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Rother
District Council

Rother District Council

Biodiversity Audit

Stage Field, Silver Hill

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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 Stage Field, Silver Hill.

1.2. Methodology

The audits were performed using standard methodologies; habitats were defined according to the UK Habitat Classification and habitat conditions were assessed assist 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).

Stage Field is not currently covered by any international, national or local nature conservation designations. It is adjacent to Silverhill and Trough Woods Local Wildlife Site (LWS) which abuts the site to the north. This LWS is an ancient woodland traversing a stream valley, which supports a diverse aquatic and marginal plant assemblage. Stage Field does not lie within any Biodiversity Opportunity Areas (BOA; Sussex Biodiversity Partnership, 2024). The closest BOA is lies within Rother, Brede and Tillingham Woods; target habitat types for this BOA for creation, restoration and management are woodland, meadows and wetlands.

1.4. Site description

Stage Field is a grassland field, approximately 3ha in size, situated to the west of Silver Hill (grid reference: TQ 74327 25850). It is surrounded by hedgerows to the west, south and east, with Silverhill and Trough Woods LWS (a registered Ancient Woodland and Priority Habitat; Natural England, 2023c,d) to the north. No habitats onsite are listed as Priority Habitats (Natural England, 2023c,d). The surrounding landscape is rural, characterised by a mosaic of woodlands, arable and pasture fields, connected by hedgerows and trees.

The table below shows the habitats which are present at Stage Field, Silver Hill. Detailed descriptions of each habitat type are given in Section 1.16.

Habitat type	Description
Modified grassland	Grasslands exhibiting features of neutral grassland (low occurrence of palatable grasses, including perennial rye grass *Lolium perenne*) but with low forb coverage (<20%) and low species diversity (<8 species per m^2).
Bramble scrub	Dense scrub dominated by bramble *Rubus fruticosus agg.*
Developed surface	Areas of road, carpark and paths.
Native hedgerow with trees	Hedgerows comprised of predominantly native species, including larger tree species.
Native species-rich hedgerow with trees	Hedgerows comprising at least five native woody species, and including mature tree standards.

1.5. Maps

The maps presented below show the existing habitats at Stage Field, Silver Hill, and their conditions. Quadrats ($1m^2$) 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 Habitats Classification map

