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Rother District Council

Biodiversity Audit

Masons Field, Masons Road, Rye

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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 Masons Field, Masons Road, Rye.

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 partially within the High Weald National Landscape (formerly known as Area of Outstanding Natural Beauty (AONB). It is situated on the boundary between Romney Marsh and the High Weald National Character Areas (NCA).

Masons Field is not currently covered by any international, national or local nature conservation designations. The site lies within 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

The survey area is shown on the map in Figure 1. Within this report this area is referred to as the Site or Masons Field, Masons Road, Rye. Located in the centre of Rye (central grid reference: TQ 91491 20504), Masons Field is largely a community recreational area. It is comprised mainly of mowed amenity grassland interspersed with native lines of trees, with a small woodland parcel in the south. There is also a children's playground and an area of rough *Arrhenatherum* neutral grassland to the north bordering the River Tillingham, connected to the rest of the site by a footpath. It is 1.95ha, surrounded by residential housing. Areas of rough grassland in the north of the Site appear largely unmanaged, in contrast to the rest of the site, which is managed for amenity use.

The table below shows the habitats which are present at Masons Field, Masons Road, Rye. Detailed descriptions of each habitat type are given in Section 1.16. As Rother District Council is not responsible for management of the River Tillingham, this habitat was not included in the assessment.

Habitat type	Description
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 *Lolium perenne*.
Arrhenatherum neutral grassland	A widespread grassland type, distinguished by an absence of strong calcareous or acidic indicator species, and low occurrence of palatable grasses typical of modified grassland. A sub-type of this habitat is characterised by dominance of false oat-grass *Arrhenatherum elatius*.
Other woodland; broadleaved	Mixed deciduous woodland types that do not meet the criteria to classify as Priority Habitat woodland.
Developed land; sealed surface	Areas of road, carpark and paths.
Line of trees	Native and non-native trees planted in distinct lines throughout the park.

1.5. Maps

The maps presented below show the existing habitats at Masons Field, Masons Road, Rye, 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: Modified (amenity) grassland

Photograph 2: Modified grassland

Photograph 3: Arrhenatherum neutral grassland

Photograph 4: Developed land; sealed surface and line of trees

Photograph 5: Line of trees

Photograph 6: Other woodland; broadleaved

1.7. Priority habitats

There are no Priority Habitats on-site, however, the Site is 0.2km west of Lowland Deciduous Woodland and 0.1km north of Coastal and Floodplain Grazing Marsh.

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 Masons Field, Masons Road, Rye, based on broad habitat types, are shown in the table below.

Habitat type	Total biodiversity units
Modified grassland	3.03
Arrhenatherum neutral grassland	1.10
Other woodland; broadleaved	0.62
Developed land; sealed surface	0.00
Total habitat units	**4.75**
Linear features type	**Total biodiversity units**
Line of trees	0.93
Total hedgerow units	**0.93**

1.9. Invasive non-native species

No invasive non-native species were recorded at Masons Field.

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, dense scrub and trees.
- Potential presence of reptiles in grassland, woodland and scrub habitats.
- Potential use of the habitats onsite by foraging and commuting bats.
- Potential presence of hedgehogs *Erinaceus europaeus*.

1.11. Opportunities

The following sections detail the potential opportunities for creating new habitats or enhancing existing habitats at Masons Field, and also measures to provide further opportunities for priority species. Priorities identified within the Rother, Brede and Tillingham Woods BOA (see Section 1.3) centre around management, restoration and creation of wetlands, meadow and woodlands.

Opportunities - Habitats

Habitat type	Opportunities
Modified grassland	This habitat is of low distinctiveness and the least valuable at the site in biodiversity terms. However, the central field is clearly of amenity value to the local community. There is scope to convert some of this grassland to woodland (see below), but this should be planned in tandem with amenity objectives for the site. Areas of retained modified 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. Areas of modified grassland outside of the main amenity spaces could be enhanced to neutral grassland, to expand coverage of this more valuable habitat type which is currently only present in the north-east of the site (see below).
Arrhenatherum neutral grassland	This small habitat parcel is clearly challenging to manage, being difficult to access and located on a steep bank of the River Tillingham. Any interventions to reduce the cover of scrub and undesirable species, and introduce some variety in sward height, would be beneficial. The flatter areas, out of range of high water levels, would be an ideal site for a hibernaculum (see species opportunities below), given the low levels of disturbance.
Other woodland; broadleaved	This habitat parcel, though small, acts as a buffer between the site and surrounding residential development to the south and west. Expanding and enhancing this woodland habitat should therefore be a core objective of biodiversity enhancements at the Site. These could be created using the Miyawaki Method (CTF, 2024).

