MKA ECOLOGY

Rother District Council

Rother District Council

Biodiversity Audit

Open Space, Levetts Lane, Bodiam

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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 Open Space, Levetts Lane, Bodiam (referred to in this report as Levetts Lane).

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).

Levetts Lane is not currently covered by any international, national or local nature conservation designations. The site is listed on Natural England's Priority Habitat Inventory as deciduous woodland (Natural England 2023c) but not on the Ancient Woodland Inventory (Natural England, 2023d). The site is not located within any Biodiversity Opportunity Areas (BOA; Sussex Biodiversity Partnership, 2024); the closest BOA is Romney Marsh, for which target habitat types for creation, restoration and management are wetlands.

1.4. Site description

Levetts Lane is a 0.5ha recreational area located within the village of Bodiam (grid reference: TQ 78140 26108). It consists primarily of a woodland, surrounded by grass verges which bound the roads adjacent to the site. The woodland experiences high levels of recreational usage and supports a number of well-worn desire lines, along with occasional recreational areas. The grassland on the boundaries of the site appears to not be subject regular mowing. No information on current or past management of the site was available.

Levetts Lane is surrounded by a small number of residential houses and gardens to the north, and a school to the south. The wider landscape is characterised by a mosaic of arable fields and woodlands, linked by hedgerows and trees. The majority of these woodlands (including the woodland onsite) 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). Hedgerows provide good connectivity between the site and the wider landscape, particularly to the north. The River Rother runs 0.5km to the south of the site, and is associated with good quality semi-improved grassland and floodplain grazing marsh habitats listed on the Priority Habitat Inventory (Natural England, 2023c).

The table below shows the habitats which are present at Levetts Lane. 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 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 *Lolium perenne*.

1.5. Maps

The maps presented below show the existing habitats at Levetts Lane, 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.

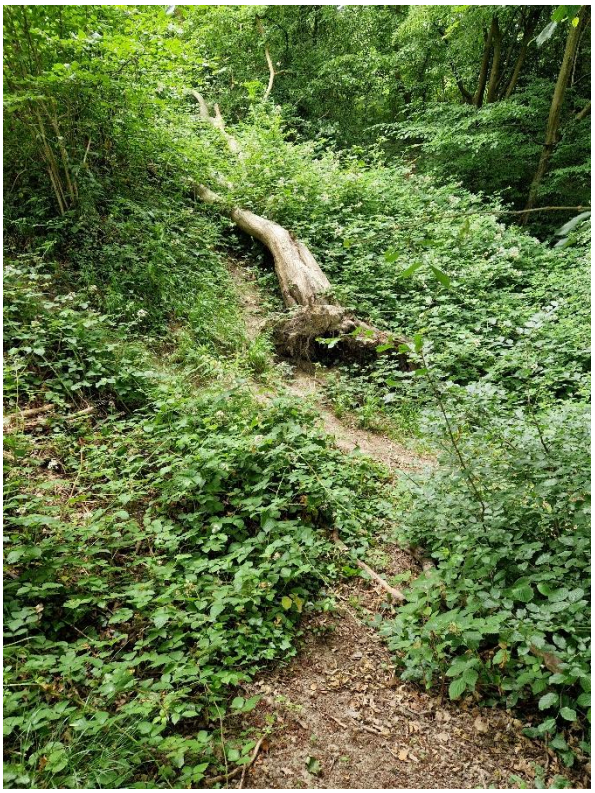
Figure 1: UK Habitats Classifications map

Figure 2: Condition assessments

1.6. Photographs

Photograph 1: Lowland mixed deciduous woodland canopy and understorey

Photograph 2: Desire line through woodland and deadwood presence



Photograph 3: Modified grassland

1.7. Priority habitats

The following Priority Habitats are present at this location;

- Lowland mixed deciduous woodland.

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 Levetts Lane, based on broad habitat types, are shown in the table below.

Habitat type	Total biodiversity units
Lowland mixed deciduous woodland	9.11
Modified grassland	0.04
Total habitat units	**9.15**

1.9. Invasive non-native species

No invasive non-native species were recorded at Levetts Lane.

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 woodland.
- Presence of reptiles in woodland habitats.
- Potential presence of amphibians (such as great crested newt *Triturus cristatus*) in woodland habitats during their terrestrial phase, due to the presence of ponds in the surrounding village and wider 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 Levetts Lane, and also measures to provide further opportunities for priority species.