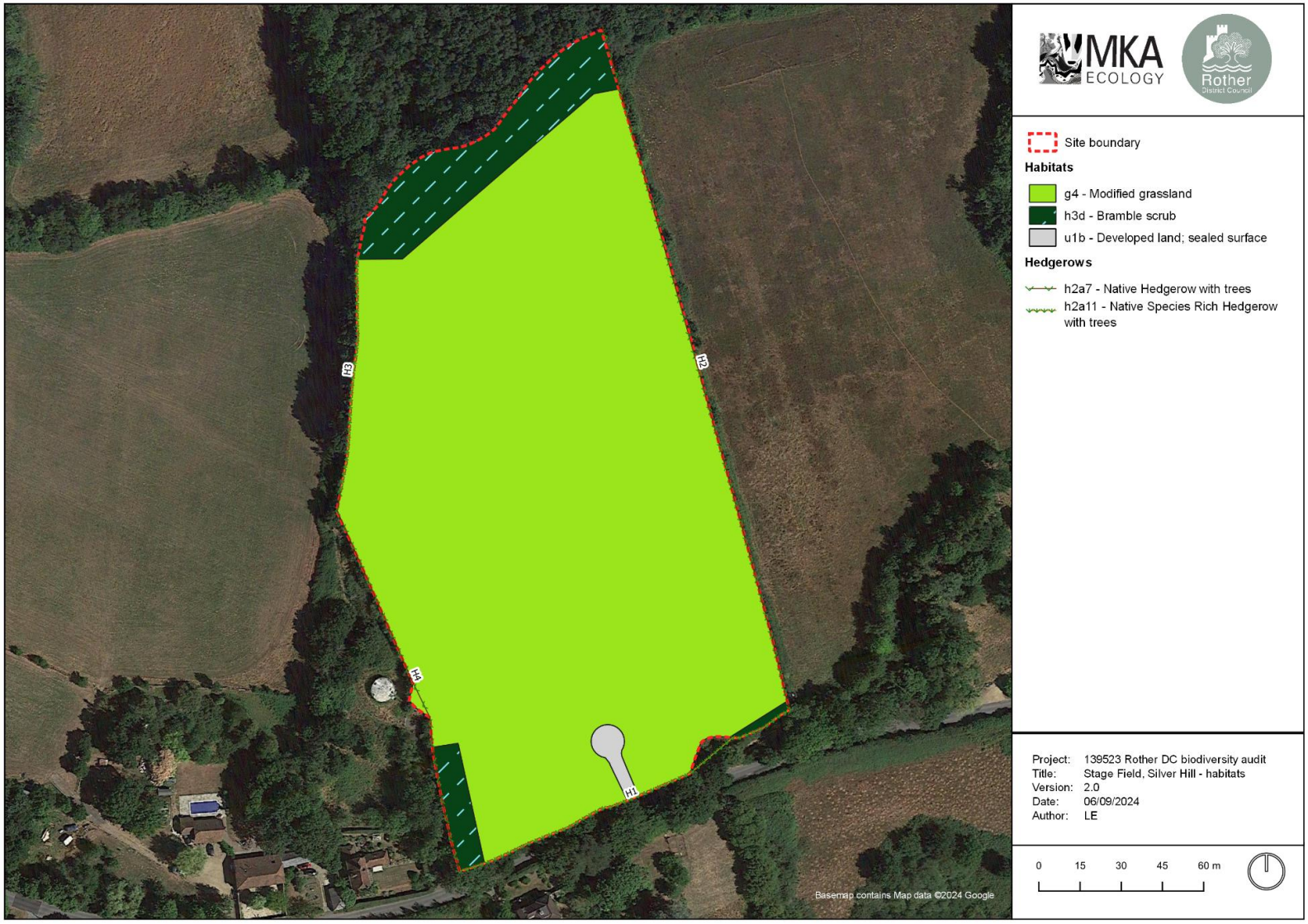
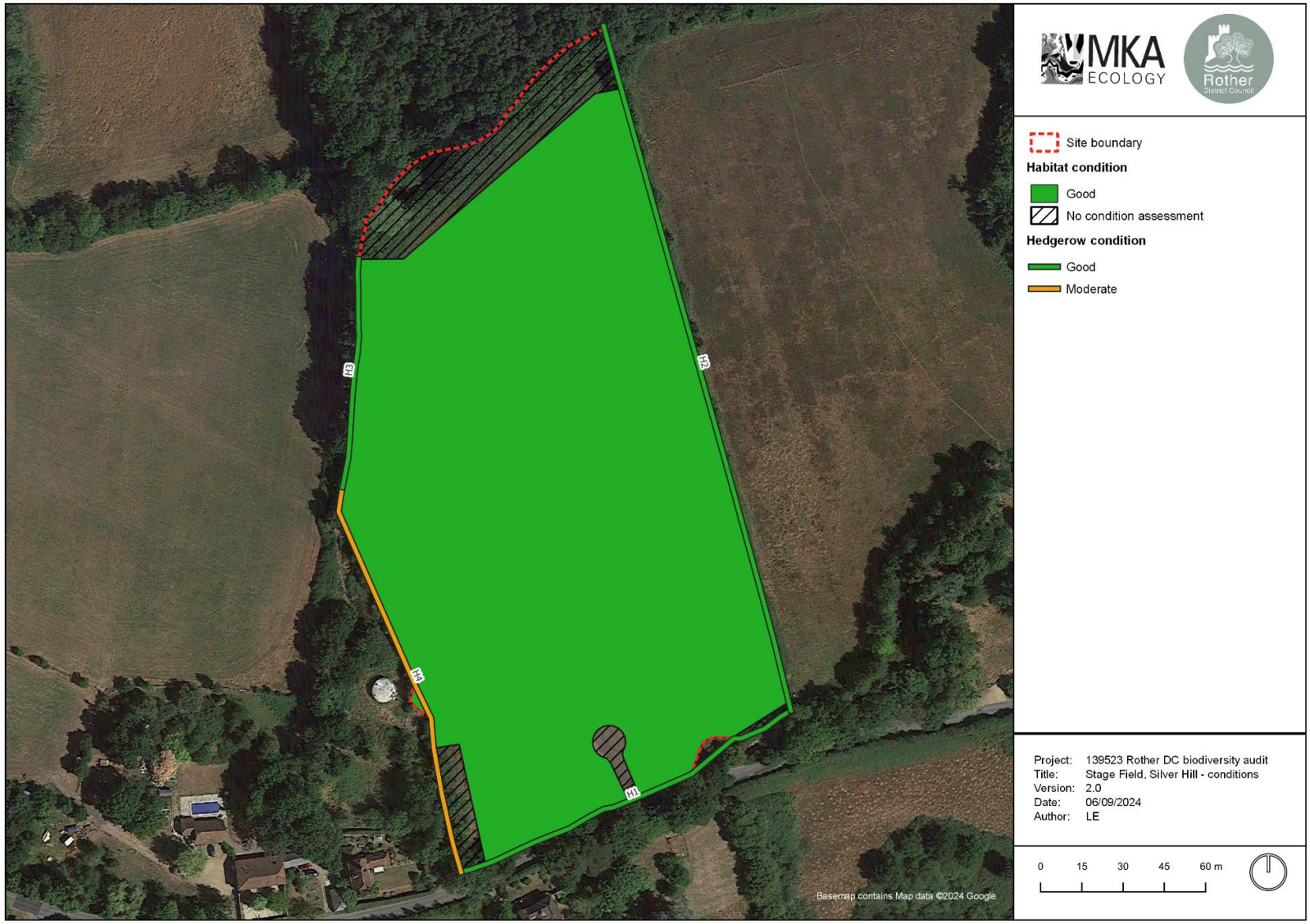
