Sevenoaks Greensand Commons Project

Hosey Common

Ecological Scoping & Outline Nature Conservation Management Plan

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1 INTRODUCTION

1.1 Background

Sevenoaks District Council, working in conjunction with Kent Wildlife Trust, has secured funding from the Heritage Lottery Fund to enhance the natural heritage of eight Commons occurring within Sevenoaks District.

The Commons, which include - Hosey Common, Farley Common, Crockhamhill Common, Bitchet Common, Fawke Common, Seal Chart & Redhill Woods, Sevenoaks Common, and a small Common in Weald village in Sevenoaks – cover an area of nearly 300ha of varied habitats ranging from high forest to coppiced woodland and rare wooded heath. The Commons are connected to the long distance Greensand Way path which runs along the ridge and joins the National Trust properties of Chartwell, Knole and Ightham Mote. An overview map showing the location of each of the Commons is included at Figure 1.

For the purposes of this project the eight Commons are collectively known as the Sevenoaks Greensand Commons. They are some of the most beautiful wild places in the south east, but have become overgrown and undervalued.

The aim of the project is to turn the tide and reignite a sense of value and interest in the natural heritage of the Commons by recruiting and training volunteers and implementing an exciting programme of practical restoration, public participation in scientific research and heritage learning activities. It will see the landowners and stakeholders coming together to engage local people and support a shared effort to restore, protect and manage these Commons. It will also develop Friends of the Commons groups, as well as building the skills and capacity of local people to protect, manage and promote the heritage of the Commons for present and future generations.

Under-pinning this work is the provision of a series of ecological scoping and outline nature conservation management reports which will identify and evaluate the existing biodiversity features (habitats and species) known to occur on the Commons, and make outline recommendations for nature conservation management aimed at maintaining and enhancing the existing biodiversity interest of each Common.

Hosey Common is owned by the Squerryes Estate and managed by Sevenoaks District Council.

This report presents the findings of the desktop study and site walkover of Hosey Common.

1.2 Survey Location / Area

Hosey Common lies approximately one kilometre to the southeast of Westerham at central OS grid reference TQ454526.

Hosey Common extends to approximately 64.16ha and is almost entirely bounded by a mix of broadleaved semi-natural and replanted woodland - much of which is included on the

ancient woodland inventory[1]. Small pockets of grassland are present along the north east and south western boundaries. Several roads cut through the Common, effectively dividing it into five separate areas.

A map and aerial photographic extract showing the general location and boundaries of the Common are included at Figures 2 and 3.

1.3 Limitations and Constraints

The timing for the delivery of this HLF project has imposed several limitations on this element of the work in terms of seasonality and time.

The site survey was undertaken at a sub-optimal time of year when many plant species that may occur on the Common will not be visible. Time constraints also meant that it was only possible to make a single site visit to each part of the Common. The combined effect will have impacted the detailed recording of the site and limited the overall number of species recorded. However, it is unlikely to have impacted the identification / evaluation of important habitats or their potential to support protected species.

It should also be noted that the findings of this report represent the professional opinion of a qualified ecologist and do not constitute professional legal advice.

[1] See map at http://www.magic.gov.uk/MagicMap.aspx?chosenLayers=ancwoodIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=541432:150492:548116:155350&useDefaultbackgroundMapping=false Ancient woodland in England is defined as an area that has been wooded continuously since at least 1600 AD. Woodlands classed as ancient are irreplaceable, with ancient woodland being considered important for its wildlife, soils, recreation, cultural value, history and contribution to landscapes.

