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Rother District Council

Biodiversity Audit

Land at Heathfield Gardens, Robertsbridge

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1.1. Introduction

In March 2023, MKA Ecology Ltd was commissioned by Rother District Council to undertake Biodiversity Audits of 23 sites owned and managed by the district council. The aims of the biodiversity audits were to provide baseline information on the type and quality or condition of these areas with a view to identifying measurable opportunities for positive biodiversity interventions using the Biodiversity Metric. This report refers specifically to Land at Heathfield Gardens, Robertsbridge.

1.2. Methodology

The audits were performed using standard methodologies; habitats were defined according to the UK Habitat Classification and habitat conditions were assessed against the 'Biodiversity Net Gain' metric schema (Natural England, 2023). By assigning values to habitats by their 'distinctiveness' or rarity, and their condition, the overall measurable biodiversity contained within the surveyed sites was calculated using the Defra Biodiversity Metric (v4.0). In principle, larger/longer, more valuable and better condition habitats score more highly. A detailed methodology is provided at the end of this document.

1.3. Site status

The site is located within the High Weald National Landscape (formerly known as Area of Outstanding Natural Beauty (AONB) and High Weald National Character Area (NCA).

Land at Heathfield Gardens is not currently covered by any international, national or local nature conservation designations. No habitats onsite are listed on Natural England's Priority Habitat Inventory or Ancient Woodland Inventory (Natural England, 2023c,d). The site is located within the Rother, Brede and Tillingham Woods Biodiversity Opportunity Area (BOA; Sussex Biodiversity Partnership, 2024). Target habitat types for this BOA for creation, restoration and management are woodland, meadows and wetlands.

1.4. Site description

Land at Heathfield Gardens is a recreational space located in the south-east of Robertsbridge (grid reference: TQ 73552 23119). It is approximately 0.16ha; the majority of this is a grassland field surrounded by hedgerows, with a strip of woodland in the north.

The site is surrounded by a small residential development to the south, east and west; to the north are pasture fields, allotments and Robertsbridge railway station. The wider landscape is characterised by a mosaic of pasture and arable fields and woodlands, connected by hedgerows and trees. The majority

of the woodlands are listed on Natural England’s Priority Habitat Inventory (Natural England, 2023c); a subset are also listed on the Ancient Woodland Inventory (Natural England, 2023d). There are also pockets of good-quality semi-improved grassland and floodplain grazing marsh Priority Habitat (Natural England, 2023c) associated with the River Rother, which runs 0.7km to the north.

The table below shows the habitats which are present at Land at Heathfield Gardens. Detailed descriptions of each habitat type are given in Section 1.16.

Habitat type	Description
Lowland mixed deciduous woodland	Includes both semi-natural and ancient woodland growing on a range of soil types, comprising native deciduous tree and shrub species. Deciduous species occupy >80% of tree cover.
Modified (amenity) grassland	Frequently managed grasslands found in recreational areas. Species composition is not diverse and the habitat is dominated by vigorous grasses that can withstand trampling and mowing such as perennial rye-grass <i>Lolium perenne</i> .
Artificial, unvegetated surface	Unsealed surfaces including children’s play areas.
Hedgerow with trees	Hedgerows comprised of predominantly native species, including larger tree species.

