



Preliminary Ecological Appraisal

Land south-east of Broadhoath wood

Clients Name: S. Woods

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1 Executive Summary

ECOassistance were commissioned to carry out a Preliminary Ecological Habitat Appraisal on land south-east Of Broadhoath Wood in Sevenoaks. The survey findings will be used to inform a planning application for the installation of an equine sand school. The purpose of the survey and report is to describe the habitat types that are present, their potential to harbour protected species and how these may be affected by the proposed works.

The report also informs the client if further survey effort is required to comply with obligations under current legislation relative to the proposed outline of works. A brief summary of the survey findings are provided below:

- The habitat to be lost is of low conservation value and the development provides opportunity to install a valuable wildlife corridor between fragmented habitats resulting in a net gain for biodiversity at the site.
- The site is near to Ancient Woodland and any direct or indirect impact on this priority habitat must be mitigated. A detailed description of the expected impacts and how to mitigate these is provided in: Conclusion & Recommendations. The measures will also mitigate against harm to protected species which have been identified as potentially present in the surrounding area.
- The site lies within a Site of Special Scientific Interest impact risk zone.

Disclaimer

This preliminary ecological appraisal report considers the instructions and requirements of the client and is not intended for and should not be relied upon by a third party.

The results contained within this report should not be used for decision-making purposes outside of twenty-four months from the date of issue although the data may not describe the site adequately if there are significant changes in land use or land management inside twenty-four months.

Interpretations and recommendations contained in this report represent the author's professional opinion. They are based on currently accepted industry practices and personal experience.

This is a working document and must be updated if development proposals change, or new information become available.

2 Introduction

ECOassistance were instructed by Sue Woods (the client) to undertake a Preliminary Ecological Habitat Appraisal (PEA) in relation to a planning application for installation of a sand school on land south-east Of Broadhoath Wood, Rooks Hill, Underriver, Kent (Hereafter: the site). The grid reference for the approximate centre of the site is: TQ 57042 53627

The potential for protected species and habitats on or near a development site must be considered by local planning authorities prior to granting planning approval. More information on the legislation protecting different species and habitats is shown in Appendix 1: Review of Protected Species UK Legislation and Policy.

This report discusses the survey findings and makes recommendations on what further courses of action should be undertaken.

2.1 The site

Figure 1: Indication of the site boundary showing surrounding woodland



The site is located within a rural setting approximately 3.5km east of Sevenoaks. The site is surrounded by mosaics of woodland and agricultural farmland.

3 Methodology

3.1 Desk Search

A desk study using freely available resources was conducted to identify and locate waterbodies within 250m of the site boundaries, to search for records of protected species in the area within 2km of the site and local statutory land-based designations within 2km of the site. Any noteworthy records outside of these distances may also be included if relevant to the conclusions of the survey. All measurements represent the distance between an object and the nearest point on the red line boundary.

4 Site survey

The survey was conducted by ecologist Edward Clark. Edward has more than 20 years professional and voluntary ecological survey experience and holds various Natural England and NPTC survey licences.

The site visit took place on 26/11/20 and lasted approximately 1.5 hours. The survey largely followed the technical guidelines set out by Chartered Institute of Ecology and Environmental Management (CIEEM) and Joint Nature Conservation Committee (JNCC). It involved carrying out a visual inspection of the areas included within the red line boundary shown in Figure 1 above and the areas surrounding it. The habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including priority species.

The survey equipment included binoculars, high powered clulite torches, an android tablet device for making notes and taking photos, survey mirrors, a magnification lens and survey sample tubes, a telescopic survey ladder and a 'Flir One pro' thermal imaging device and endoscope.

The need for further protected species surveys has been determined based on the suitability of the habitats on the proposed site to support protected species and expected impact from development with records of protected species shown to be present in the locality taken into consideration.

A bat scoping survey including internal search of the structure was undertaken:

- Structures and trees were given a rating for bat roost potential (BRP); this rating informs what further bat survey effort is required. The rating is based on a combination of factors including the quality of the potential roosting features (PRF) that are present, the value of the surrounding features connecting the site with the wider area and the habitat therein as well as the numbers of bats and species known in the area.

Descriptions are given of all potential habitat and species on the site only. Protected species that are likely to be absent are not referred to in this report unless relevant to the conclusions of the survey.

5 Constraints and Limitations

The desk study is not comprehensive as species and habitat types especially ephemeral or migratory species may be present but under recorded or missed entirely. A data search from the Local Ecological Records Centre (LERC) was not commissioned.