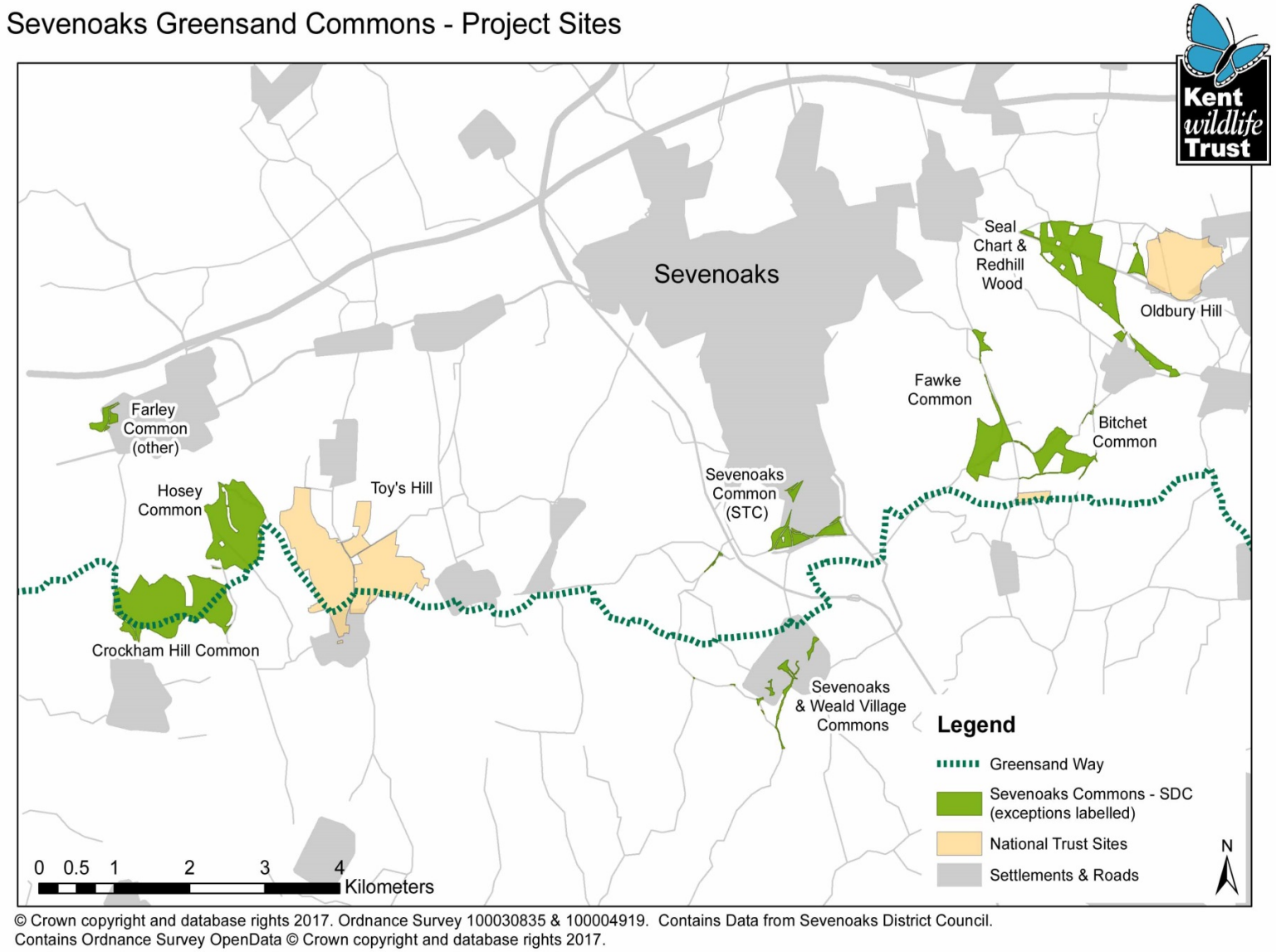

Figure 1: Sevenoaks Greensand Commons. Overview Map

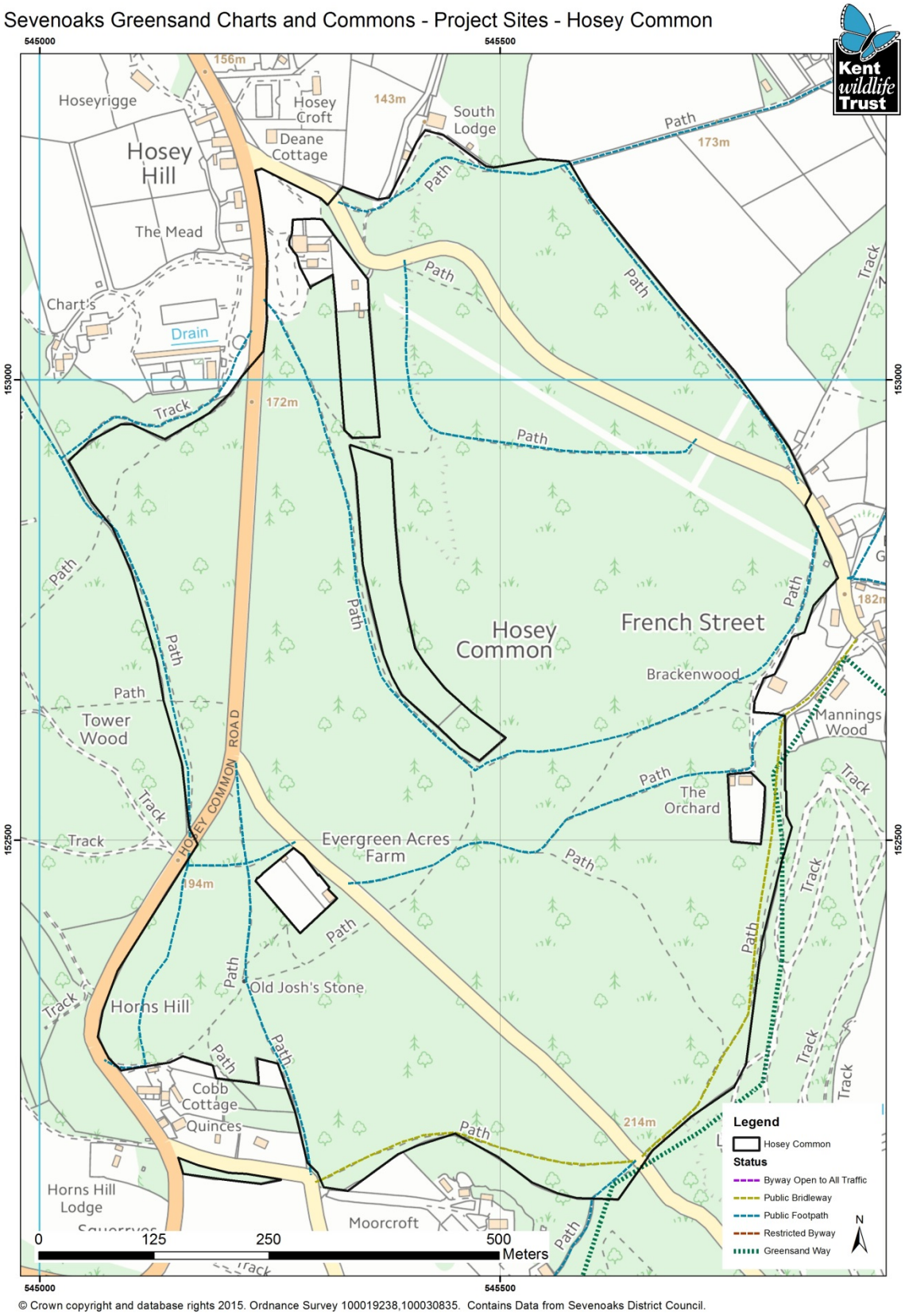

Figure 2: Hosey Common. Site Location and Boundary Map

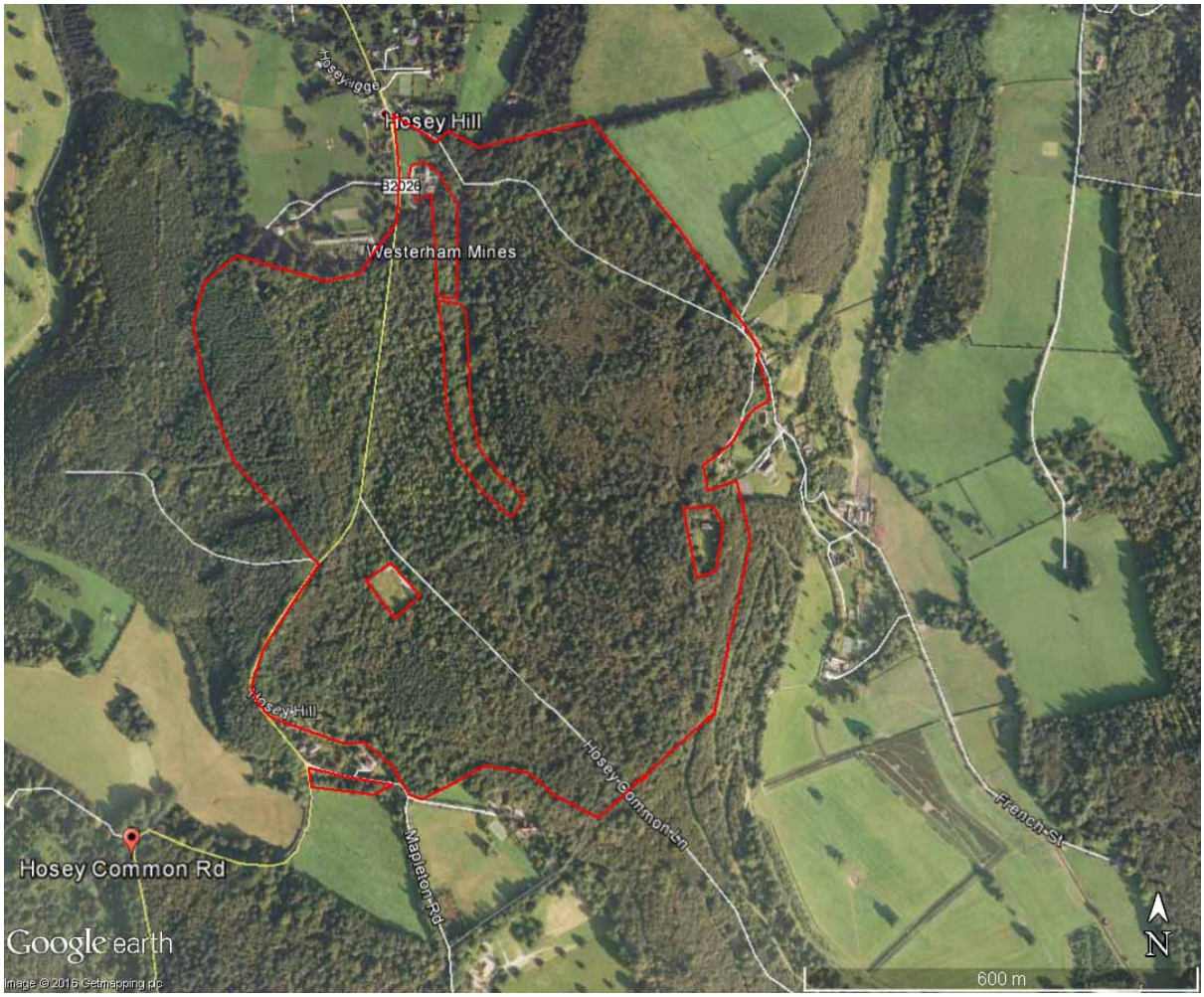

Figure 3: Hosey Common. Google Earth Aerial photographic extract (image date 6 June 2013) showing the boundary of the Common (outlined in red). *All boundaries are indicative only. Do not scale*

2 METHODOLOGY

2.1 Desktop Study

A number of sources were consulted for records of statutory and non-statutory wildlife designations, notable habitats and protected / notable species. These comprised:

- Kent and Medway Biological Records Centre [2] (KMBRC)
- Kent Reptile and Amphibian Group [3] (KRAG)
- Kent Wildlife Trust (KWT)

KMBRC was asked to carry out a database search of the Westerham cluster of Commons, which included Hosey Common[4]. They were asked to provide information relating to the following:

- Statutory and non-statutory designated nature conservation sites
- Identification, distribution and extent of habitats[5]
- Protected Species Inventory
- Conservation Concern Species Inventory (NERC Section 41 & BAP Priority)
- Invasive Non-native Species Inventory
- Kent Rare & Scarce Species Inventory
- Bat records from Kent Bat Group (including map of nearby roost locations)
- Bird records from Kent Ornithological Society, including an indication of breeding
- Habitat data from the Kent Integrated Habitat Survey 2012[6]
- BAP habitat data from the Kent Integrated Habitat Survey 2012

KRAG was asked to provide information relating to the following:

- Inventory of reptiles and amphibians
- Inventory of ponds

KWT carried out a search of its Local Wildlife Sites site files for any relevant habitat, species or management information relating to Hosey Common.

