Biodiversity Net Gain Feasibility Assessment

Land South of Burleigh Lane

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1.0 Introduction

1.1 The Ecology Partnership was commissioned by Croudace Homes to undertake a Biodiversity Net Gain (BNG) feasibility assessment for the outline application for the development to the land south of Burleigh Lane, Crawley Down, RH10 4LF, hereafter referred to as the 'site' (Figure 1).

1.2 The site is located to the south of Crawley Down (TQ 35134 37154). The site covers approximately 1.7ha and consists of a grassland field, bordered by woodland. The immediate surroundings of the site consist of Burleigh Lane to the north and agricultural fields/ woodland to the east, south and west.

Figure 1: Site application boundary (red line).
Satellite imagery obtained from Google Satellite via QGIS

1.3 The assessment is based on the Landscape Plan produced by Nicholas Dexter Ltd (0373-NDLD-L-1001) (see Figure 2 below).

Figure 2: Landscape Plan (Nicholas Dexter, 2025)

2.0 Statutory Biodiversity Metric

2.1 BNG principles are aimed to support both the aspired green infrastructural proposals set to define the created landscape and support biodiversity and habitat enhancement. BNG principles are set within the Environment Bill (2021).

2.2 In order to determine the on-site habitat baseline, habitats were mapped and subject to a condition assessment 7th August 2025 by Chris Jennings BSc (Hons) MSc MCIEEM and Daniel Whitlock BSc (Hons).

2.3 The Statutory Biodiversity Metric is used to calculate biodiversity losses and gains for terrestrial habitats within the application area. This metric underpins the Environment Bill's provisions for mandatory biodiversity net-gain in England.

2.4 The Statutory Biodiversity Metric uses habitat as a proxy for wider biodiversity with different habitat types scoring different values according to their relative biodiversity

value and dependent on the condition and location of the habitat, to calculate 'biodiversity units'.

On-Site Habitat Baseline

2.5 The habitats currently present on site have been identified and assessed. These are shown in Figure 3 and in Table 1, overleaf. A full condition assessment is presented in Appendix 1.