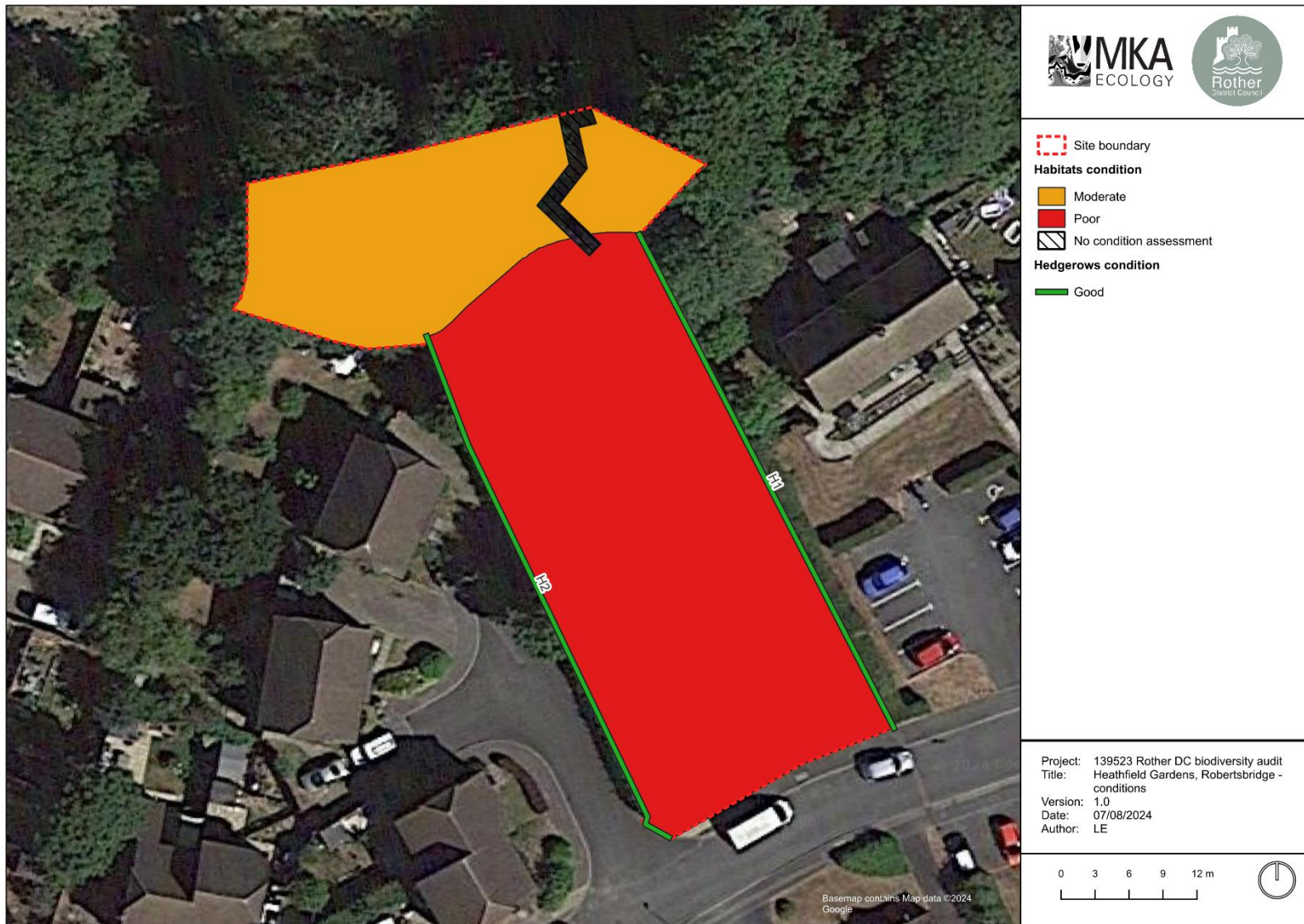
1.5. Maps

The maps presented below show the existing habitats at Land at Heathfield Gardens, and their conditions. Quadrats (1m²) were used to determine the average number of species per square metre in the grassland, which informs the condition assessments for Biodiversity Net Gain.

Figure 1: UK Habitat Classification map



Figure 2: Condition assessments



1.6. Photographs

Photograph 1: Modified/ amenity grassland



Photograph 2: Hedgerow H1



Photograph 3: Hedgerow H2



Photograph 4: Other lowland mixed deciduous woodland



1.7. Priority habitats

The following Priority Habitats are present at this location;

- Lowland mixed deciduous woodland;
- Native hedgerows.

Habitats of Principal Importance are recognised as the most important habitats in the UK and are listed within the Natural Environment and Rural Communities Act (2006).

1.8. Biodiversity units

The biodiversity units at Land at Heathfield Gardens, based on broad habitat types, are shown in the table below.