In addition, KWT also utilised open source data, such as that provided by the British Geological Society[7], for information relating to geology and the Soilscapes website[8] for information relating to soils.

2.2 Site Visit

Hosey Common was visited on 22nd March, 23rd March, 24th March 2017 by Neil Coombs CEnv MCIEEM, Land Management Advisor for Kent Wildlife Trust.

[2] www.kmbrc.org.uk
[3] http://www.kentarg.org/
[4] Other Commons included within the Westerham Cluster are Farley Common and Crockhamhill Common
[5] Identification of habitats are based on the results of the Arch Habitat Survey of Kent – available to view at http://www.archnature.eu/mapping-tools.html
[6] http://www.archnature.eu/mapping-tools.html
[7] http://mapapps.bgs.ac.uk/geologyofbritain/home.html
[8] http://www.landis.org.uk/soilscapes/

Weather conditions at the time of the site visits were as follows:
22nd March: Cold, heavy rain showers
23rd March: Cloudy, cold, light winds
24th March: Sunny

The walkover survey comprised four elements: a Phase 1 Habitat Survey; a preliminary Woodland Condition Assessment; a preliminary veteran tree check; and a preliminary check for access issues.

2.2.1 Preliminary Phase 1 Habitat Survey

The habitat survey was undertaken in general accordance with Phase 1 Habitat Survey methodology, which provides a standardised system for classifying and mapping wildlife habitats (JNCC, 2010). The survey involved mapping vegetation types onto aerial photographs[9], in terms of some ninety specified habitat types, using standard colour codes. Further information is gained from the use of descriptive 'target notes', which give a brief account of particular areas of interest.

2.2.2 Preliminary Woodland Condition Survey

The methodology used for the preliminary woodland condition survey was adapted from the Common Standards Monitoring Guidance for Woodlands[10] (JNCC, 2004), and the Condition Assessment Monitoring Form for Woodlands[11] (Essex Wildlife Trust). It targeted the woodland areas only and provided basic information relating to:

- Woodland type (i.e. native / secondary / scrub / PAWS / broadleaved / conifer)
- Main species composition and main compartments
- Stand type i.e. coppicing, maiden, plantation
- Age class
- Evidence of historic features i.e. wood banks (limited to what is noted during walkover only)
- Evidence of existing management
- General Condition Assessment i.e. under active management, neglected, unmanaged.

2.2.3 Preliminary Veteran Tree Check

The aim of the preliminary veteran tree check was to:

- Establish presence / absence of veteran trees on site.
- Provide general location data for trees e.g. 'veteran trees are mainly concentrated in the southern end', or 'scattered throughout the site'
- Provide general information about main species noted i.e. oak, hornbeam, ash, etc.

[9] Using the Phase 1 Habitat Survey Toolkit https://www.brookes.ac.uk/bms/services/ceec/phase-one-habitat-survey-toolkit/about/
[10] Document available to download from http://jncc.defra.gov.uk/pdf/CSM_woodland.pdf
[11] Form available to download from http://www.essexwtrecords.org.uk/sites/default/files/surveyfiles/EWT%20woodland%20condition%20assessment%20form%20amended%2014%2003%2012.pdf

2.2.4 Preliminary Identification of Access Issues

The preliminary identification of potential access issues was based on what is evident during the site walkover. It included noting the presence of formal / informal paths, existing car parks, apparent use of site i.e. Dog walkers, families, recreation, evidence of fly-tipping or unauthorised vehicular use.

A series of photographs taken during the site visit are included at Appendix A.

3 RESULTS

3.1 Designated Nature Conservation Sites

The northern part of Hosey Common has been designated as a Site of Special Scientific Interest (SSSI)[12] known as Westerham Mines. The citation states that, "*The principal interest of the site is the use of its abandoned ragstone mines by a variety of hibernating bats. The surrounding area is chiefly mixed secondary woodland on former heathland, with pockets of remnant heath.*" A copy of the citation is included at Appendix B.

The remaining area of Hosey Common is included within a larger Local Wildlife Site[13] (SE40: Hosey Common, Westerham). The reason for designation is that the site comprises, "*Ancient woodland with adjacent secondary woodland. 20 ancient woodland indicator plants have been recorded from the site as a whole. An area of acid grassland exists at the north of the site which contains a range of indicator plant species. The woodland is part of a large block of woodland / heathland extending along the greensand ridge well to the east of Sevenoaks and, with small breaks, almost to Maidstone.*" A copy of the citation is included at Appendix C.

Westerham Mines is a Kent Wildlife Trust Reserve for bats and is monitored by bat workers from Kent Bat Group.

3.2 Geology and Soils

The British Geological Survey website[14] describes the bedrock geology as, "Hythe Formation - Sandstone And [subequal/subordinate] Limestone, Interbedded. Sedimentary Bedrock formed approximately 112 to 125 million years ago in the Cretaceous Period." The superficial geology is described as, "Head - Clay, Silt, Sand And Gravel. Superficial Deposits formed up to 3 million years ago in the Quaternary Period."

The Soilscapes website[15] has identified that the soils on Hosey Common as being 'Freely draining slightly acid loamy soils' [16].

Geology and soil maps are available to view on the British Geological Survey and Soilscapes websites. Owing to copyright restrictions it is not possible to include map extracts within this report.

The northern part of Hosey Common has been designated as a Regionally Important Geological Site (RIGS)[17], known as SE1: Hosey Common Quarry Tunnels. The general

[12] SSSIs are the country's very best wildlife and geological sites. They hold some of our rarest and most threatened wildlife and geology. SSSIs are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006.
[13] Local Wildlife Sites are considered to be of county wildlife importance. They can contain important, distinctive and threatened habitats and species. Further information is available at http://www.wildlifetrusts.org/localwildlifesites
[14] http://mapapps.bgs.ac.uk/geologyofbritain/home.html
[15] http://www.landis.org.uk/soilscapes/#
[16] Soilscape 6
[17] RIGS are analogous to non-statutory wildlife designations. They are selected on a local or regional basis using four nationally agreed criteria: The value of the site for educational purposes in life-long learning; The value of the site for study by both professional and amateur Earth scientists; The historical value of the site in terms of important advances in Earth science knowledge, events or human exploitation; The aesthetic value of a site in the landscape, particularly in relation to promoting public awareness and appreciation of Earth sciences. http://naturenet.net/status/rigs.htm

description says that, "*The site lies along the eastern side of a dry valley on Hosey Common and consists of several tunnel entrances to the underground quarry workings… The mines consist of parallel tunnels up to 70m long, 1.8m high and about 3m wide. They provide excellent sections through the rag and hassock facies of the Lower Cretaceous Hythe Formation.*" A copy of the citation is included at Appendix D.