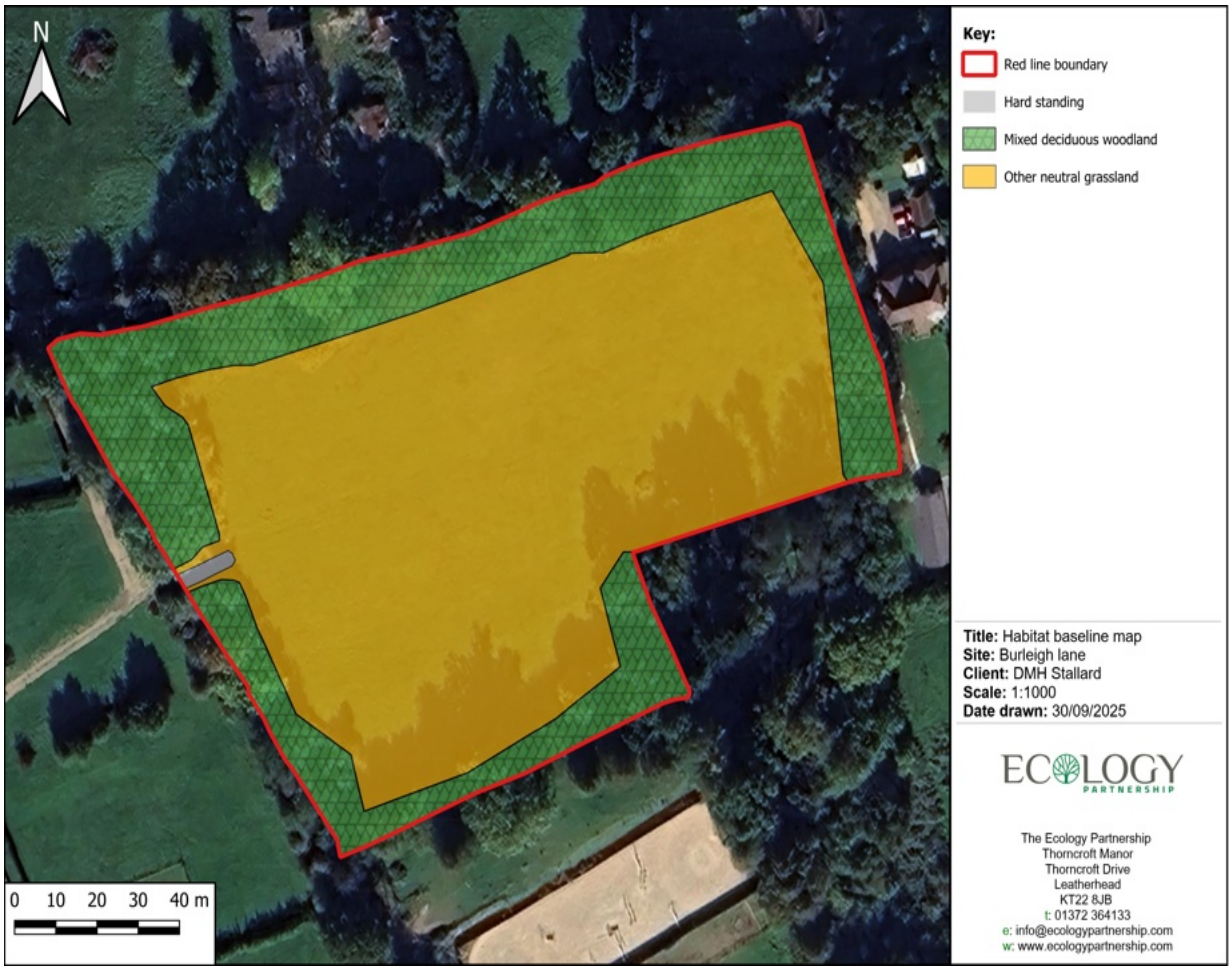


Figure 3: On-Site Habitat Baseline

Table 1. ***On-site habitat breakdown – Pre-Development***

Habitat	Area (ha)	Distinctiveness	Condition	Strategic significance	Total habitat units	Area retained	Area enhanced	Units lost	Comments
Developed land: sealed surface	0.005	V.Low	N/A - Other	Low	0.00	0.00	0.00	0.00	The existing access on the western edge of the site
Other neutral grassland	1.246	Medium	Poor	Low	4.98	0.14	0.00	4.42	The grassland field A total of 0.14ha is retained within the scheme around the edges of the site
Lowland mixed deciduous woodland	0.56	High	Moderate	Low	6.72	0.537	0.00	0.28	The woodland around the edges of the site. This can not be uplifted. A small area is to be removed as part of the development to allow for access. A total of 0.023ha will be lost to allow for access.
Total area (excluding trees)	**1.81**			**Total units/area**	**11.70**	***0.68***	**0.00**	**4.70**	

On-Site Habitat Creation

2.6 The proposed development is largely centred on the grassland, whilst retaining/enhancing most of the boundary habitats. However, a small section of woodland will be lost to allow for access. The proposed habitat areas are detailed in Table 2 and Figure 4 below.