Habitat type	Total biodiversity units
Lowland mixed deciduous woodland	0.69
Modified (amenity) grassland	0.22
Artificial, unvegetated surface	0.00
Total habitat units	0.91
Linear features type	Total biodiversity units
Hedgerow with trees	1.37
Total hedgerow units	1.37

1.9. Invasive non-native species

No invasive non-native species were recorded at Land at Heathfield Gardens.

1.10. Constraints

Below are detailed some constraints relating to protected and notable species, which should be considered as part of habitat enhancement or creation programmes. It should be noted that most risks associated with protected species constraints can be easily avoided with appropriate planning.

- Presence of nesting birds within the hedgerows and woodland.
- Presence of reptiles in grassland, hedgerow and woodland habitats.
- Potential presence of amphibians (such as great crested newt *Triturus cristatus*) in thick vegetation during their terrestrial phase, due to the presence of ponds in the surrounding landscape.
- Potential use of the habitats onsite by foraging and commuting bats.

- Potential use of trees onsite by roosting bats.
- Potential presence of hedgehogs *Erinaceus europaeus*.
- Potential presence of badger *Meles meles* setts (no setts recorded during the site visit).
- Potential presence of hazel dormouse *Muscardinus avellanarius* in woodland habitats.

1.11. Opportunities

The following sections detail the potential opportunities for creating new habitats or enhancing existing habitats at Land at Heathfield Gardens, and also measures to provide further opportunities for priority species.

Opportunities - Habitats

Habitat type	Opportunities
<p>Woodland</p>	<p>The site is located within a Biodiversity Opportunity Area characterised by woodland, much of which is ancient. This woodland forms part of a wider corridor linking nearby woods together. Expanding and enhancing woodland habitat should therefore be a core objective of biodiversity enhancements at the Site. These could be created using the Miyawaki Method (CTF, 2024).</p> <ul style="list-style-type: none"> • Increase cover of woodland through planting new areas of native woodland on habitats of lower distinctiveness (modified grassland). Intersperse with scrub planting. • Alternatively consider allowing the woodland to expand by self-colonisation. • Investigate veteranizing some of these trees to also increase deadwood features within the woodland. Measures to increase the volume of deadwood habitat in living trees is particularly appropriate in cases where there are large generation gaps, e.g. (Woodland Trust, 2014): <ul style="list-style-type: none"> ○ <i>Ring-barking</i> ○ <i>Branch breaks</i> ○ <i>'Horse – damage'</i> ○ <i>Pollarding</i> ○ <i>'Monolith stumps': Soft/selective felling of limbs where necessary (i.e., for safety) to leave tall trunks in situ.</i> • Incorporate clearings (rides and glades) into existing and new woodland designs. Introducing rotational coppicing could create more areas of open space within the woodland, reduce bramble dominance and encourage regeneration of native flora.

Habitat type	Opportunities
	<ul style="list-style-type: none"> Encourage a more diverse ground flora through re-seeding and planting.
Modified grassland	<p>This habitat is allocated low distinctiveness in the Biodiversity Metric and is currently of limited value for biodiversity, due to lack of botanical and structural variation. The interventions that would contribute most significantly to enhancing this habitat are:</p> <ul style="list-style-type: none"> Enhance areas of grassland not used for intensive recreation. Mow the grass less regularly to encourage a more diverse sward structure and range of flowering plants in the sward. The initial aim would be to achieve a 'bee lawn', approximately 5-10cm in height; which could still be used for amenity purposes, but support more flowering plants. Some supplementary management over-seeding may be required to increase the number of flowering species. The long-term aim would be to enhance these areas to a higher distinctiveness grassland type, such as neutral grassland.
Hedgerows	<p>Introducing a hedgerow management plan, including a rotational cycle for phased cutting or laying of the hedgerow. Sections and sides of the hedgerow should be cut in alternate years to ensure a continuous food supply and habitat for birds, hazel dormice and other wildlife.</p> <p>Infill planting with native species to create a native species-rich hedgerow (which is allocated a higher distinctiveness in the Metric). The bases of hedgerows can be improved as habitat niches by leaving a strip of at least 1m on either side of the hedgerows unmown and undisturbed.</p>