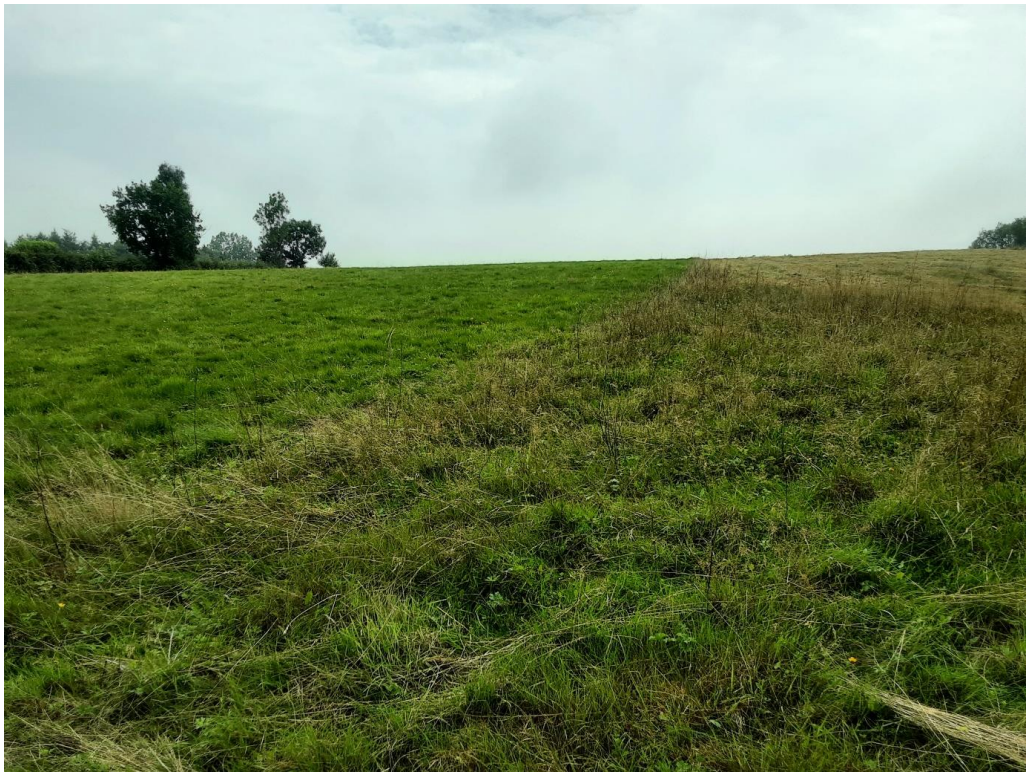