3.3 Habitats

The 2012 Kent Habitat Survey shows the site as being dominated by two woodland types: WB1 mixed woodland[18]; and WB3 broadleaved woodland[19] , whilst the Magic website identifies Hosey Common as Wood Pasture[20].

A small area of grassland at the northern end of the Common is identified as semi-improved neutral grassland, although this same area is described as semi-improved acid grassland within the Local Wildlife Site citation. The habitat map provided by KMBRC is attached at Figure 4.

[18] WB1: 20-80% of either broadleaved or conifer in the canopy.
[19] WB3: 'Dry' woods predominantly composed of broadleaf and yew species (i.e. with >80% broadleaves and yew (Taxus baccata) in the canopy).
[20] Shown on Magic website at http://www.magic.gov.uk/MagicMap.aspx?chosenLayers=bapwoodIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=543406:151505:546748:153934&useDefaultbackgroundMapping=false

Kent & Medway Biological Records Centre

Map showing the habitats recorded by the Kent Habitat Survey 2012 at
Westerham Cluster
Anne Waite, Kent Wildlife Trust
ENQ/17/119 17/03/2017

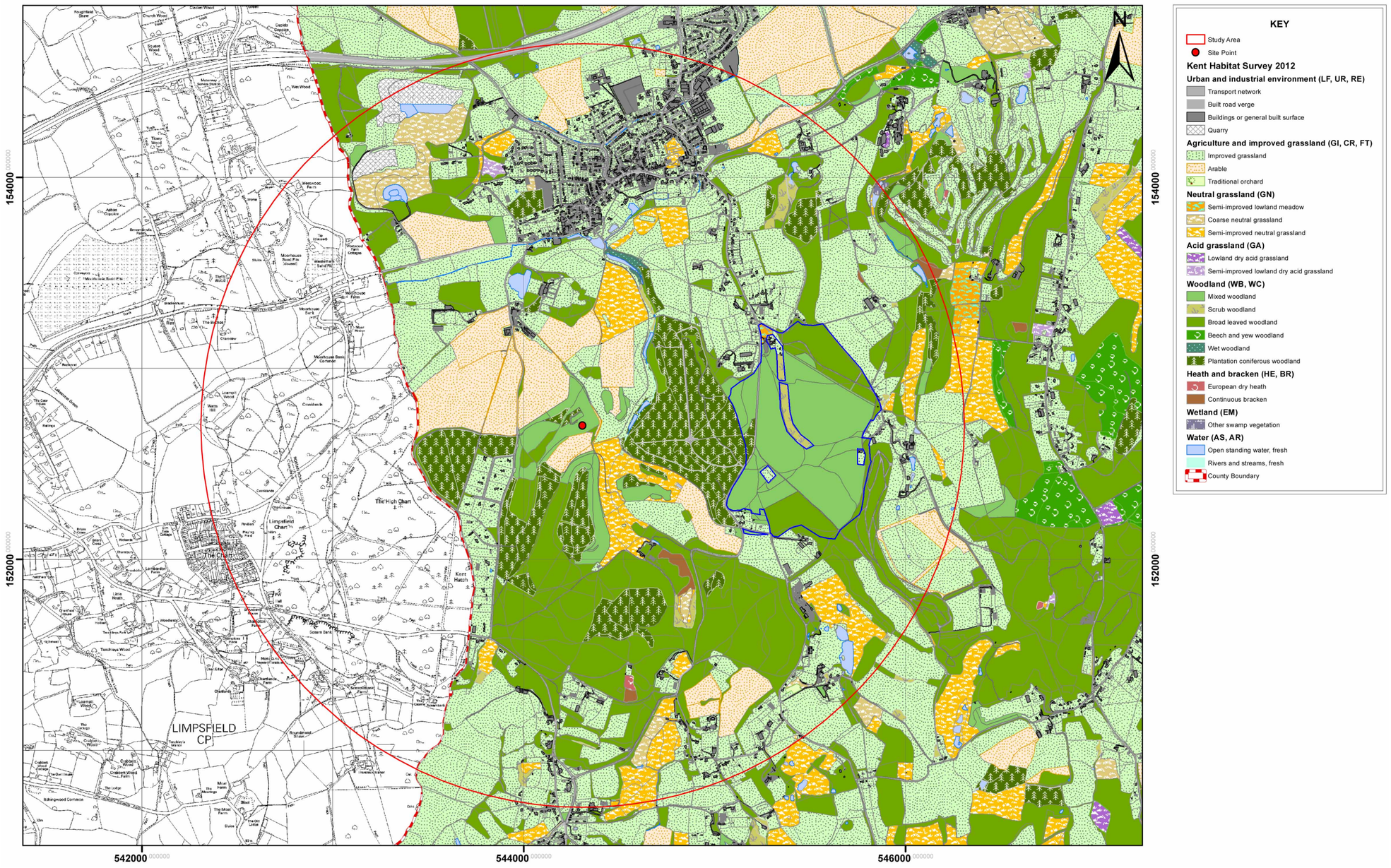

Figure 4: Hosey Common. Kent Habitat Survey, 2012. For ease of reference Hosey Common is shown outlined in blue

The 2017 Phase 1 Habitat Survey results were broadly similar, confirming that Hosey Common comprises predominantly woodland of two main types: broadleaved semi-natural woodland, with mature, unmanaged coppice-with-standards; and plantation woodland, some of which was dominated by conifers – mainly pine – while other plantation areas included a variety of both broadleaved and conifers. There was also one small area of mixed semi-natural woodland. A small area of semi-improved grassland was present at the extreme northern end of the Common.

The Phase 1 Habitat map is enclosed at Figure 5.

Target Notes 1 – 20 included at Table 1 below provide descriptions of the habitats and other features encountered during the site walkover.

Table 1: Hosey Common Target Notes

Target Note	Phase 1 Habitat Type (Area)	Description	Species recorded (Abundance (DAFOR[21])) during 2017 walkover
TN1	Broadleaved Semi-natural Woodland (5.85ha)	SSSI / RIGS. Mostly secondary woodland. Some scattered mature beech *Fagus sylvatica*. Occasional pine *Pinus* spp.. Abundant silver birch *Betula pendula*. Some holly *Ilex aquifolium* present in the understory. Very few if any mature trees present in this area. Few characteristics of wood pasture. Both standing and fallen dead wood is present. Rhododendron *Rhododendron ponticum* was observed in this compartment.	Silver birch (A); holly (F); lord's-and-ladies *Arum maculatum* (O); sycamore *Acer pseudoplatanus* (O); beech *Fagus sylvatica* (O); rhododendron; ivy *Hedera helix* (O); pine (O); raspberry *Rubus idaeus* (R).
TN2	Broadleaved Semi-natural Woodland (2.56ha)	SSSI / RIGS. Secondary woodland. Over-working of Westerham Mines. Oak *Quercus* sp., and beech as standards, mostly in good condition. Holly is dominant in the understorey. Little ground flora present during survey. Both standing and fallen dead wood is present.	Beech (F); holly (F); oak (O); pines (R).
TN3	Broadleaved Semi-natural Woodland (10.11ha)	SSSI / RIGS. Open wood pasture with few standard trees observed during the walkover. This area is dominated by secondary woodland with a significant amount of fallen trees which may well be attributable to the 1987 Storm. Much woodland regeneration, dominated by birch, with some beech, holly and hazel *Corylus avellana*. Ash *Fraxinus excelsior* is also present, some of which has windthrow with mature laterals. A large, coppiced sycamore is present. Veteran trees were recorded in this	Birch (A); horse chestnut *Aesculus hippocastanum* (O); hazel (O); hawthorn *Crataegus monogyna* (O); beech (O); bluebell (O); holly (O); primrose *Primula vulgaris* (O); oak (O); goat willow *Salix caprea* (O); yew *Taxus baccata* (O); lime *Tilia* spp. (R); sycamore; rhododendron.