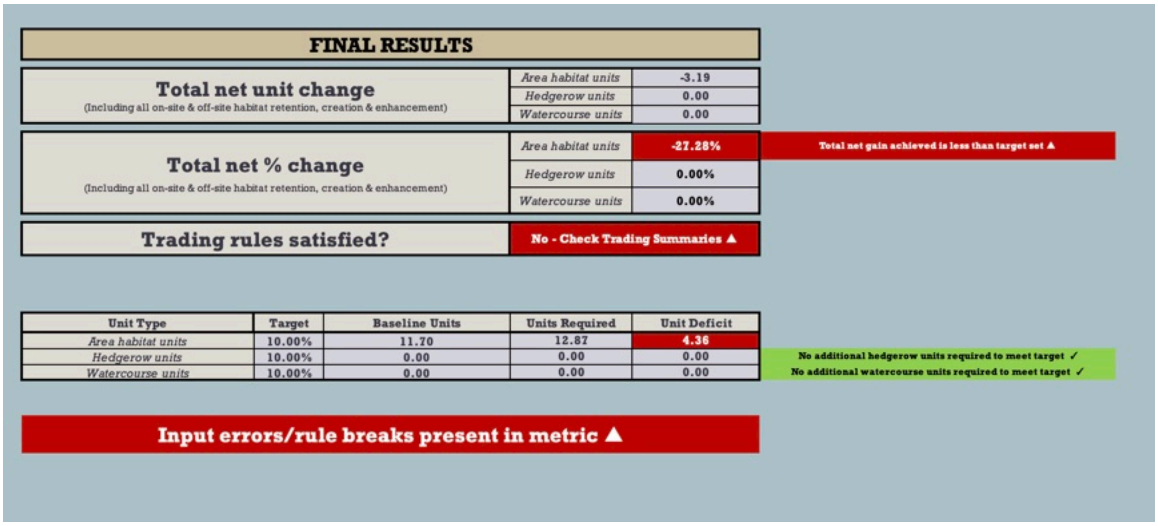
Figure 4. Proposed habitats

Table 2. ***On-site habitat breakdown – Post-Development Creation***

Habitat	Area (ha)	Distinctiveness	Target Condition	Strategic significance	Years to target condition	Difficulty	Total habitat units	Comments
Developed land: sealed surface	0.423	V.Low	N/A – Other	Low	0	Low	0.00	Building and the access route
Vegetated garden	0.658	Low	Condition Assessment N/A	Low	1	Low	1.27	The gardens associated with the dwellings
Introduced shrub	0.004	Low	Condition Assessment N/A	Low	1	Low	0.01	Small areas of introduced planting
Other green roof	0.054	Low	Condition Assessment N/A	Low	1	Low	0.10	Small areas of sedum roof introduced within the scheme.
Urban tree	0.0448	Medium	Poor	Low	10	Low	0.13	11 small trees
Total area	**1.14**	**Total units**					**1.51**	

2.7 The final results are shown in table 3 below.

Table 3. Final results



FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	-3.19	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	-27.28%	Total net gain achieved is less than target set ▲
	Hedgerow units	0.00%	
	Watercourse units	0.00%	
Trading rules satisfied?	No - Check Trading Summaries ▲		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Area habitat units	10.00%	11.70	12.87	4.36	
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Input errors/rule breaks present in metric ▲

2.8 The calculations confirm that the development has the potential to result in a **-27.28% net loss** in habitat units based on the current proposal. A total of 4.36 habitat units would need to be purchased in order to achieve 10% net gain.

2.9 A detailed Habitat Management & Maintenance Plan will be conditioned to detail the long-term management of the proposed habitats to achieve the targeted habitat conditions, over a 30 year timespan.

3.0 Enhancements

Log Piles

3.1 Log piles will be created on site in order to provide further habitats for a wide range of invertebrates, which in turn provides a food source for larger fauna, and hence increasing the biodiversity of the Site. Log piles should be made from native, broadleaved trees, and should be partially buried (Figure 5). They should be located within shady areas of the Site and along the woodland edges.

Figure 5: Example of a log pile to be built on Site

Bat Boxes

3.2 Tree-mounted bat boxes can also be installed in suitable retained trees in the greenspace of the site to create additional roosting provision. Recommended boxes include:

- Vivara Pro WoodStone Bat Box – A general purpose bat box that supports a range of species (Figure 6). These can be hung on trees in a variety of heights and aspects in order to provide a variety of micro-climates.
- Large Multi Chamber WoodStone Bat Box – This is a multipurpose box designed for larger colonies and a range of bat species including pipistrelles, noctules and brown long-eared bats. These should be hung on mature trees around the site (Figure 6).