Figure 2: Condition assessments map

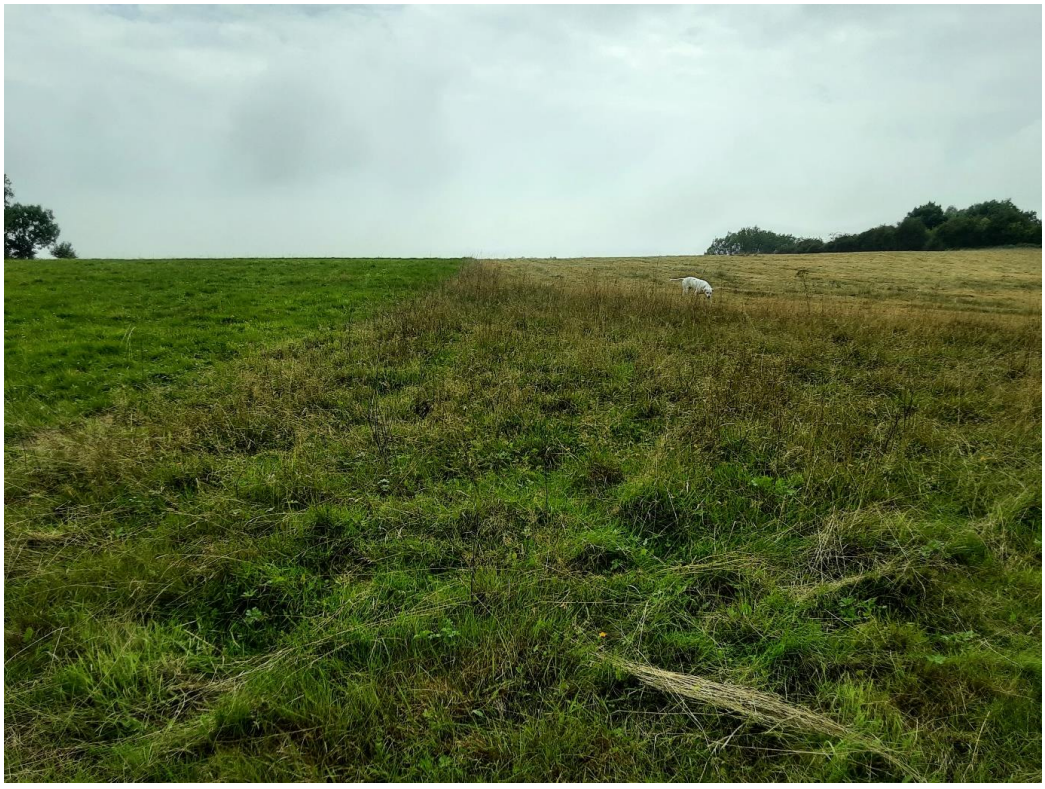


1.6. Photographs

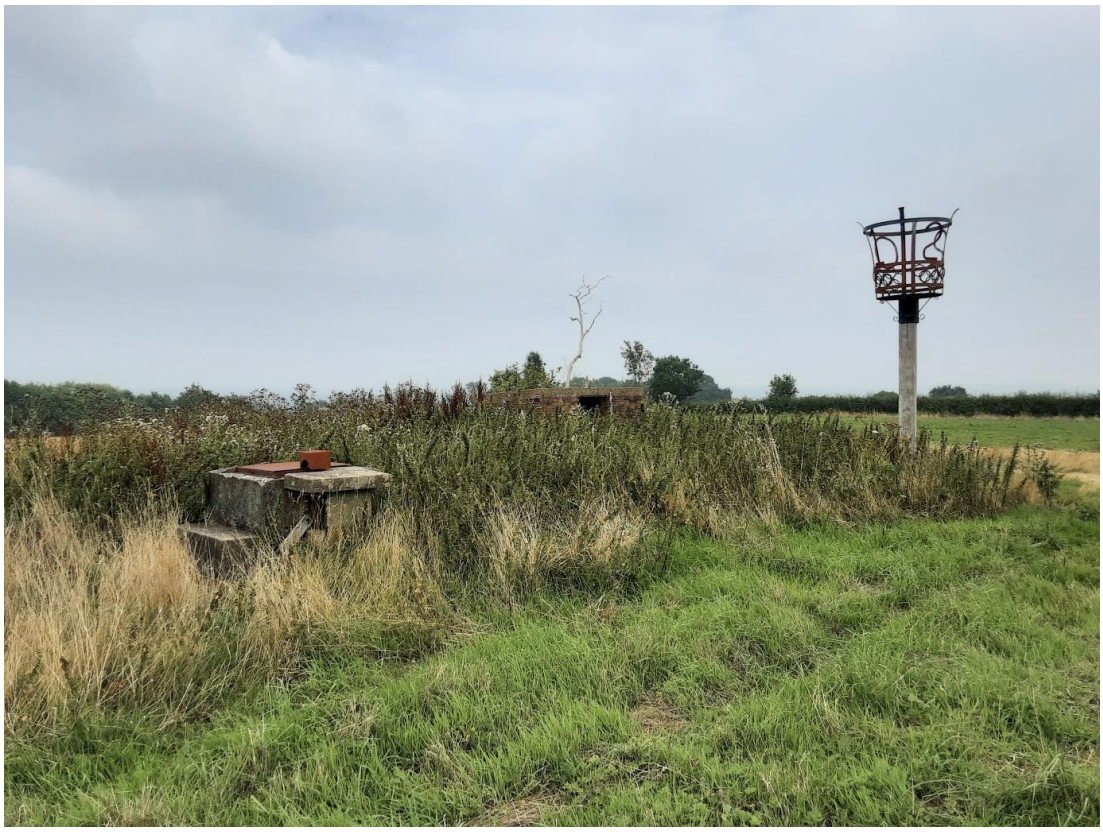
Photograph 1: Modified grassland



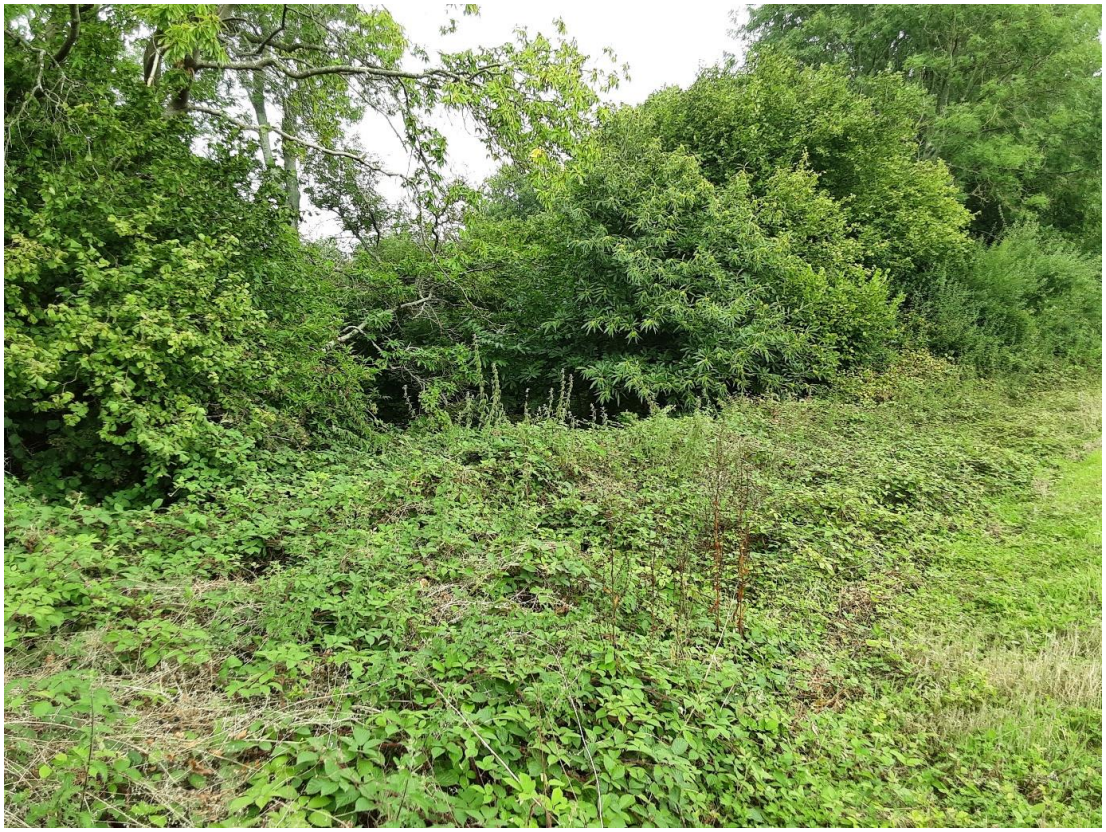
Photograph 2: Modified grassland



Photograph 3: Modified grassland (nutrient enriched area)