[21] DAFOR = **D**ominant; **A**bundant; **F**requent; **O**ccasional; **R**are

Target Note	Phase 1 Habitat Type (Area)	Description	Species recorded (Abundance (DAFOR[21])) during 2017 walkover
		area. Bluebells *Hyacinthoides non-scripta* were present in the ground flora. Rhododendron was observed. The overall condition of this woodland block is reasonable-to-poor, with progression to unmanaged High Forest.	
TN4	Woodbank	Woodbank – probably of ancient origin – extending to approximately 360m.	
TN5	Mixed woodland – plantation (20.59ha)	LWS. Very mature pine plantation / sweet chestnut *Castanea sativa* coppice with mature oak standards, and occasional beech standards. Semi-established birch is dominant in the lower canopy, with holly dominant in the shrub layer. Beech saplings are also present. Bramble *Rubus fruticosus* agg. was present within the ground flora, with bilberry *Vaccinum myrtilis* and ferns occasional.	Silver birch (F); holly (F); pine (F); oak (F); sweet chestnut (O); bluebell (O); bramble (O); yew *Taxus baccata* (R).
TN6	Mixed woodland – plantation (9.83ha)	LWS. Beech and oak standards with some mature sweet chestnut coppice. Birch is present from saplings through to semi-established trees. Mature pine also recorded. Other species observed included sycamore, holly and elder *Sambucus nigra*. Rhododendron is dominant in this area.	Rhododendron (D); silver birch (A); sweet chestnut (O); beech (O); oak (O); pine (R).
TN7	Broadleaved Semi-natural Woodland (3.04ha)	LWS. Mixed native broadleaved woodland with variable structure including some former coppice-with-standards. Some birch regeneration. Bluebell was occasional in the ground flora. Rhododendron was present.	Sycamore (F); holly (F); Western hemlock *Tsuga heterophylla* (O); birch (O); hornbeam *Carpinus betulus* (O); sweet chestnut (O); hazel (O); bluebell (O); rhododendron (O); yew (O).
TN8	Broadleaved Semi-natural Woodland (0.10ha)	LWS. Hazel and willow *Salix* spp., with oak standards.	Hazel (F); willow (F); oak (O).
TN9	Broadleaved Semi-natural Woodland (1.07ha)	LWS. Regenerating secondary woodland. Species recorded included semi-established and established birch, sycamore seedlings, semi-mature sweet chestnut, hornbeam coppice and occasional over-mature oak and beech standards. Rhododendron was present. A historic rubbish tip dominated by broken bottles, but now substantially overgrown with brambles and other vegetation, was present within this compartment.	Birch; sycamore; sweet chestnut; rhododendron (O); oak (O).
TN10	Coniferous woodland – plantation (5.66ha)	LWS. Mature pine plantation with considerable regenerating birch. Mature oak and beech with occasional	Rhododendron (A); birch (F); pines (F); bracken (F); holly (O).

Target Note	Phase 1 Habitat Type (Area)	Description	Species recorded (Abundance (DAFOR[21])) during 2017 walkover
		yew and holly recorded in area close to wayleave. Occasional mature sycamore also noted. Veteran trees were identified within this area. Heather was observed in this area; it was generally even-aged and lacked structural diversity. Rhododendron is abundant here.	
TN11	Coniferous woodland – plantation (1.1ha)	LWS. Mature pine plantation with considerable regenerating birch. Heather was observed in this area. Rhododendron is frequent here.	Pines (A); birch (F); rhododendron (F).
TN12	Coniferous woodland – plantation (1.16ha)	LWS. Mostly western hemlock, with some mixed native broadleaved species. Veteran tree noted in this area.	Western hemlock (A); sweet chestnut (O); beech (R).
TN13	Mixed woodland – semi-natural (0.19ha)	LWS.	Western hemlock (F); sweet chestnut (F); yew (O); beech (R); oak (R).
TN14	N/A	TQ535527. Boundary woodbank to Kennedy Gardens. Pollarded sycamore	
TN15	N/A	TQ454527. Veteran beech pollard to Kennedy Gardens. boundary.	
TN16	N/A	TQ454526. Beech coppice woodbank marking boundary with Kennedy Gardens. Woodbank bounded by very mature / veteran beech coppice. Mature high pollarded oak c. 25m to south noted. Rhodrodendron is invasive in this area.	
TN17	N/A	TQ455526. Sub compartment of pine and bracken with seedling birch.	
TN18	N/A	TQ555529. Possible stream bed? Veteran beech coppice.	
TN19	N/A	TQ451528. Very mature oak.	
TN20	Semi-improved grassland (0.62ha)	Semi-improved grassland supporting approximately 8 – 10 vascular plant species per metre. The grassland appears to be managed by mowing, with the cuttings left in-situ.	Red fescue *Festuca rubra*, bent *Agrostis* sp., Yorkshire fog *Holcus lanatus*, knapweed *Centaurea* sp., sorrel *Rumex* sp., wood-rush *Luzula* sp., hogweed *Heracleum sphondylium* dandelion *Taraxacum officinale* agg., broadleaved dock *Rumex obtusifolius*, ribwort plantain *Plantago lanceolata*, geranium *Geranium* sp., yarrow *Achillea millefolium*, daisy *Bellis perennis*, clover *Trifolium* sp.