Habitat type	Opportunities

	• Increase cover of woodland through planting new areas of native woodland on habitats of lower distinctiveness (modified grassland). Extension of woodland could reinforce current treelines, forming a belt of woodland around the site perimeter (see below).
	• Reduce cover of non-native tree species in existing woodland. 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):
	  ○ *Ring-barking*
	  ○ *Branch breaks*
	  ○ *'Horse – damage'*
	  ○ *Pollarding*
	  ○ *'Monolith stumps': Soft/selective felling of limbs where necessary (i.e., for safety) to leave tall trunks in situ.*
	• Reinforce tree planting with native scrub planting, to create an understorey layer; and
	• Encourage a more diverse ground flora through re-seeding and planting.

Line of trees	The tree lines form important connecting corridors around the perimeter of the Site, connecting the woodland with the River Tillingham. Interventions to enhance this habitat include: • Increasing length/extent and closing current gaps in the canopy through planting native tree species. The low representation of native tree species is the key limiting factor for this habitat type at this site; • Install bird and bat boxes to compensate for lack of veteran features; • Where feasible and this aligns with amenity objectives, investigate veteranisation of existing trees (see above). The lines of trees could form the basis for expanding woodland planting at the Site, supporting a belt of woodland extending round the entire perimeter (see above).

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. This recommended particularly for the orchard.
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, for instance on the mature hawthorn trees and 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 one of the grassland parcels would add a high value habitat to the existing habitat mosaic, particularly of value to local amphibian populations.
Reptiles	Reptiles are present at the site, and 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.
Hedgehog	Hedgehog hibernation boxes may be installed at the bases of the hedgerows, ideally positioned near to species-rich grassland.

1.12.Key targets for the short and long term

Short-term targets

Some key targets for upcoming 5 to 10 years:

- New tree, scrub and woodland planting, together with a management plan;
- Reduce non-native species cover within the existing woodland and replace with native tree and scrub planting;
- Trial relaxing mowing regime on modified grassland to create areas of bee lawn and identify areas to enhance to neutral grassland;
- Increase sward diversity and reduce scrub and undesirable species within neutral grassland;

- Install bird and bat boxes; and
- Create reptile hibernaculum.

Long-term targets

Some key targets for long term planning;

- Review woodland management plan,
- Create new areas of neutral grassland and increase botanical diversity of existing neutral grassland;
- Expand bee lawn areas of modified grassland, dependent on results of trial.

1.13. Further monitoring work/other activities

Specific surveys for protected and priority species could be undertaken for bats, invertebrates 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, 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) **g3c – Arrhenatherum neutral grassland** **g4 – Modified grassland** **g4a – Amenity grassland**
Description **g3c – Arrhenatherum neutral grassland** This describes the grassland habitat on the west bank of the River Tillingham. This bank does not appear to be open for amenity use, or regularly managed. The sward is dominated by false oat-grass *Arrhenatherum elatius*, with common couch *Elymus repens*, common nettle *Urtica dioica* and barren brome *Bromus sterilis*. There are also some species more indicative of wetland conditions, including field horsetail *Equisetum arvense*, sedge *Carex sp.* and hairy willowherb *Epilobium hirsutum*. Species richness is much lower than that on the opposite bank of the river, located in Mill Salts. **g4 – Modified grassland** This habitat type forms the central recreational field, and a strip of grassland running along the River Tillingham, beside a footpath and line of trees. The majority of both areas is species-poor, with the sward (mostly mown short at the time of the survey visit) dominated by perennial rye-grass *Lolium perenne*, white clover *Trifolium repens* and dandelion *Taraxacum agg.* Beneath each of the treelines in the playing field, a strip of grassland had been left unmown; in these areas, creeping bent *Agrostis stolonifera,* cock's-foot *Dactylis glomerata* and creeping thistle *Cirsium arvense* were also recorded. **g4a – Amenity grassland** A section of the main field is designated as a playground, with modified grassland as per the above description interspersed with children's play equipment.
Condition **g3c – Other neutral grassland** Poor condition, on the basis of low species diversity (fewer than six species per 1m^2), lack of variation in sward height, and high occurrence of scrub (bramble *Rubus fruticosus agg.*) and undesirable species (common nettle). **g4 – Modified grassland** Poor condition, on the basis of low species diversity (fewer than 6 species per 1m^2). Levels of damage are low, and the unmown strips beneath the treelines provide variety in sward height across the playing field.