Opportunities - Species

Species	Opportunities
Invertebrates (saproxylic)	<p><i>Standing deadwood piles:</i> The creation of 'stumperies' with large volume wood (as generated by management works) dug into the soil (eg: PTES, 2016).</p> <p><i>Artificial rot-holes:</i> Cavities cut into stumps to mimic rot holes. These often fill with water and provide habitat for the larvae of a range of specialist invertebrates.</p>
Invertebrates (pollinators)	<p>Increasing the proportion of wildflowers within the grassland will create additional foraging habitat for pollinators.</p>

Species	Opportunities
Invertebrates (generalist)	'Bug hotels,' 'bee banks' and log piles could be installed around the Site.
Birds	Installation of generalist bird boxes where possible on trees within hedgerows and the woodland. Bird boxes with varying entrance hole sizes should be used to provide for a range of species.
Amphibians	Creation of a wildlife pond within the grassland would add a high value habitat to the existing habitat mosaic, particularly of value to local amphibian populations.
Reptiles	Reptiles could be supported through creation of bespoke reptile refugia and hibernacula, providing additional areas for basking and foraging.
Bats	Installation of bat boxes where possible on trees within hedgerows and the woodland.
Hedgehog	Creation of large log and brash piles.
Hazel dormouse	Installation of dormouse boxes within the woodland, and management for key food plants for this species within the understorey (e.g. hazel, honeysuckle).

1.12. Key targets for the short and long term

Short-term targets

Some key targets for upcoming 5 to 10 years:

- Trial relaxing mowing regime on modified grassland to create areas of bee lawn;
- Investigate veteranizing existing trees;
- Install bat, bird and dormouse boxes; and
- Create and implement hedgerow management plan.

Long-term targets

Some key targets for long term planning;

- Expand bee lawn areas of modified grassland, and further interventions to enhance grassland, dependent on results of trial;
- Woodland expansion;
- Woodland management plan; and
- Veteranise selected trees where health and safety allows.

1.13. Further monitoring work/other activities

Specific surveys for protected and priority species could be undertaken for hazel dormouse, bats, invertebrates and reptiles. There are survey methods for all these species which can be undertaken by volunteers; groups could be supported by a licensed ecologist or local specialist if needed.

These targeted surveys could be supplemented by regular Bioblitz surveys at the site, carried out by volunteer groups, to monitor general species diversity.

Soil sampling is recommended to inform management activities to enhance grassland habitats.

1.14. Future risks to condition

- Potentially increased levels of recreational pressure;
- Changes in management and land use;
- Tree disease;
- Impacts of climate change on the habitats present, such as increased drought, fire and flood risk; and
- Introduction and spread of invasive, non-native species.

1.15. Habitat descriptions and conditions

Grassland
<p><i>UKHabs habitat types present (secondary codes in brackets)</i></p> <p>g4 – Modified grassland</p>
<p><i>Description</i></p> <p>g4 – Modified grassland</p> <p>A large recreational grassland is present in the south of the site, which appears to be subject to intensive mowing management keeping the sward short at approximately 5cm throughout, with the grass cuttings left in situ. The species composition is reflective of this, with perennial rye-grass <i>Lolium perenne</i> the dominate grass species recorded, along with more occasional cock's-foot <i>Dactylis glomerata</i> and common bent <i>Agrostis capillaris</i>, interspersed with forbs such as daisy <i>Bellis perennis</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, herb-Robert <i>Geranium robertianum</i> and white clove <i>Trifolium repens</i>.</p>
<p><i>Condition</i></p> <p>g4 – Modified grassland</p> <p>Poor condition due to low species diversity and short, uniform sward height.</p>