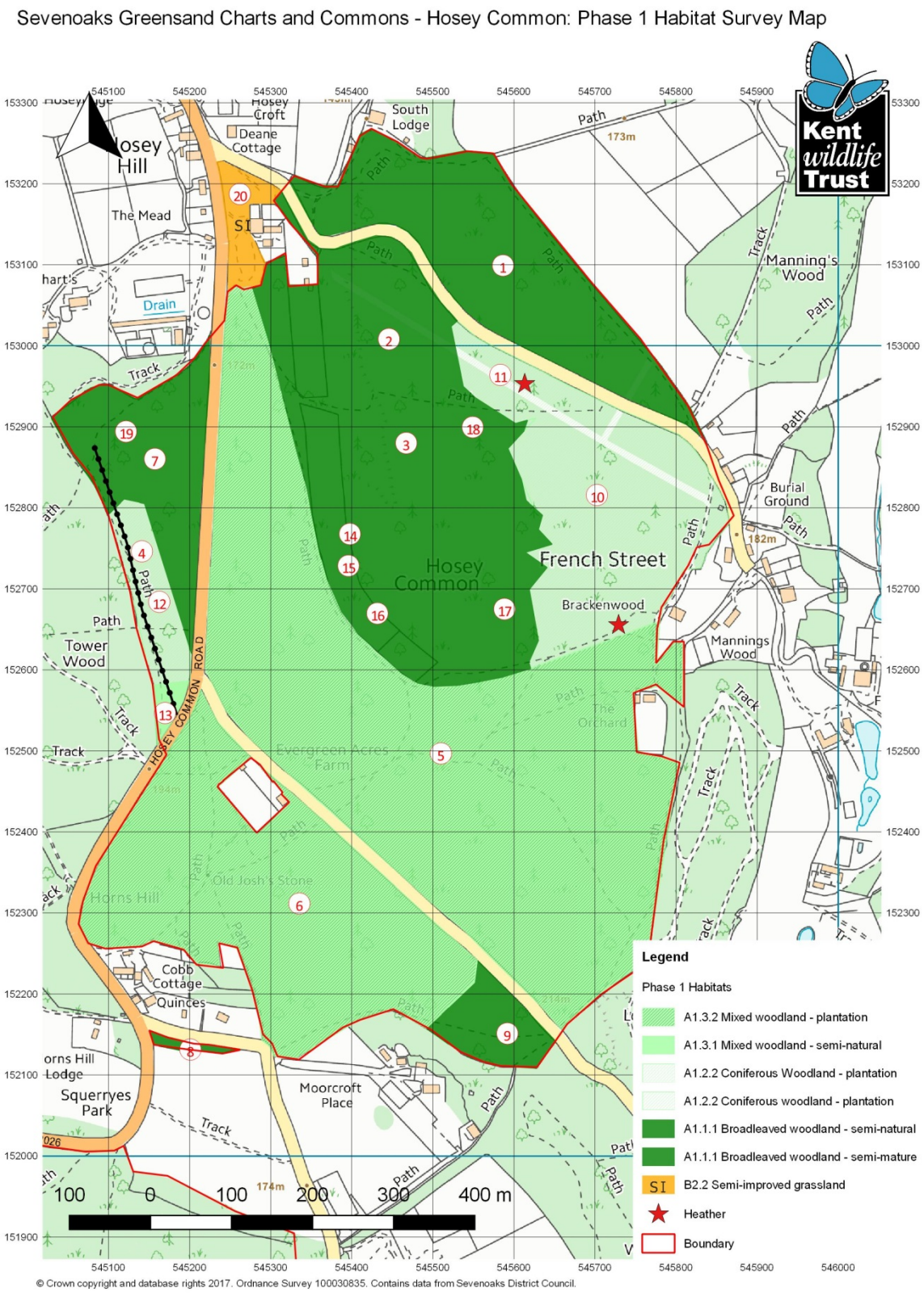

Figure 5: Hosey Common. Phase 1 Habitat Map, based on site walkover survey March 2017

3.4 Preliminary Woodland Condition Survey

A preliminary woodland condition survey was undertaken across the areas of the Common represented by Target Notes 1, 2, 3, 5, 6, 7, 9, 10/11, and 12 (Figure 5). The results are presented in Tables 2 - 10 below:

Table 2: Hosey Common Area 1 (TN1). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Broadleaved Semi-natural Woodland.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Mixed native broadleaved woodland. Possibly former wood pasture, although little evidence.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	All age classes present by mostly SET – EST between 10 – 30 years. Silver birch 45 – 55% Beech MAT 5 – 10% Holly 5 – 10% as EST to understorey Pine MAT>5% Sycamore SA >5%
Ground Flora:	Lord's-and-ladies, ivy, raspberry.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	10 – 15% Standing >5% Fallen 10 – 15%
Invasive Species:	Rhododendron.
Deer Damage:	None observed.
Historic Features:	None noted on initial survey. Furthest boundary not checked due to time constraints.
General Comments:	Mostly secondary woodland with birch species dominant. Some scattered mature beech. Occasional Scots pine. Some holly to understorey. Very few features of wood pasture. There appears to be little mixed native broadleaved tree regeneration, although there are some sycamore seedlings. There are few if any standards (such as oak and beech) establishing through the age classes.

Table 3: Hosey Common Area 2 (TN2). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Broadleaved Semi-natural Woodland.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Mixed native broadleaved woodland with occasional conifers. Possibly former wood pasture, although little evidence.
Species / Structure / Age Class: Key to abbreviations	Beech MAT / STA (50 – 70 years) Oak MAT / STA 50 – 70 years

Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Holly 50% as understorey
Ground Flora:	Very little visible at time of survey.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	20% Standing 2% Fallen 18%
Invasive Species:	None observed.
Deer Damage:	None observed.
Historic Features:	Westerham Mines.
General Comments:	Mostly secondary woodland over ancient woodland structure to Westerham Mines. Standards are oak and beech, mostly in good condition. Holly was dominant in the understorey.

Table 4: Hosey Common Area 3 (TN3). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Broadleaved Semi-natural Woodland.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Wood Pasture.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Birch from SA-to-SET 60 – 70% Beech SA 5% Hazel coppice 10% Horse chestnut MAT 1% Beech MAT / STA 5% Oak MAT / STA 5% Holly mature coppiced or multi-stemmed Hawthorn SA 1% Yew STA >1% Sycamore Over-mature Coppice < 1% Lime V <1%
Ground Flora:	Bluebells, common nettle, lesser celandine, primrose.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	Some Standing >10% Fallen 10 - 15% - mostly entire trees as windthrow, but not recent (1987 storm?)

Invasive Species:	Rhododendron.
Deer Damage:	None observed.
Historic Features:	Woodbank – see TN4 Figure 5.
General Comments:	Open woodland which may be derived from wood pasture. Two enclosures shown on OS map with one corrugated hut observed in-situ. Larger enclosure is defined by woodbank to western boundary with coppiced beech as the main trees. There is considerable regeneration of birch with little evidence of former wood pasture or heathland. Where standards are present they are of oak and beech in excess of 100 years. At least three veteran trees were noted as detailed in Chapter 3.5.

Table 5: Hosey Common Area 5 (TN5). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Mixed woodland – plantation.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Plantation.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Pine MAT / over-MAT 40% Oak standards MAT 40% Silver birch SET to lower canopy 40% Sweet chestnut coppice 10% Beech SA 5% Beech STA >5% Holly SL / US 40% Yew >5%
Ground Flora:	Bluebells, bilberry (5%), ferns (>5%), honeysuckle >5%, bramble >5%.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	None observed.
Invasive Species:	None observed.
Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	Plantation with conifers and mixed native broadleaved species.

Table 6: Hosey Common Area 6 (TN6). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Mixed Woodland – plantation.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Plantation. Some coppice woodland.
Species / Structure / Age Class: Key to abbreviations	Mixed native broadleaved mature coppice in places with sweet chestnut dominant in these stands.

Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Birch SA-to-SET 40% Pine MAT 80% in stands Oak MAT STA 5 – 10% Beech MAT STA 5 – 10% Sycamore SE 5 – 10% Elder >5% Holly >5%
Ground Flora:	None observed.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	None observed
Invasive Species:	Rhododendron.
Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	A mixed woodland compartment where, in places, mature conifers dominate. Some mature sweet chestnut coppice is also present.

Table 7: Hosey Common Area 7 (TN7). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Broadleaved Semi-natural Woodland.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Some coppiced-with-standards woodland (unmanaged).
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Sycamore SA-to-STA 30% Holly SL /US 30% Silver birch SA-to-SET 15% Hornbeam SET 10% Sweet chestnut coppice >30 years 10% Hazel SL/US 10% Yew SA 10% Western hemlock
Ground Flora:	Bluebells.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	Present.
Invasive Species:	Rhododendron 10%.

Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	Mixed native broadleaved woodland compartment of varying structure including areas of former coppice-with-standards.

Table 8: Hosey Common Area 9 (TN9). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Broadleaved Semi-natural Woodland.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Mixed native broadleaved woodland. Some areas of coppice woodland.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Birch EST – 40% approximately 30 years old Birch SET 10% Sycamore SE 10% Sweet chestnut Semi-MAT > 40 years old 10% Oak STA MAT / over-mature 5% Beech over-mature STA 10% Hornbeam coppice 20-40 years old 5%
Ground Flora:	None observed.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	Little – 5% Some Standing Some Fallen
Invasive Species:	Rhododendron 10%.
Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	Regenerating secondary woodland over what may be ancient woodland / former wood pasture.

Table 9: Hosey Common Areas 10 / 11 (TN10 / TN11). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Conifer plantation.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Plantation.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA)	Mature to harvest conifer plantation with mixed native broadleaved tree regeneration. Pine to mature – even-aged. Pines 80% Birch SA to SET 40% Beech MAT 5% Oak MAT 5% Yew SA >5%

Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Holly SA to understorey 5% Rhododendron Semi-MAT 10%
Ground Flora:	Heather, bracken, bramble.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	Occasional Standing - None Fallen - None
Invasive Species:	Rhododendron.
Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	Conifer plantation over relict heath community with wayleave. Grades to mixed native broadleaved woodland to roadside with mature beech and oak, occasional yew and holly. Heather is even-aged established. One veteran tree was noted as detailed in Chapter 3.5.

