	Native
	Hedgerow	Hedgerow
	with Trees	
	(i.e. Kested	
	Hedgerow)	1
A1. Height:	~	~
>1.5m average along length		
the average neight of woody growth estimated from base of stem to the top of should, excluding any bank beneath the nedgerow, any gaps of isolated		
uces. Newly laid or condicate bedgerows are indicative of good management and pass this criterion for up to a maximum of 4 years (if undertaken according		
to good practice). A newly planted bedgetow does not pass this criterion (unless this criterion) of the a maximum of 4 years (in undertaken according to a practice).		
A 2 Width:	1	1
15m sugrade along length	•	•
The average width of woody growth estimated at the widest point of the capopy excluding gaps and isolated trees		
Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they $>0.5$ m in beinhi		
Laid, coppiced, cut and newly planted bedgerows are indicative of good management and pass this criterion for up to a maximum of 4 years (if		
undertaken according to good practice <sup>4</sup> )		
B1. Gap - hedge base.	✓	$\checkmark$
Gap between ground and base of canopy <0.5, for >90% of length (unless line of trees).		
This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions		
to this criterion are acceptable (e.g. a Hazel dominated hedgerow or where the hedgerow is affected by shading from other vegetation such as		
woodland, see page 65 of Hedgerow Survey Handbook (Defra, 2007)).		
B2. Gap - hedge canopy continuity.	✓	$\checkmark$
Gaps make up less than 10% of total length and no canopy gaps are greater than 5m. Gates and access points are not subject to the >5m criterion.		
This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).		
Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).		
C1. Undisturbed ground and perennial vegetation.	$\checkmark$	$\checkmark$
>1m width ground with perennial herbaceous vegetation for >90% of length, as measured from outer edge of the hedgerow, and is present on at least		
1 side of the hedgerow.		
This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the		
hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge		
base as a boundary nabitat with the capacity to support a wide range of species. Cultivation, neavily troaden footpaths, poached ground etc. can limit		
available habitat niches.		
C2. Nutrient-enforced percinitial vegetation. Plant spokes indicative of nutrient aprichanget of coils do not dominate more than 20% cover of the ground area of undisturbed ground	v	v
The indicator species used are netted (Iltrice sp.) Cleavers (Galium anarina) and docks (Rumey sp.) Their presence either singly or together		
should not exceed the 20% cover threshold		
D1. Invasive and reonbyte species	✓	✓
>90% of the hedgerow and undisturbed around is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently		-
introduced species.		
Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information		
on archaeophytes and neophytes see the JNCC website, as well as the BSBI website where the 'Online Atlas of the British and Irish Flora' contains		
an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website.		



Condition Assessment Criteria	Native	Native
	Hedgerow	Hedgerow
	with Trees	
	(i.e. Kested	
	Heagerow)	/
Dz. Current damage.	~	v
>90% of the nedgerow of undisturbed ground is free of damaged caused by numan activities.		
This chief on addresses damaging activities that may have led to on lead to deterioration in other attributes.		
Additional group. ONLY if traces are present		
Automora group – ONE i il trees are present	×	NI/A
Li nee chase	^	IN/A
here is more than one age-class (or morphology) or the present (or example, young, mature, vertain and or ancient), and there is on average at		
easione matrie, ander to reterance presence 20 - 20 - 30 mon edgetow. This chemion addresses in there are a range of age-classes of morphologies which allow for replacement of traces and provide opportunities for different species.		
The health	✓	N/A
At least 95% of bedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse	·	1.0/7.
impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.		
This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.		
Hedgerows Without Trees		
Good: No more than 2 failures in total; AND no more than 1 in any functional group.	N/A	$\checkmark$
Moderate: No more than 4 failures in total; AND does not fail both attributes in more than one functional group	N/A	х
(e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).		
<b>Poor:</b> Fails a total of more than 4 attributes; OR fails both attributes in more than one functional group	N/A	Х
(e.g. fails attributes A1, A2, B1 & B2 = Poor condition).		
Hedgerows With Trees		
<b>Good:</b> No more than 2 failures in total; AND no more than 1 failure in any functional group.	$\checkmark$	N/A
Moderate: No more than 5 failures in total; AND does not fail both attributes in more than one functional group	х	N/A
(e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition).		
Poor: Fails a total of more than 5 attributes; OR fails both attributes in more than one functional group	х	N/A
(e.g. fails attributes A1, A2, B1 & B2 = Poor condition).		

# 7.3 Figures



## Figure 1: Aerial Image of the Site



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# Figure 2: UKHab Plan: Baseline Habitats





## Figure 3: UKHab: Post-development Habitats