Figure 6: Vivara Pro WoodStone Bat Box (left) and Large Multi Chamber WoodStone Bat Box (right)

Bird Boxes

3.3 Additional nesting opportunities can be installed within existing trees on site, or new buildings including garage areas. Again, hardwearing woodcrete boxes, or similar, are recommended. Figure 7 below gives examples of suitable bird boxes, of which these or similar, could be installed onto the brickwork of the units or into the trees. The box should be positioned on a north or east facing aspect and at least 2m above the ground if possible. These would cater for species such as house sparrows and wagtails and the smaller garden birds.

Figure 7: Examples of suitable bird boxes which could be installed on site – Vivara Pro WoodStone House Sparrow Nest Box (left), Vivara Pro Barcelona WoodStone Open Nest Box (centre) and Vivara Pro Seville 32mm WoodStone Nest Box (right)

Hedgehog Highways

3.4 All adjoining garden fences on Site will have a 13cm x 13cm hole at the bottom to provide a passageway for hedgehogs to travel between gardens and other habitats on site. Fences and walls are one of the main reasons why hedgehog numbers are declining as the amount of land available to them is reduced. To ensure that new residents do not block these 'highways', small signs can be erected above the hole, such as those produced by the People's Trust for Endangered Species (PTES), informing them of their purpose (Figure 8).

Figure 8: Hedgehog highway sign for fences (hedgehogstreet.org)

4.0 Conclusions

4.1 The baseline value of the site is **11.70 area units**.

4.2 Post-development the proposed value of the site is currently predicted to be **8.51 area units**, equating to a change of **-27.28%**.

4.3 The existing baseline value is **11.70 units**. The area habitats post development is **8.51 units**. There is therefore a loss of -3.19 units between pre and post development. In order to achieve 10% net gain a total of 4.36 habitat units will be needed. Of these units 0.28 habitat units are high distinctiveness units (woodland units), with the remaining 4.42 habitat units of medium distinctiveness units (neutral grassland).

4.4 As a condition of planning approval an update BNG assessment will be required based on the detailed landscape plans to be produced at reserved matters stage. A Habitat Management and Maintenance Plan (HMMP) will also likely be required to detail the necessary management required to achieve the targeted net gain, over a 30 year timespan.

Appendix 1: Habitat Condition Assessments

Condition Sheet: GRASSLAND Habitat Type (medium, high & very high distinctiveness)		
UKHab Habitat Type(s): All other grassland types and tall ruderal (ie. not amenity/modified)		
Condition Assessment Criteria		**Other neutral grassland**
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	**Fail** Considered poor example of its type owing to dominance of grasses and lack of indicator species and high presence of white clover
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	**Fail** All greater than 7cm
3	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens (**Footnote 1**)	**Fail** Bare ground <5%
4	Cover of bracken is less than 20% and cover of scrub (including bramble) is less than 5%.	**Pass**
5	Combined cover of species indicative of sub-optimal condition (**Footnote 2**) and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	**Pass**
Additional Criterion - must be assessed for all non-acid grassland types		
6	There are 10 or more vascular plant species per m* present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). *Note - ths criterion is essential for achieving Good condition for non-acid grassland types only.*	**Fail** *C8.8* species per m^2
	Condition	**Poor**
Condition Assessment Result		
Good	Passes 5 of 6 criteria, including essential criterion 1 and 6	

Moderate	Passes 3 or 4 of 6 criteria, including essential criterion 1
Poor	Passes 0, 1, 2 criteria of 6 criteria; OR Passes 3 or 4 criteria excluding criterion 1 and 6
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 2.** Species indicative of sub-optimal condition for this habitat type include: Creeping thistle, spear thistle, curled dock, broad-leaved dock, common nettle, creeping buttercup, greater plantain, white clover, cow parsley.	