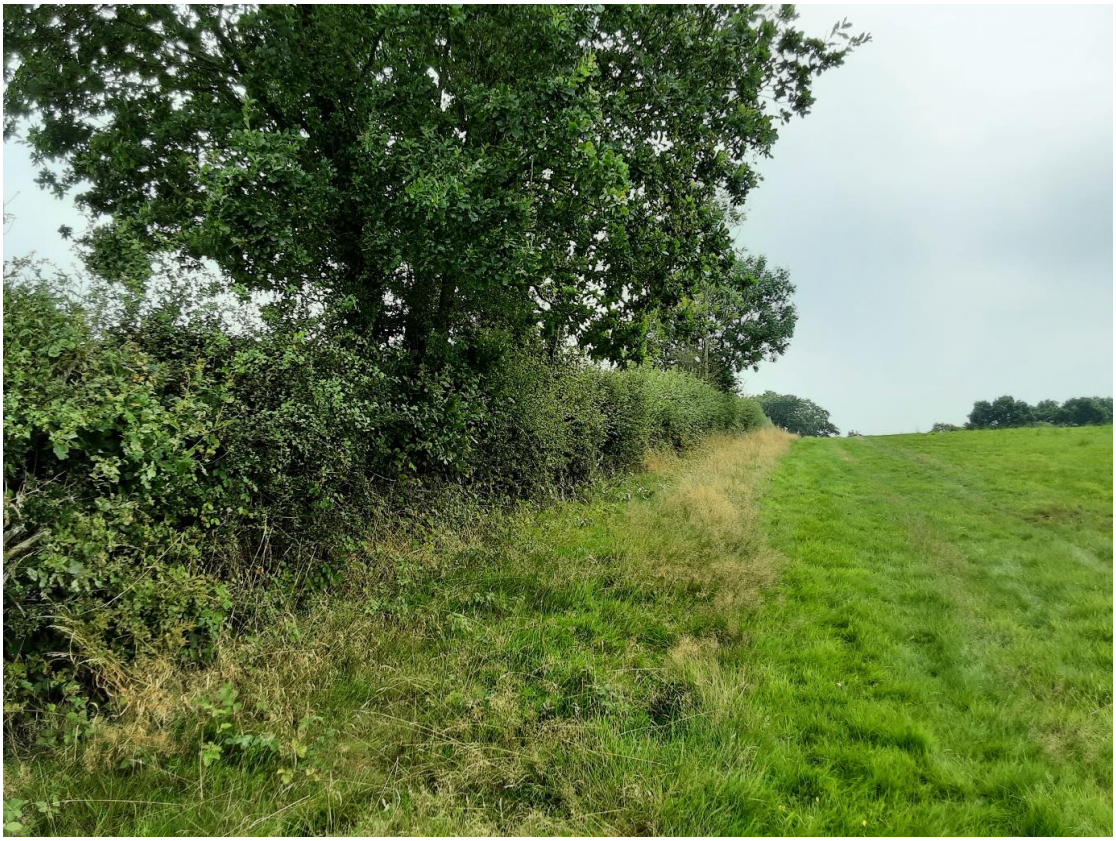


Photograph 4: Bramble scrub in the north of the site

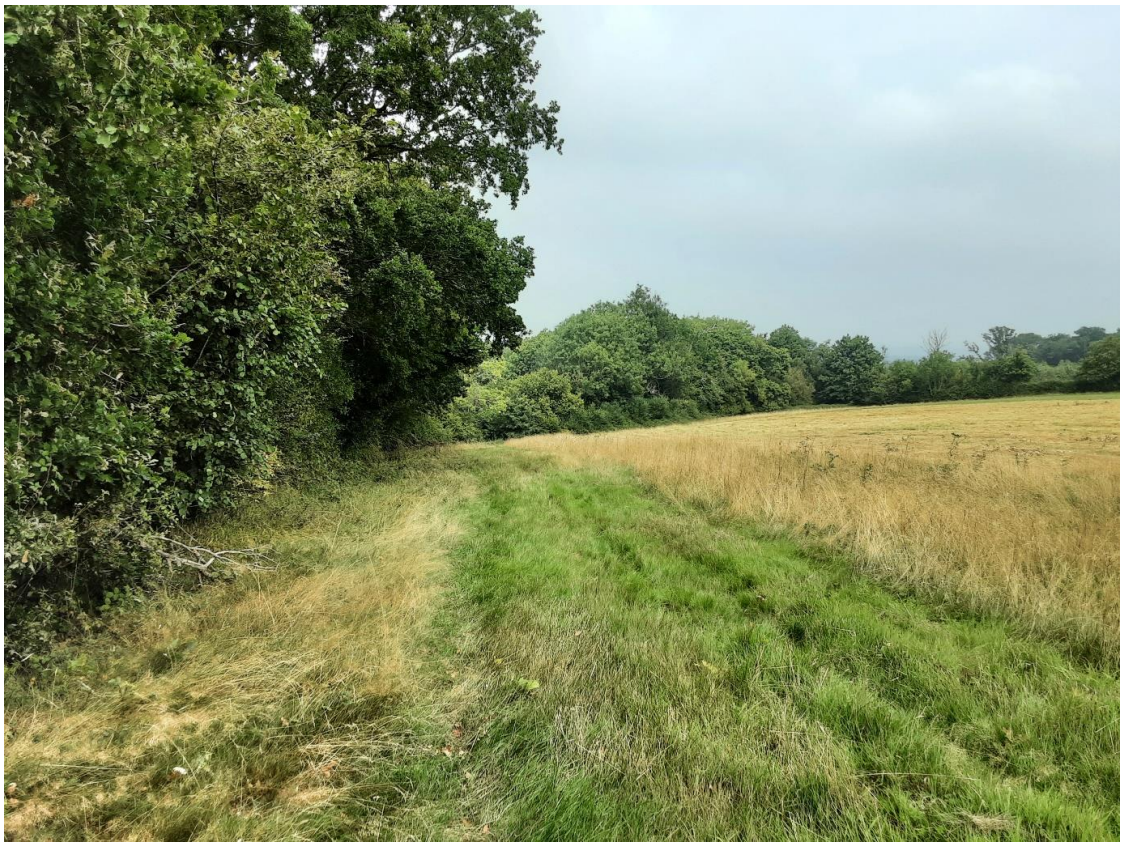


Photograph 5: Native species-rich hedgerow with trees – H1

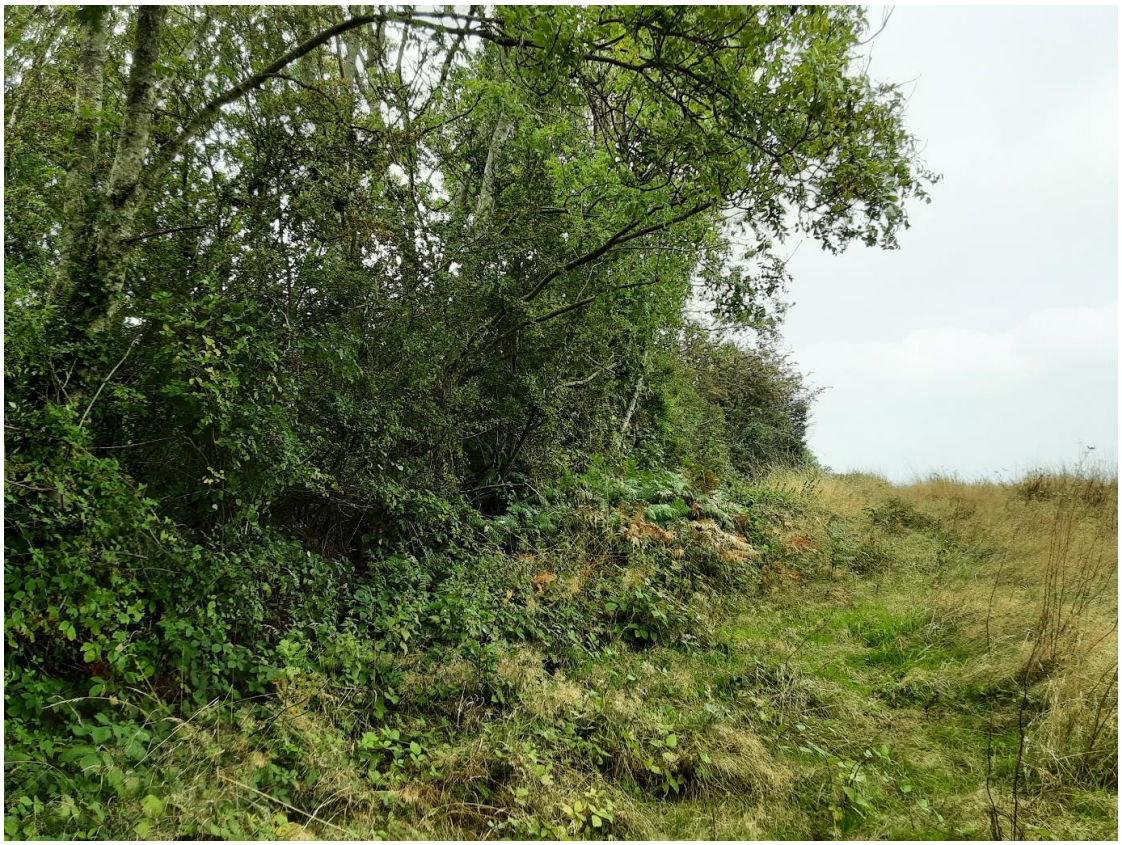
Photograph 6: Native hedgerow with trees – H2



Photograph 7: Native species-rich hedgerow with trees – H3



Photograph 8: Native hedgerow with trees – H4



1.7. Priority habitats

The following Priority Habitats are present at this location;

- 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 Stage Field, Silver Hill, based on broad habitat types, are shown in the table below.