Grassland
g4a – Amenity grassland Poor condition, on the basis of low species diversity (fewer than 6 species per 1m^2), along with uniform sward height.

Woodland
UKHabs habitat types present (secondary codes in brackets) **w1g - Other woodland; broadleaved**
Description **w1g - Other woodland; broadleaved** This refers to a small group of trees in the southern corner of the site, which have likely been planted to form a woodland glade. There are a number of tree species, including white poplar *Populus alba*, silver birch *Betula pendula*, maple *Acer sp.,* cherry *Prunus sp.,* willow *Salix sp.* and ash *Fraxinus excelsior.* These are all mature trees; there is no understorey layer. The ground flora is broadly similar in composition to the neighbouring modified grassland, but with some species more typical of shaded or woodland environments, including broad-leaved dock *Rumex obtusifolius* and cow parsley *Anthriscus sylvestris*.
Condition **w1g - Other woodland; broadleaved** Moderate. Condition is limited by poor age diversity in the trees; the ground flora plant community is not characteristic of a native woodland; and a lack of physical structural complexity caused by the absence of an understorey layer. There was also no deadwood recorded within the woodland parcel. The woodland would also benefit from a greater proportion of native tree and shrub species. There were no invasive non-native species recorded, which is a positive attribute.

Linear features
UKHabs habitat types present (secondary codes in brackets) **w1g6 – Line of trees**
Description **w1g6 – Line of trees** There are four lines of trees at this site. Three line the north, west and south-east sides of the central playing field. The north and south-east lines consist of mature trees including weeping willow *Salix x babylonica,* sycamore *Acer pseudoplatanus* and lime *Tilia x europaea*. The west line consists of younger trees (presumably more recently planted) including maple *Acer sp.* and cherry *Prunus* sp.

Linear features
A fourth line of mature weeping willows runs along the bank of the River Tillingham.
Condition **w1g6 – Line of trees** North: Moderate. Lack of native tree species the only limiting factor for condition of this treeline. There are no gaps in the tree canopy; the mature trees have veteran features which provide niches for wildlife; and the habitat is surrounded by natural vegetation. West: Poor. Fails due to lack of native tree species, gaps in canopy cover, and tree age meaning an absence of veteran features or other niches for wildlife to exploit. South-east: Moderate. Fails due to lack of native tree species and gaps in canopy cover. Riverside: Poor. Fails due to lack of native tree species, gaps in canopy cover and the presence of hardstanding within 6m of the habitat feature. All four habitat features are limited in their condition by the low representation of native tree species (weeping willow is assigned non-native status for the purposes of this assessment, following guidance in Defra (2007)).

Urban
UKHabs habitat types present (secondary codes in brackets) **u1b – Developed land; sealed surface**
Description **u1b – Developed land; sealed surface** A tarmac path runs through part of the site, along the west bank of the River Tillingham. There is also a small area of tarmac in the middle of the playing field, associated with a basketball hoop.
Condition **u1b – Developed land; sealed surface:** N/A - Other

1.16. References

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

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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 written by Lydia and Joe Gillis, Graduate Ecologist at MKA Ecology Ltd. Joe has a season's experience as an ecologist. 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:

- Amenity grassland was categorised separately as 'g4a', a level 4 code of 'g4 - modified grassland'.
- 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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