The purpose of this report is to identify suitable habitat for protected species. Where species were encountered they have been recorded but further targeted surveys may need to be carried out to determine species are present and in what capacity should a licence be required. If protected species are not mentioned in this report it is because suitable habitat for that species was not found to be present.

6 Results

6.1 Desk search

6.1.1 Waterbodies

There are no waterbodies within 250m of the site. The nearest waterbody is c.491m south west of the site.

6.1.2 Designated sites

- The site lies within a SSSI Impact risk zone.

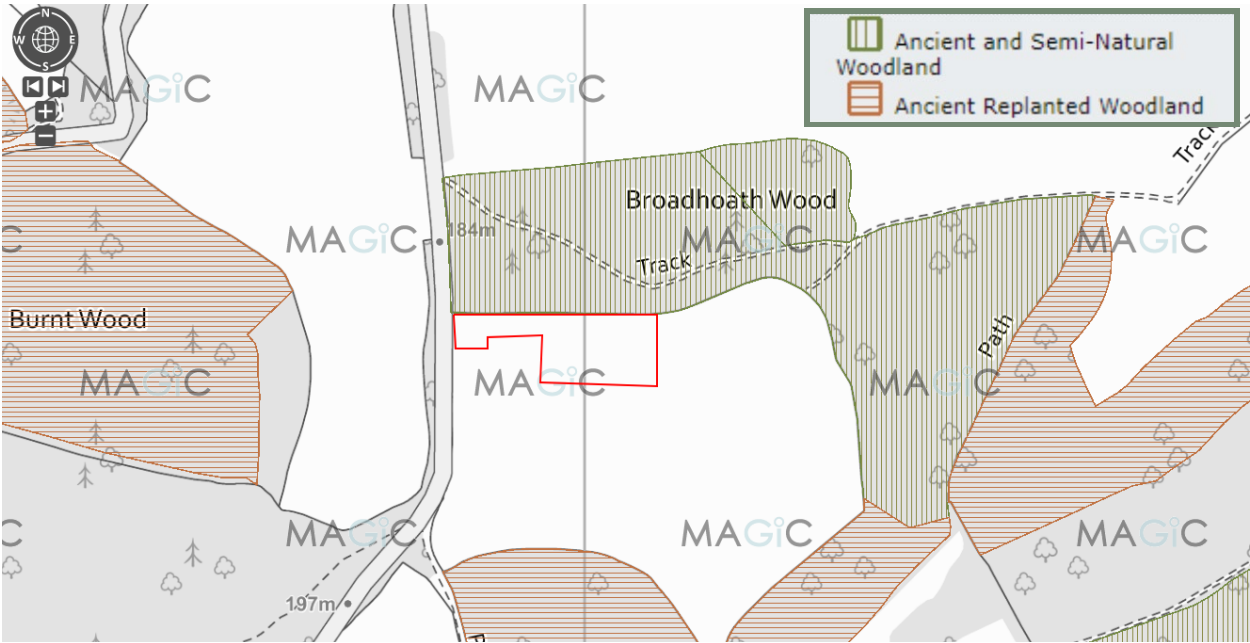
The site is within the SSSI impact risk zone for: One Tree Hill and Bitchet Common SSSI which is indicated in green in Figure 2 below. At its nearest point the SSSI is situated c.103m to the south west.

Figure 2: Magic map showing the site in relation to One Tree Hill and Bitchet Common SSSI



The site is immediately adjacent and to the south of the Broadhoath wood Ancient & Semi Natural Woodland (ASNW). The proximity of the proposed site location to the ASNW is indicated in Figure 2 below.

Figure 3: The site in relation to ASNW and Ancient replanted woodland



6.1.3 Protected species

The records of protected species are shown in Table 1 below.

Table 1: Desktop search results table for protected species records

Protected species records for Messens Stables			
Species common name	Species scientific name	No. of records within 1 km	No. of records within 2 km
Serotine	Eptesicus serotinus	0	6
Great crested newt	Tritus cristatus	0	3
Hedgehog	Erinaceus europaeus	0	2
Badger	Meles meles	1	5
Soprano Pipistrelle	Pipistrellus pygmaeus	0	1
Common pipistrelle	Pipistrellus pipistrellus	0	16
Brown long eared bat	Plecotus auritus	0	4
Hazel dormouse	Muscardinus avelanarius	100	111
Slow worm	Anguis fragilis	0	3
European Protected Species Licence applications/returns			
Species	Grid reference	Location relative to the site	
-	-	-	

6.2 Site Survey

The site is dominated by improved grassland which is grazed by horses and goats. The site is adjacent to woodland with a large patch of woodland coppice. It is located at the northern edge of a well-defined parcel of improved grassland which is surrounded on three sides by further woodland and on the fourth side by a mature mixed broadleaf hedgerow which separates the grassland from the road. The site access is via a double field-gate in the north eastern corner from Rooks Hill road.