Habitat type	Total biodiversity units
Modified grassland	18.59
Bramble scrub	1.08
Developed land; sealed surface	0.00
Total habitat units	**19.67**
Linear features type	**Total biodiversity units**
Native hedgerow with trees	4.91
Native species-rich hedgerow with trees	4.53
Total hedgerow units	**9.44**

1.9. Invasive non-native species

No invasive non-native species were recorded at Stage Field, Silver Hill.

1.10. Constraints

Constraints relating to protected and notable species, which should be considered as part of habitat enhancement or creation programmes, are listed below. 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, scrub and grassland.
- Presence of reptiles in grassland and scrub habitats.
- Potential presence of amphibians (such as great crested newt *Triturus cristatus*) in thick vegetation during their terrestrial phase, given the presence of ponds in the surrounding landscape.
- Potential use of the habitats onsite by foraging and commuting bats.

- Potential use of trees 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 hedgerows.

1.11. Opportunities

The following sections detail the potential opportunities for creating new habitats or enhancing existing habitats at Stage Field, Silver Hill, and also measures to provide further opportunities for priority species.

Opportunities - Habitats

Habitat type	Opportunities
Grassland	The grassland is already under active management, with what appears to be an annual phased hay cut. It reaches good condition as modified grassland, but fails classification as neutral grassland (a habitat of higher distinctiveness) due to poor species diversity and low cover of forbs. Forb diversity and abundance could be increased further through reducing cover and dominance of grasses and undesirable dominant forbs (creeping buttercup and creeping thistle). Bramble scrub encroachment is also negatively impacting the grassland currently. Bracken is currently at low levels, but similarly will need active management to prevent encroachment. Depending on public amenity use of the site, tackling the above could be done through grazing (cattle being ideal at the start), or through manual methods to mimic the effect of grazing (i.e. open up the sward and create areas of bare ground for forbs to colonise). Yellow rattle is already present at the site; coverage and abundance of this grass parasite could be encouraged, perhaps through experimental plots. In time, this habitat could be upgraded to neutral grassland. Soil sampling and detailed botanical survey would help to inform the most appropriate restoration methods.
Bramble scrub	This habitat type is allocated low distinctiveness in the Biodiversity Metric. The areas of bramble scrub as they are now likely form an important part of the habitat mosaic at Stage Field, in particular the parcel in the north, which acts as a buffer between the grassland and adjacent woodland LWS. However, bramble can become invasive, particularly in grassland (as is the case at this site, see above), and needs proactive management to maintain its cover at sustainable

Habitat type	Opportunities
	levels. As part of the management plan for the site, prevent further bramble encroachment into areas of grassland, and keep overall cover across the site at current levels.
Hedgerows	Hedgerows H1, H2 and H3 currently score the maximum within the condition assessment. Whilst these hedgerows are currently in an ideal condition to support wildlife, changes in management (or no management at all) may result in degradation of this condition. While in good condition, H2 is noticeably shorter in height than the other hedgerows, and the ash tree standards are succumbing to ash dieback; it would benefit from being left to grow out and become bigger, and for new trees to replace the ash trees. Introduce a hedgerow management plan, including a rotational cycle for phased cutting or laying of all hedgerows. This should include selecting new standards to replace current mature and diseased trees. 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. Active management will, in time, allow H3 to improve in condition from moderate to good.

Opportunities - Species

Species	Opportunities
Invertebrates (pollinators)	Increasing the proportion of wildflowers within the grassland will create additional foraging habitat for pollinators.
Invertebrates (generalist)	Invertebrate mounds, bee bank and log piles could be installed around the site.
Birds	Installation of generalist bird boxes where possible, for instance on mature trees within the hedgerow. 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 mature trees within the hedgerow.
Hedgehog	Creation of large log and brash piles.

1.12. Key targets for the short and long term

Short-term targets

Some key targets for upcoming 5 to 10 years:

- Reduce scrub and undesirable species within grassland and open up the sward, either through grazing or manual methods;
- Detailed botanical survey and soil sampling of grassland;
- Create and implement hedgerow management plan;
- Install bird and bat boxes.

Long-term targets

Some key targets for long term planning;

- Yellow rattle experimental plots within the grassland, where necessary;
- Monitor scrub and bracken encroachment within the grassland;
- Through hedgerow management, select replacement tree standards for each hedgerow to succeed veteran or diseased trees.