Table 10: Hosey Common Area 12 (TN12). Preliminary Woodland Condition Survey

Feature	Description
Woodland Type:	Coniferous woodland – plantation.
Habitat Type: e.g. Coppice woodland; Ride; Glade; Wood Pasture:	Plantation.
Species / Structure / Age Class: Key to abbreviations Seedling (SE) Sapling (SA) Semi-established (SET) Established (EST) Mature (MAT) Standard (STA) Shrub layer/Understorey (SL/US) Over mature Veteran (V) Coppice <5 years Scrub height Mature (for species) Percentages where given are rough percentages of that feature	Western hemlock MAT / semi-MAT 80% Sweet chestnut SET / MAT 10% Beech STA >10%
Ground Flora:	None observed.
Fungi:	None observed.
Decaying Wood: **Standing:** **Fallen:**	>5%
Invasive Species:	None observed.
Deer Damage:	None observed.
Historic Features:	None observed.
General Comments:	Coniferous woodland – plantation. One veteran tree was noted as detailed in Chapter 3.5.

3.5 Preliminary Veteran Tree Check

Veteran / mature trees were observed within three areas on the Common. Further details are given in Table 11 below:

Table 11: Hosey Common. Preliminary Veteran Tree Check

Species	Type	Location	Approx DBH	Photo	Comments
Lime	Pollard	Area 3 (TN3). Immediately south of car park on main footpath.	>1m	Photo 1 (Appendix A)	Confirm species identification. Pollard in good condition; likely to be surveyed regularly for tree safety due to its position. No recommendation for further works.
Beech	Coppiced former woodbank tree	Area 3 (TN3 / TN15). TQ454527. Northern point of woodbank.	1.2m	Photo 2 (Appendix A)	Low woodbank boundary pollard. Multiple stems in good condition. No apparent structural defects from casual inspection. Would recommend full structural survey by qualified arboriculturist due to proximity of footpath. Few veteran features other than age/size/ habitat.
Beech	Hedgerow / woodbank multi-stemmed coppice	Area 3 (TN3 / TN16). TQ454526. On woodbank by main path to western edge of area.	N/A	Photo 3 (Appendix A)	Multi stem. Good condition No bat roost potential. Wood halo 3 to 7 years. May benefit from some coppicing and/or crown reduction after further survey.
Beech	Mature Standard	Area 10 (TN10)		Photo 4 (Appendix A)	Good mature tree – without confirmation of veteran status.
Oak	Standard	Area 12 (TN12) By path	120 – 150cms	Photo 5 (Appendix A)	Good mature tree – without confirmation of veteran status.

3.6 Species

Table 12 below provides a summary of the species information obtained as part of the desktop study.

Table 12: Hosey Common. Protected / notable species which either occur within, or have the potential to occur within or close to Hosey Common

Species	Summary of Taxon Interest	Occurrence of protected / notable species on or near site	Status
Vascular Plants	Common supports flora characteristic of wooded / relict heathland habitats. Relict heathy areas include heather *Calluna vulgaris*, tormentil, heath bedstraw and bilberry *Vaccinium myrtillus*.	KMBRC data search includes bluebell as present on the Common. Bilberry	Bluebell: listed on Schedule 8 of the Wildlife & Countryside Act (as amended). Protection is limited to 'sale' only.[22] Bilberry: County Scarce[23], being recorded in 29 tetrads (Philp, 2010).
Lower Plants	Bryophytes: The LWS citation suggests that the relict heathy areas support a good acid bryophyte flora. Fungi: The LWS citation highlights that, "The whole area supports a good fungus flora, including many mycorrhizal species associated with oak, pine and birch. Many species associated with dead wood have also been recorded." KWT has an extensive list of fungi for this Common.	Notable records of fungi from Hosey Common include: *Hydnellum concrescens*[S41], *Hydnellum spongiosipes*[k,S41], *Phellodon confluens*[k, S41], *Phellodon melaleucus*[k, S41], *Cortinarius pholideus*[k], *Pluteus aurantiorugosus*[k], *Leccinum scabrum*[k], *Skeletocutis carneogrisea*[k]	Those species marked with 'k' are Kent Red Data Book species; Those species marked with 'S'41' are Species of Principal Importance (formerly UKBAP Priority Species).
Birds	The LWS citation has suggested that the Common is likely to have a rich avifauna. LWS site file has bird records for the Common which include: great spotted woodpecker, robin. Coal tit, great tit, nuthatch, grey wagtail, wood warbler, goldcrest, pheasant, blackbird, long-tailed tit, chaffinch, brambling, bullfinch, song thrush, jay, magpie. The site file also suggests that nightjar used to occur.	Song thrush [+, k, S41] Nightjar [k, S41]	All species of bird whilst actively nesting are afforded legal protection under the Wildlife & Countryside Act 1981 (as amended).[24] Those species marked with '+' are Red List[25] species; Those species marked with 'k' are Kent Red Data Book species; Those species marked with 'S'41' are Species of Principal Importance (formerly UKBAP Priority Species).
Bats	Northern part of Common designated as SSSI & managed as a nature reserve for its bats. Westerham mines represent an important winter refuge	Bat species hibernating in the mines are: Whiskered bat, Brandt's bat, Daubenton's bat, Natterer's bat, and Brown long-eared bat*.	Afforded full legal protection under Schedule 5 of the WCA 1981 (as amended). Also listed under Schedule 2 of the Conservation of Habitats

[22] http://naturenet.net/law/sched8.html
[23] Species recorded in between 1 and 5% of tetrads (Philp, 2010)
[24] Further information about the Wildlife & Countryside Act 1981 (as amended) is available at http://jncc.defra.gov.uk/page-1377
[25] Definition included at http://www.rspb.org.uk/discoverandenjoynature/discoverandlearn/birdguide/status_explained.aspx

Species	Summary of Taxon Interest	Occurrence of protected / notable species on or near site	Status
	for bats in Kent. Five species have been recorded hibernating here. There is also evidence that bats make some use of the mines in the summer. The dataseach also highlights the presence of at least four bat roosts within the general area of Hosey Common.	Other bat species recorded within the wider area are: Serotine, Alcathoe, Bechstein's, Noctule*, Pipistrelle (45kHz), Pipistrelle (55kHz)*	and Species Regulations 2010[26] and are therefore "European Protected Species". Those species marked with '*' are considered to be Species of Principal Importance in England (formerly UKBAP)[27].
Badgers	No records for Hosey Common itself; no evidence of badgers were observed during the site walkover, however the Common contains suitable foraging habitat and their intermittent presence should not be discounted.		Badgers and their setts are protected by the Protection of Badgers Act 1992[28].
Hazel Dormouse	No site records; however there is one relatively recent record from Crockhamhill. There are wooded links between Hosey Common and Crockhamhill Common and Hosey Common and its environs provides habitat opportunities for dormice; their potential presence should not be discounted.		Afforded full legal protection under Schedule 5 of the WCA 1981 (as amended). Also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2010[29] and therefore a "European Protected Species". A Species of Principal Importance in England (formerly UKBAP) and is included on Schedule 5 of the WCA 1981 (as amended)[30].
Reptiles	Records of four reptile species within 2km-radius of Common – viviparous lizard, slow-worm, grass snake and adder. Adder has been recorded on Hosey Common, most recently in 2007; the LWS citation also reports viviparous lizard as being present. There are several historic records of grass snake attributed to 'Hosey Hill'; it is not known whether they relate to the Common.	Adder Viviparous lizard	All reptile species likely to be encountered at Hosey Common are protected against killing & injury under Schedule 5 of the WCA 1981 (as amended).