The only structure near to the site is a timber stables/agricultural building which has a modern corrugated bitumen sheet roof with corrugated transparent plastic skylights. The structure is without windows and doors and is therefore open and drafty.

Figure 4: The site viewed from the south-east



6.2.1 Bats

The structure immediately south of the site has low potential for roosting bats between the bitumen roof covering and the timber sarking/boarding beneath. An internal inspection of the structure found no evidence of use by bats.

The woodland habitat and linear hedgerow which surround all sides of the site provide good foraging and commuting corridors for many species of bat. The faeces of the grazing animals on the site and immediately outside, as well as the agricultural pasture in the wider surrounding area will promote invertebrate species which are predated upon by bats.

The veteran trees visible from the edge of the grassland parcel have obvious potential for bats with suitable PRF easily visible.

6.2.2 Birds

There is negligible potential for nesting birds within the site or in the wider grassland habitat. There is potential for nesting birds in the surrounding trees and hedgerows.

6.2.3 Dormouse

There is negligible potential for dormouse *Muscardinus avellanarius* within the site. The mixed broadleaf hedgerow and surrounding woodland provide good potential habitat for dormouse.

6.2.4 Reptiles

As a result of grazing there is an absence of suitable features which might offer shelter and potential hibernation sites for reptiles within the grassland parcel including log piles, artificial refugia, compost heaps or tussocky grass.

7 Conclusion and Recommendations

- Mitigation to ensure there is no direct or indirect impact on the surrounding ASNW is required and these are detailed below.
- The habitat to be lost is of low conservation value but the development provides an opportunity to install a valuable wildlife corridor between fragmented habitats.

7.1 Habitats

The site is entirely made up of improved grassland which is considered to be of low ecological value. Simple enhancements to the wider grassland area will ensure that the development provides a net gain in local biodiversity of the grassland which is to be lost to the proposed sand school and parking/turning area.

The trees and hedgerows immediately outside of the site and in the wider area have the potential to be used by multiple protected species. These must not be impacted in any way by the development including by lighting during and post construction.

7.1.1 Ancient woodland

ASNW is a protected habitat and recognised as a key conservation priority. The site as proposed will be immediately adjacent to a mixture of coppiced plantation and ASNW (to the north of the site); and more than 100m distance from ASNW which surrounds the grassland area to the south and east of the site.

Development in the vicinity of ancient woods may cause direct disturbance as a result of increased:

- vibration

- noise
- light pollution
- external activity visible from within the wood
- litter and wind-blown litter accumulations
- tree surgery along the woodland edge for health and safety reasons
- likelihood of unmanaged public access, leading to: trampling of vegetation and soil

There is also potential for indirect impact if animal predators are drawn toward the site as a result of increases in food litter ie. if food is regularly discarded from picnics or packed lunches larger species of bird could be attracted to the area which would negatively affect the ecology within the woodland for smaller species.

It is recommended that a number of measures be taken to ensure the possible impacts as outlined do not occur. Table 2 below gives recommendations to mitigate negative impacts.

Table 2: mitigation of disturbance for neighbouring ASNW

Impact	Recommended mitigation	
	ASNW immediately adjacent (north)	ASNW in wider area
Vibration	Move siting of sand school to provide at least a 30m buffer from woodland edge	ASNW is >100m distant therefore mitigation is not required
Noise	No loud speakers/hailers/alarms/sirens to be used on site	No loud speakers/hailers/alarms/sirens to be used on site
Light pollution	No light spill to be permitted into any woodland habitat or hedgerows	No light spill to be permitted into any woodland habitat or hedgerows
External activity visible from within the wood	Move siting of sand school to provide at least c.30m from woodland edge/Plant barrier hedgerow between sand school and ASNW	ASNW is >100m distant therefore mitigation is not required
Litter and wind-blown litter accumulations	Employ a strict no litter policy for all riders/students. Encourage eating inside stable block. Encourage eating inside stable block and provide litter bins.	Employ a strict no litter policy for all riders/students. Encourage eating inside stable block and provide litter bins.
Tree surgery along the woodland edge for health and safety reasons	Adjust perimeter fence or newly planted hedgerow to exclude areas beneath overhanging branches	Students/riders not to be permitted beyond the sand school into wider area.
Likelihood of unmanaged public access, leading to: trampling of vegetation and soil	Retain perimeter fence already in situ to prevent access. Students/riders not to be permitted beyond the sand school into wider area.	Retain perimeter fence already in situ to prevent access. Students/riders not to be permitted beyond the sand school into wider area.
Increase of larger predators due to litter/discarded food remnants	Encourage eating inside stable block. Encourage eating inside stable block and provide litter bins.	Encourage eating inside stable block. Encourage eating inside stable block and provide litter bins.