1.13. Further monitoring work/other activities

Specific surveys for protected and priority species could be undertaken for bats, hazel dormouse, invertebrates, birds and reptiles, to understand if and how these species groups use the site. 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 and detailed botanical survey is recommended to inform management activities to enhance the grassland.

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
UKHabs habitat types present (secondary codes in brackets) **g4 – Modified grassland**
Description **g4 – Modified grassland** The majority of the site is a grassland field. The site is located on a north-facing slope, on slightly acidic soils. However, no acidic grassland indicators were recorded during the site visit. The sward is grass-dominated, with consistently low botanical diversity across the field as a whole (average 7 species per 1m^2 quadrat). Common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus* and red fescue *Festuca rubra* are the dominant grasses, with sweet vernal-grass also recorded in low abundance. Forbs may have been under-recorded in mown areas, but overall seemed to be in low abundance across the site. Dominant species are creeping buttercup *Ranunculus repens* and common sorrel *Rumex acetosa*. Other forb species recorded are common mouse-ear *Cerastium fontanum*, bird's-foot trefoil *Lotus corniculatus* meadow vetchling *Lathyrus pratensis,* tufted vetch *Vicia cracca,* creeping thistle *Cirsium arvense* and meadow buttercup *Ranunculus acris*. Yellow rattle *Rhinanthus minor* was also present within the sward. Currently, although comprised of species typical of a neutral grassland community, low forb coverage and poor species diversity means this habitat fails to qualify as neutral grassland; hence classification as modified grassland. In the south of the site, adjacent to the entrance and turning circle, there is a patch of common nettle *Urtica dioica* and creeping thistle associated with a dilapidated brick structure and beacon; presumably this area has historically been subject to nutrient enrichment. The grassland is under active management and appears to be cut in stages. This survey was completed over two visits; at the time of the first visit, approximately half the grassland had been cut, with most of the remainder cut by the second visit (approximately two weeks later), leaving approximately 10% unmown.
Condition **g4 – Modified grassland** **Good condition.** Passes all condition criteria for this habitat type. The current mowing regime maintains in ideal mosaic of sward heights across the growing season.

Heathland and scrub
UKHabs habitat types present (secondary codes in brackets) **h3d: Bramble scrub**
Description **h3d: Bramble scrub** There are two parcels of this habitat type at the site. The larger parcel is a strip running along the north boundary, acting as a buffer between the grassland onsite and adjacent woodland (Silverhill and Trough LWS). The smaller parcel is situated in the south-west corner of the grassland.
Condition **h3d: Bramble scrub** No condition assessment for this habitat type.

Hedgerows
UKHabs habitat types present (secondary codes in brackets) **h2a11 – Native species-rich hedgerow with trees** **h2a7 – Native hedgerow with trees**
Description Hedgerows line the east, south and west boundaries of the site, and are divided into four hedgerow types, described below. **h2a11 – Native species-rich hedgerow with trees** H1: This hedgerow lines the south boundary of the site with the Bodiam Road. It is composed of hornbeam *Carpinus betulus*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, wych elm *Ulmus glabra* and pedunculate oak *Quercus robur*. It contains, on average, five woody species or more per 30m length. H3: This hedgerow lines part of the western boundary, running out of Silverhill and Trough Woods LWS to the north. It contains a large number of mature and veteran pedunculate oak tree standards in addition to the hedgerow canopy, which includes hazel *Corylus avellana*. It contains, on average, five woody species or more per 30m length. **h2a7 – Native hedgerow with trees** H2: This hedgerow lines the eastern boundary. Its height is shorter than other hedgerows at the site, and it is dominated by hawthorn, pedunculate oak and elder, with immature ash *Fraxinus excelsior*

Hedgerows
and mature sweet chestnut *Castanea sativa* standards. It contains, on average, fewer than five woody species per 30m length. H4: This characterises the southern half of the hedgerow lining the western boundary; there are no veteran oak trees in this section, and the hedgerow canopy has a different structure to that in H3, containing on average fewer than five woody species per 30m length. The hedgerows do not appear to be in active management, apart from works to H1 to keep canopies below electric wires running along the south boundary of the site.
Condition **h2a11 – Native species-rich hedgerow with trees** **H1: Good condition.** Passes all condition criteria. **H3: Good condition.** Passes all condition criteria. **h2a5 – Native hedgerow with trees** **H2: Good condition.** Passes all condition criteria apart from one, due to presence of ash dieback in ash tree standards. **H4: Moderate condition.** Fails to reach good condition due to an absence of mature tree standards, and the presence of nutrient enriched vegetation (common nettles) along its base.

Urban
UKHabs habitat types present (secondary codes in brackets) **u1b – Developed land; sealed surface**
Description **u1b – Developed land; sealed surface** There is a tarmac drive and turning circle at the entrance to the site.
Condition **u1b – Developed land; sealed 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/.

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.

Natural England (2023d) Ancient Woodland Inventory (England) Available at: https://naturalengland-defra.opendata.arcgis.com/datasets/ancient-woodland-england/explore. Downloaded 30/10/2023.

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.

1.17. Surveyors

The survey was undertaken by Lydia Ennis ACIEEM. Lydia has six years' experience undertaking habitat surveys and delivering management advice to landowners. The report was also written by Lydia, and 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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