Woodland
<p><i>UKHabs habitat types present (secondary codes in brackets)</i></p> <p>w1f7 – Other lowland mixed deciduous woodland</p>
<p><i>Description</i></p> <p>w1f7 - Other Lowland mixed deciduous woodland</p> <p>Woodland dominates the northern parcel of the site, which is present on a slope between the grassland and the northern boundary road. The canopy comprises semi-mature to mature pedunculate oak <i>Quercus robur</i>, mature ash <i>Fraxinus excelsior</i>, semi-mature field maple <i>Acer campestre</i> and occasional semi-mature horse chestnut <i>Aesculus hippocastanum</i>. A distinct understorey is present, which is dominated by hazel <i>Corylus avellana</i>, holly <i>Ilex aquifolium</i>, hawthorn <i>Crataegus monogyna</i>, elder <i>Sambucus nigra</i>, rose <i>Rosa</i> sp., bramble <i>Rubus fruticosus</i> agg. and sycamore <i>Acer pseudoplatanus</i>. The ground flora comprises predominantly ivy <i>Hedera helix</i>, cow parsley <i>Anthriscus sylvestris</i> and common nettle <i>Urtica dioica</i>, with occasional wild strawberry <i>Fragaria vesca</i>, broad-leaved dock <i>Rumex obtusifolius</i> and wood avens <i>Geum urbanum</i>. The woodland does not appear to be under any form of regular management.</p>
<p><i>Condition</i></p> <p>w1f7: Other Lowland mixed deciduous woodland</p>

Woodland

Moderate condition. Condition of this habitat is limited by the fact the ground flora plant community is not characteristic of a native woodland, and by a relative absence of deadwood features, and veteran trees. Moreover, the limited structural complexity and age diversity also prevent this from achieving good condition. No invasive non-native species were recorded however, which is a positive attribute.

Hedgerows

UKHabs habitat types present (secondary codes in brackets)

h2a7 – Native hedgerow with trees

Description

h2a7 – Native hedgerow with trees – H1 and H2

Hedgerows H1 and H3 demark the western and eastern boundaries of the site, respectively. The two hedgerows are of the same length and are subject to similar management, however hedgerow H2 was noted to be wider and more outgrown in nature at the time of survey. Both hedgerows form dense and continuous linear features, measuring between 2m tall and 1.5-2m tall wide and support young standard ash trees.

Hedgerow H1 is dominated by hawthorn, along with more occasional ash and rose, and rare instances of privet *Ligustrum ovalifolium*.

Hedgerow H2 comprises a more diverse mix of species, including frequent hawthorn, privet, ash, and holly, along with rare instances of hazel and field maple.

The ground flora consisted of common nettle, ivy, field bindweed *Convolvulus arvensis* and bramble.

Condition

h2a7 – Native hedgerow with trees – H1 and H2

Good condition. Passes all condition criteria apart from criteria C1, due to the regular and intensive management of the adjacent grassland and the presence of residential properties, and criteria E1, as all trees were young in age.

Urban

UKHabs habitat types present (secondary codes in brackets)

u1c – Artificial unvegetated, unsealed surface

Description

u1c – Artificial unvegetated, unsealed surface

A loose stone and hardcore path and steps cutting through the woodland and connecting the northern road and footpaths to the grassland field.

Urban

Condition

u1c – Artificial unvegetated, unsealed surface

N/A - Other

1.16. References

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

CTF (2024) *Creating Tomorrow's Forests: The Miyawaki Method for Creating Forests*. <https://www.creatingtomorrowforests.co.uk/blog/the-miyawaki-method-for-creating-forests>. Accessed 26/01/2024.

Natural England (2023a) *Biodiversity Metric 4.0 Calculation Tool*. Natural England: York.

Natural England (2023b) *The Biodiversity Metric 4.0 – User Guide*. Natural England: York.

Natural England (2023c) *Priority Habitats Inventory (England)* Available at: <https://www.data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitats-inventory-england>. Downloaded 30/10/2023.

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PTES (2016) *Build a log pile for stag beetles*. People's Trust for Endangered Species (PTES). Available at <https://ptes.org/wp-content/uploads/2016/11/Build-a-log-pile-for-stag-beetles.pdf>

Sussex Biodiversity Partnership (2024). *Biodiversity Opportunity Areas*. <https://sussexlnp.org.uk/boa/>. Accessed 19/01/2024.

SxBRC (2023) *Sussex Biodiversity Records Centre: data search of protected and priority sites and species in Rother District*. Received 05/06/2023.