7.1.2 Further considerations: ASNW and habitat enhancement to provide 'net gain'

The coppiced plantation observed during the site survey is recorded in the Ancient Woodland Inventories (AWIs). As such it is considered to be plantation on ancient woodland sites (PAWS). There may be some opportunity for restoration of the PAWS in the future but as it is not under the ownership of the client unfortunately this cannot form part of the measures to achieve net gain for this development proposal.

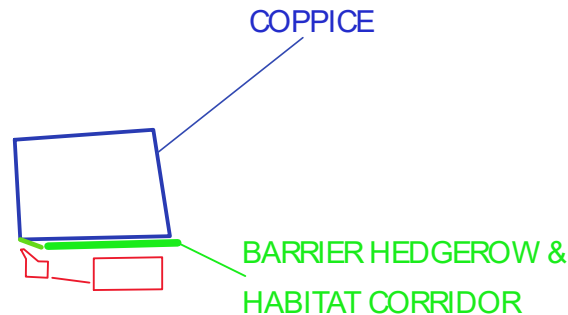
The planning application provides an opportunity to install habitat connectivity between the ASNW north-east of the site and hedgerows which run adjacent to the Rooks Hill road; currently the habitat is fragmented by the lack of cover provided by the coppiced PAWS. A planted hedgerow of locally sourced native species to run alongside the northern boundary will not only provide a barrier to disturbance of the ASNW but also connect it with the hedgerows along the Rooks Hill road.

- The species should match those in the hedgerows and woodland surrounding the site and must not interfere with existing root systems.

Planting a hedgerow will also 'future proof' the development should the PAWS ever be restored to ASNW.

The condition and size of the coppiced area and recommended barrier hedgerow feature are shown in figure 5 below.

Figure 5: Indication of coppiced PAWS and suggested barrier hedgerow position



7.1.3 SSSI impact risk zone

As the site lies within a SSSI impact risk zone the council should consult Natural England on potential harm to the **One Tree Hill and Bitchet Common SSSI** from potential increases in dust or air pollution as the development is likely to result in an increase in traffic to the site. The site is believed to fall under the following description taken from DEFRA's *magic* website:

Rural non-residential - Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores).

7.2 Bats

The site itself has negligible potential for roosting bats but some of the veteran trees near the edges of the woodland surrounding the site have high roost potential. The site and the surrounding areas are considered to provide good opportunities for foraging and commuting. The relatively low number of recorded sightings of bats within 2km is likely a result of being under recorded rather than absent due to the and therefore any indirect impact from lighting both during and post construction will need to be mitigated. This is in line with the mitigation recommended for development near ASNW.

7.3 Dormouse

The desktop survey data suggests that there is a good likelihood of dormouse being present within the woodland and hedgerow surrounding the site. The hedgerows and woodland must not be impacted during the proposed scope of works and this is in line with the mitigation recommended for development near ASNW.

7.4 Further enhancements

This site can be improved by:

1. Installing a barrier such as an equine electric fence to stop grazing at the edge of the woodland habitats to provide rank swards and a gradation of habitat types.
2. Increasing species diversity in the grassland areas outside of the barrier with wildflower seed mixes.

8 References

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Bat Conservation Trust (2016). Bat Surveys - Good Practice Guidelines. Bat Conservation Trust, London. IEEM (2006). The dormouse conservation handbook. 2nd Edition. English Nature, Peterborough

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Bat Workers Manual, JNCC, Peterborough. Joint Nature Conservation Committee (2016). Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.