Opportunities - Habitats

Habitat type	Opportunities
Woodland	The site is located within a Biodiversity Opportunity Area characterised by woodland, much of which is ancient. This woodland parcel, though small, forms part of a wider network of wooded habitat running through surrounding suburban habitats, and connecting with treelines and woodland in the wider rural landscape. This habitat is currently in good condition, and allocated high distinctiveness in the Biodiversity Metric. This woodland parcel is also currently in good condition. However, it was evident during the site visit that recreational pressure is high in certain areas of the woodland, around public footpaths. A woodland management plan should be developed to ensure recreational pressure does not begin to adversely affect the woodland and decrease its condition. The management plan could also address other factors limiting condition of the woodland, including age and structural complexity. Introducing a programme of rotational coppicing will create more areas of open space within the woodland, encourage regeneration of native flora, and maintain structural diversity. Browsing pressure may be negatively impacting the woodland, but this is hard to manage in practice without coordinated effort at a landscape scale. Measures to protect recovering vegetation (such as coppice stools) from over-browsing can be incorporated into the management practices.
Modified grassland	This habitat is of low distinctiveness and the least valuable at the site in biodiversity terms. Areas of grassland could be subject to a less regular mowing regime, to encourage a more diverse range of flowering plants in the sward. The 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. Given the presence of this habitat within road verges, which form a boundary between the existing woodland and roads, these could be enhanced to neutral grassland, to expand coverage of this more valuable habitat type.

Opportunities - Species

Species	Opportunities
Invertebrates (saproxylic)	*Standing deadwood piles:* The creation of 'stumperies' with large volume wood (as generated by management works) dug into the soil (eg: PTES, 2016). *Artificial rot-holes:* 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.
Invertebrates (pollinators)	Increasing the proportion of wildflowers within the grassland will create additional foraging habitat for pollinators.
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 the woodland. Bird boxes with varying entrance hole sizes should be used to provide for a range of species. A tawny owl box could also be installed in a mature tree to attract a breeding pair of this species.
Reptiles and amphibians	These species groups could be supported through creation of bespoke refugia and hibernacula, providing additional areas for refuge and foraging.
Bats	Installation of bat boxes where possible on trees within 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:

- Explore options for increasing botanical diversity of grassland to create areas of bee lawn or other neutral grassland habitat;
- New tree, grassland and scrub planting, together with a management plan;
- Feasibility studies for woodland creation;
- Investigate veteranizing existing trees; and
- Install bat, bird and dormouse boxes.

Long-term targets

Some key targets for long term planning;

- Explore options for increasing botanical diversity of grassland;
- Woodland creation, together with a 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
UKHabs habitat types present (secondary codes in brackets) **g4 – Modified grassland**
Description **g4 – Modified grassland** This habitat comprises of unmanaged grassland road verges, which form a boundary between the existing woodland and roads. The sward was noted to measure approx. 1m at the time of survey. The sward is dominated by perennial rye-grass *Lolium perenne*, along with more occasional cock's-foot *Dactylis glomerata,* Yorkshire-fog *Holcus lanatus* and common bent *Agrostis capillaris,* and localised patches of wall barley *Hordeum murinum* and false oat-grass *Arrhenatherum elatius*. In addition, the sward is interspersed with forbs indicative of this habitat, include creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata,* broad-leaved dock *Rumex obtusifolius,* herb-Robert *Geranium robertianum* and sow-thistle *Sonchus oleraceus.*
Condition **g4 – Modified grassland** Poor condition. Whilst the sward contains a variety of grass species, this is dominated by perennial ryegrass and other species are largely occasional or localised. The grassland is also limited by its uniform sward height.

Woodland
UKHabs habitat types present (secondary codes in brackets) **w1f7 – Other lowland mixed deciduous woodland**
Description **w1f7 - Other Lowland mixed deciduous woodland** An area of mature woodland dominates the site, which comprises a mainly closed canopy of pedunculate oak *Quercus robur* and ash *Fraxinus excelsior*, although a small number of canopy gaps and clearings are present and have likely arisen from tree fall. A distinct understorey is present, which is dominated by holly *Ilex aquifolium*, hawthorn *Crataegus monogyna*, sycamore *Acer pseudoplatanus,* elder *Sambucus nigra*, hornbeam *Carpinus betulus,* beech *Fagus sylvatica* and bramble *Rubus fruticosus agg.* The ground flora comprises predominantly bramble, ivy *Hedera helix*, cow parsley *Anthriscus sylvestris,* common nettle *Urtica dioica,* broad-leaved dock *Rumex obtusifolius*, creeping buttercup, barren brome *Anisantha sterilis, c*leavers *Galium aparine*, periwinkle *Vinca minor* and wood avens *Geum urbanum.* The woodland supports numerous instances of

Woodland
deadwood throughout and frequent areas of bare ground, which have been created by regular recreational use.
Condition **w1f7: Other Lowland mixed deciduous woodland** **Good condition.** No invasive plant species (such as rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus*) were recorded; more than five native woody species were recorded across the woodland parcel, covering over 80% of canopy cover, and woodland indicators are present in the ground flora, albeit not those of ancient woodland. Deadwood is also abundant throughout the woodland and areas of open space are present, which have arising from natural tree fall. The woodland scores less well on criteria relating to disturbance (on the basis of well-worn desire lines) and the presence of veteran trees.

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.

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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.

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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