Condition Sheet: WOODLAND Habitat Type					
UKHab Habitat Type(s): All woodlands (except wood pasture)					
Condition Assessment Criteria					
Indicator		**Good (3 points)**	**Moderate (2 points)**	**Poor (1 point)**	**Score per indicator**
A	**Age distribution of trees** **Footnote 1**	Three age-classes[1] present	Two age-classes[1] present	One age-class[1] present	**2**
B	**Wild, domestic and feral herbivore damage** **Footnote 2**	No significant browsing damage evident in woodland[2]	Evidence of significant browsing pressure is present in 40% or less of whole woodland[2]	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2]	**1**
C	**Invasive plant species** **Footnote 3**	No invasive species[3] present in woodland	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, other invasive species[3] < 10% cover	Rhododendron or cherry laurel present, or other invasive species[3] > 10% cover	**2**
D	**Number of native tree species** **Footnote 4**	Five or more native tree or shrub species[4] found across woodland parcel	Three to four native tree or shrub species[4] found across woodland parcel	None to two native tree or shrub species[4] across woodland parcel	**3**
E	**Cover of native tree and shrub species** **Footnote 5**	> 80% of canopy trees and > 80% of understory shrubs are native[5]	50-80% of canopy trees and 50-80% of understory shrubs are native[5]	< 50% of canopy trees and < 50% of understory shrubs are native[5]	**3**
F	**Open space within woodland** **Footnote 6 and 7**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7]	21- 40% of woodland has areas of temporary open space[6]	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	**1**

G	**Woodland regeneration Footnote 8**	All three classes present in woodland[8]; trees 4-7cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland[8]	No classes or coppice regrowth present in woodland[8]	**2**
H	**Tree health Footnote 9**	Tree mortality less than 10%, no pests or diseases and no crown dieback[9]	11% to 25% mortality and/or crown dieback or low risk pest or disease present[9]	Greater than 25% tree mortality and or any high risk pest or disease present[9]	**3**
I	**Vegetation and ground flora Footnote 10**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] present at ground layer present	No recognisable woodland NVC plant community[10] at ground layer present	**1**
J	**Woodland vertical structure Footnote 11**	Three or more storeys across all survey plots or a complex woodland[11]	Two storeys across all survey plots[11]	One or less storey across all survey plots[11]	**2**
K	**Veteran trees Footnote 12**	Two or more veteran trees[12] per hectare	One veteran tree[12] per hectare	No veteran trees[12] present in woodland	**2**
L	**Amount of deadwood Footnote 13**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	**3**
M	**Woodland disturbance Footnote 14**	No nutrient enrichment or damaged ground evident[14]	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground[14]	**1**

			than 20% of woodland area has damaged ground[14]		
				Total score (out of a possible 39)	**26 Moderate**

Condition Assessment Score	
Good	Total score >32 (33 to 39)
Moderate	Total score 26 to 32
Poor	Total score <26 (13 to 25)

Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). *Assessing your Woodland's Condition* [online]. Available from: Woodland Wildlife Toolkit (sylva.org.uk)

The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch *Betula* sp., cherry *Prunus* sp. or *Sorbus* sp.: 0 - 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or *Sorbus* species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly. Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage *Lysichiton americanus*; Himalayan balsam *Impatiens glandulifera*; Japanese knotweed *Reynoutria japonica*; cherry laurel *Prunus laurocerasus*; shallon *Gaultheria shallon*; snowberry *Symphoricarpos albus*; variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*; rhododendron *Rhododendron ponticum*; and tree-of-heaven *Alianthus altissima*.

Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present.

Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs.

Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees.

Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha.

Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.

Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this.

Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information.

Footnote 12 - 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 - GOV.UK (www.gov.uk) EWBG INDICATOR 12 is the relevant indicator.

Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm.

Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.

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