Woodland Trust (2014) *Ancient Trees and special interest trees*. Woodwise. Woodland Conservation News, Spring 2014. Available at: <https://www.woodlandtrust.org.uk/media/1798/wood-wise-ancient-trees.pdf>.

1.17. Surveyors

The survey was undertaken by Rory Roche ACIEEM. Rory has eight years' experience undertaking habitat surveys. The report was written by Rory and Lydia Ennis ACIEEM. Lydia has six years' experience undertaking habitat surveys and delivering management advice to landowners. The report has been reviewed by Will O'Connor CEcol MCIEEM. Will has over 15 years' experience working as an ecological consultant.

Detailed methodology

UK Habitat Classification

The habitat surveys followed the methodology of the UK Habitat Classification (professional) version 2.0 (hereafter UKHab; UK Habitat Classification Working Group, 2023). UKHab works at two levels: a hierarchical primary habitat classification and a list of secondary codes. The primary classification builds on existing habitat and botanical classifications (e.g., Phase 1, NVC). Habitats are described through an increasingly detailed hierarchy until a match is found. The secondary codes provide a list of environmental qualifiers that capture details for a range of other factors (e.g., hydrological regime, management etc). A given primary habitat area may have many secondary codes attached.

Some modifications to the UKHab were made as follows:

- Native hedgerows were categorised according to the more detailed Biodiversity Metric habitat label (see below). A level 5 hierarchy was created under the existing level 4 code 'h2a - Priority hedgerows' to reflect the differing features that hedgerows might contain in combination:
 - Association with a bank or ditch.
 - Species richness.
 - With/without trees.

Incidental plant species lists were gathered for each habitat and distributions of species estimated (using the DAFOR scale; **D**ominant, **A**bundant, **F**requent, **O**ccasional and **R**are). Full botanical inventories were not feasible within the scope of this work. Botanical lists are provided as a separate appendix to this Biodiversity Audit.

Biodiversity Metric

The Defra Biodiversity Metric 4.0 (Natural England, 2023) has been used for this Biodiversity Audit, with certain modifications as detailed in the Appendix. This method uses habitat as a proxy for biodiversity, whereby habitats are assigned the following 'multiplier' scores:

- **Distinctiveness:** A measure of the type and importance of a habitat. Habitats that are rare and/or support a wide range of species are more distinctive.
- **Condition:** A measure of the condition of a given habitat type. The condition is assessed according to a suite of criteria described within the methodology below. It should be stressed that condition in biodiversity terms is not to be confused with traditional perceptions of condition

or maintenance. A grassland that might be perceived to be well maintained (e.g. regularly mown) is very likely to be in poor condition. Distinctiveness and condition are also not wholly independent. Some of the factors that lead to poor condition grasslands (intensive mowing or grazing) can also lead to a definition as a lower distinctiveness grassland.

- Strategic significance: Any site that possesses a designation is considered High, those deemed ecologically valuable but without designation are considered Medium, and those with limited ecological value and no designation are classed as Low.

These factors are then multiplied to the area (for habitat parcels) or length (hedgerows, lines of trees) to produce an overall 'biodiversity unit.' Large parcels of habitat or long linear features will score better.

The total number of units is presented for the surveyed areas, each site and by habitat type. Indications of how many units are currently contained within habitats of different conditions are also presented; this will help to indicate the opportunities that might be made to increase measurable biodiversity by improving the condition of existing habitats.

Condition assessments

Each habitat type was assessed for condition using the methodology outlined in the Defra Biodiversity Metric 4.0 (Natural England, 2023). Habitat condition is defined as either good, moderate or poor by assessment against a suite of condition criteria. A habitat in good condition will meet more of the criteria for good condition and fewer of the criteria for poor condition. A habitat in poor condition will meet fewer of the criteria for good condition and more of the criteria for poor condition. For the purposes of this assessment the interim categories of 'fairly good' and 'fairly poor' were not used because they are not clearly defined within the methodology and may present inconsistencies with future audit assessments. The habitat condition sheets were modified for use in the field and are supplied as supplementary data.

Habitats were therefore divided into parcels based upon their condition and minimum mappable unit of habitat area.



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