Impacts of nearby development on the ecology of ancient woodland. Corney, P.M.1 , Smithers, R.J. 2, Kirby, J.S. 1 , Peterken, G.F. 3, Le Duc, M.G. 4 & Marrs, R.H.(2008)

National Planning Policy Framework. H.M.S.O., London. Rose, F (2006)

SSSI Impact Risk Zones <https://naturalengland-defra.opendata.arcgis.com/datasets/sssi-impact-risk-zones-england?geometry=0.181%2C51.316%2C0.208%2C51.321>

<https://magic.defra.gov.uk/MagicMap.aspx>

<https://records.nbnatlas.org/>

<https://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx>

<http://www.geosyn.co.uk/wp-content/uploads/2015/08/Case-Study-Cellweb-TRP-Calke-Abbey-Ancient-Tree-Protection-61-1.pdf>

<https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

Appendix 1: Review of Protected Species UK Legislation and Policy

The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.

The legal protection afforded to protected species overrides all planning decisions. European Protected Species (EPS) - and the Conservation of Habitats and Species Regulations 2010 (as amended)

European Protected Species (EPS) are afforded the highest level of protection through the Conservation of Habitats and Species Regulations 2017. EPS are also afforded legal protection by parts of the Wildlife and Countryside Act 1981 (as amended).

In general, any person and/or activity that:

- Damages or destroys a breeding or resting place of an EPS. (This is sometimes referred to as the strict liability or absolute offence);

Deliberately captures, injures or kills an EPS (including their eggs);

Deliberately disturbs an EPS, and in particular disturbance likely to impair animals' ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance; intentionally or recklessly disturbs an EPS while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 1981)1 (as amended); and

Intentionally or recklessly obstructs access to any structure or place that an EPS uses for shelter or protection (Wildlife and Countryside Act 1981) (as amended). may be guilty of an offence.

The legislation applies to the egg, larval and adult life stages of great crested newts and to bat roosts even when they are not occupied.

Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.

There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017. However, these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.

The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to an EPS. These defences are unlikely to apply to construction related projects and do not apply to those acts included in the Conservation of Habitats and Species Regulations 2010 (as amended). The Schedules of the Act provide further details of defences.

Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. The majority of EPS are listed on Section 41 the NERC Act.

The Natural Environment and Rural Communities Act 2006 (as amended)

Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions. S41 lists 56 habitats and 943 species of principal importance. Section 42 of the NERC Act relates to Wales.

Wildlife and Countryside Act 1981 (as amended)

The level of protection afforded to species listed on the Wildlife and Countryside Act 1981 (as amended) varies considerably.

'Fully protected species', such as water vole, are afforded the highest level of protection. Any person who intentionally kills, injures, or takes 'fully protected species', or who intentionally or recklessly damages or destroys a structure or place used for shelter and/or protection, disturbs the animal whilst occupying a structure and/or place used for shelter and protection, or obstructs access to any structure and/or place used for shelter or protection is likely to have committed an offence.

Other species, such as common reptiles, are afforded less protection and for these species it may only be an offence to intentionally or recklessly kill or injure animals.

All active bird nests, eggs and young are protected from intentional destruction. Schedule 1 listed birds are also protected from intentional and reckless disturbance whilst breeding.

Schedule 9 of The Wildlife and Countryside Act lists plant species for which it is an offence for a person to plant, or otherwise cause to grow in the wild. Schedule 9 also lists animals for which it is an offence to release into the wild.

The National Planning Policy Framework

Planning policy requires new developments to take into consideration our local and national wildlife. With the objective to maintain or increase the viability of the site for wildlife. The existing proposals are considered to determine whether Habitat enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional, county and borough policies are considered.

The National Planning Policy Framework states that the planning system should contribute to and enhance the natural and local environment by minimizing impacts on biodiversity and delivering net gains in biodiversity where possible.

Ecological habitat enhancements measures need to be over and above any mitigation measures.

Appendix 3: Table of recommended native plant species to promote biodiversity within the hedgerow (if found locally)

Cherry pie <i>Heliotropium arborescens</i>	Evening primrose <i>Oenothera biennis</i>
Honeysuckle <i>Lonicera periclymenum</i>	Night-scented catchfly <i>Silene noctiflora</i>
Night-scented stock <i>Matthiola bicornis</i>	Nottingham catchfly <i>Silene nutans</i>
Soapwort <i>Saponaria officinalis</i>	Sweet rocket <i>Hesperis matronalis</i>
Tobacco plant <i>Nicotiana glauca</i>	White jasmine <i>Jasminum officinale</i>

Appendix 4: Site Photos