[26] Further details about the Conservation of Habitats and Species Regulations 2010 is available at http://jncc.defra.gov.uk/page-1379

[27] http://webarchive.nationalarchives.gov.uk/20140605090108/http:/www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

[28] A summary of the Protection of Badgers Act is available at http://adlib.everysite.co.uk/adlib/defra/content.aspx?doc=18122&id=18124

[29] Further details about the Conservation of Habitats and Species Regulations 2010 is available at http://jncc.defra.gov.uk/page-1379

[30] Further information about the Wildlife & Countryside Act 1981 (as amended) is available at http://jncc.defra.gov.uk/page-1377

Species	Summary of Taxon Interest	Occurrence of protected / notable species on or near site	Status
	Hosey Common provides suitable habitat opportunities for supporting reptiles and, in addition to adder and viviparous lizard, KRAG considers that there is a high likelihood of grass snake occurring, with slow-worm considered likely to be present.		
Amphibians	No records of amphibians on the Common. Common frog, common toad and great crested newt recorded within 2km-radius of Common. The closest recorded great crested newt observation is located at Chartwell Estate, 0.81km to the S. There are 12 ponds within a 1km-radius of the site, with the nearest pond being some 0.49km distant. The absence of ponds on site will limit its value for supporting breeding great crested newts. However, individual animals may use the habitats on the Common for sheltering, foraging and/or dispersal and their potential presence should not be discounted.		Great crested newts are afforded full legal protection under Schedule 5 of the WCA 1981 (as amended) [31]. Also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2010[32] and therefore a "European Protected Species". A Species of Principal Importance in England (formerly UKBAP).
Invertebrates	The LWS citation highlights that the Common has good potential for invertebrates and the SSSI citation states that, "A rich insect fauna exists in and around the tunnels, flies (Diptera) being particularly well represented, and some moths also hibernate in the mines". However records appear to be limited, with only two KMBRC records (a hoverfly – *Pipiza lugubris* – and a fly – *Norellia spinipes*) directly attributed to Hosey Common. Some species are given as occurring at 'Hosey Hill' and these include Black-headed Cardinal Beetle, *Cryptocephalus parvulus*, Wall and Small Heath butterflies, Small Phoenix and White Ermine moths.	*Pipiza lugubris* [N] *Norellia spinipes* [N] *Cryptocephalus parvulus* [N] Wall [S41] Small Heath [S41] Small Phoenix [S41] White Ermine [S41]	Those species marked with an 'N' are considered to be nationally notable i.e. they are estimated to occur within the range of 16 – 100 10km squares. Those species marked with 'S'41' are Species of Principal Importance (formerly UKBAP Priority Species).

[31] Further information about the Wildlife & Countryside Act 1981 (as amended) is available at http://jncc.defra.gov.uk/page-1377
[32] Further details about the Conservation of Habitats and Species Regulations 2010 is available at http://jncc.defra.gov.uk/page-1379

The KMBRC datasearch also includes records of several non-native vascular plant species occurring on Hosey Common including Spanish bluebell *Hyacinthoides hispanica* and the hybrid between Spanish and native bluebells *H x massartiana*, cherry laurel *Prunus laurocerasus*, rhododendron *Rhododendron ponticum*, winter heliotrope *Petasites fragrans*, and Japanese knotweed *Fallopia japonica*. Rhododendron and Japanese knotweed are listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) – it is illegal to 'plant or otherwise cause to grow in the wild' species included on Schedule 9.

3.7 Identification of Access Issues

Hosey Common is designated as Registered Common Land and has been mapped as Access Land under the Countryside and Rights of Way Act 2000 (Figure 6).

A public car park is located at the northern end of the Common, accessed off the Hosey Common Road at TQ452531.

A number of Public Rights of Way cross the Common, and a Public Bridleway skirts part of the southern and southeastern boundaries (Figure 7). There are also many informal paths and both walkers, dog walkers and cyclists were observed during the walkover survey.

There is no public access to Westerham Mines (aka Hosey Caves), and all entrances are blocked, either by locked gates or grills.

There was no obvious evidence of unauthorised vehicular activity or fly-tipping observed during the site walkover.

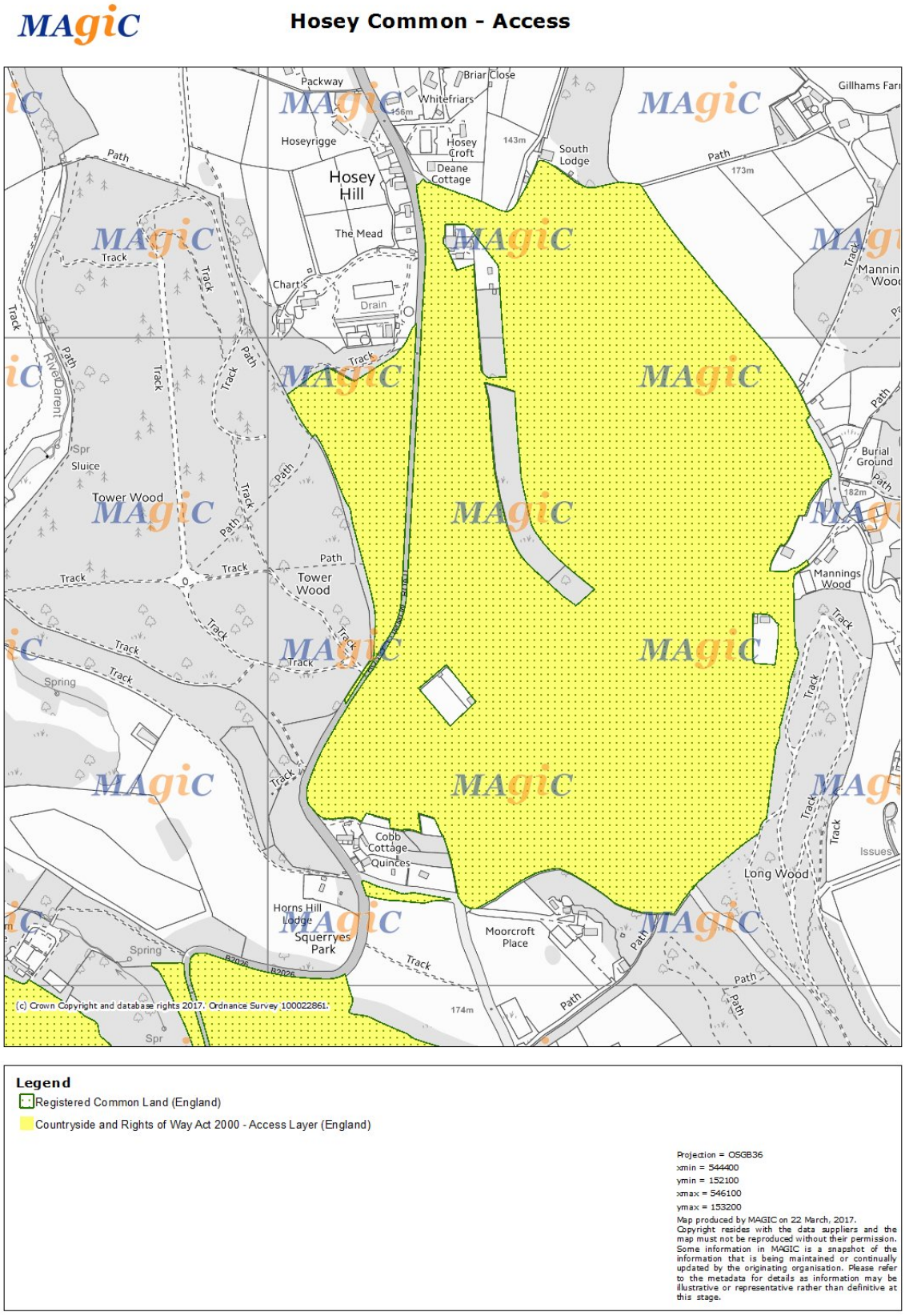

Figure 6: Hosey Common. Access Land

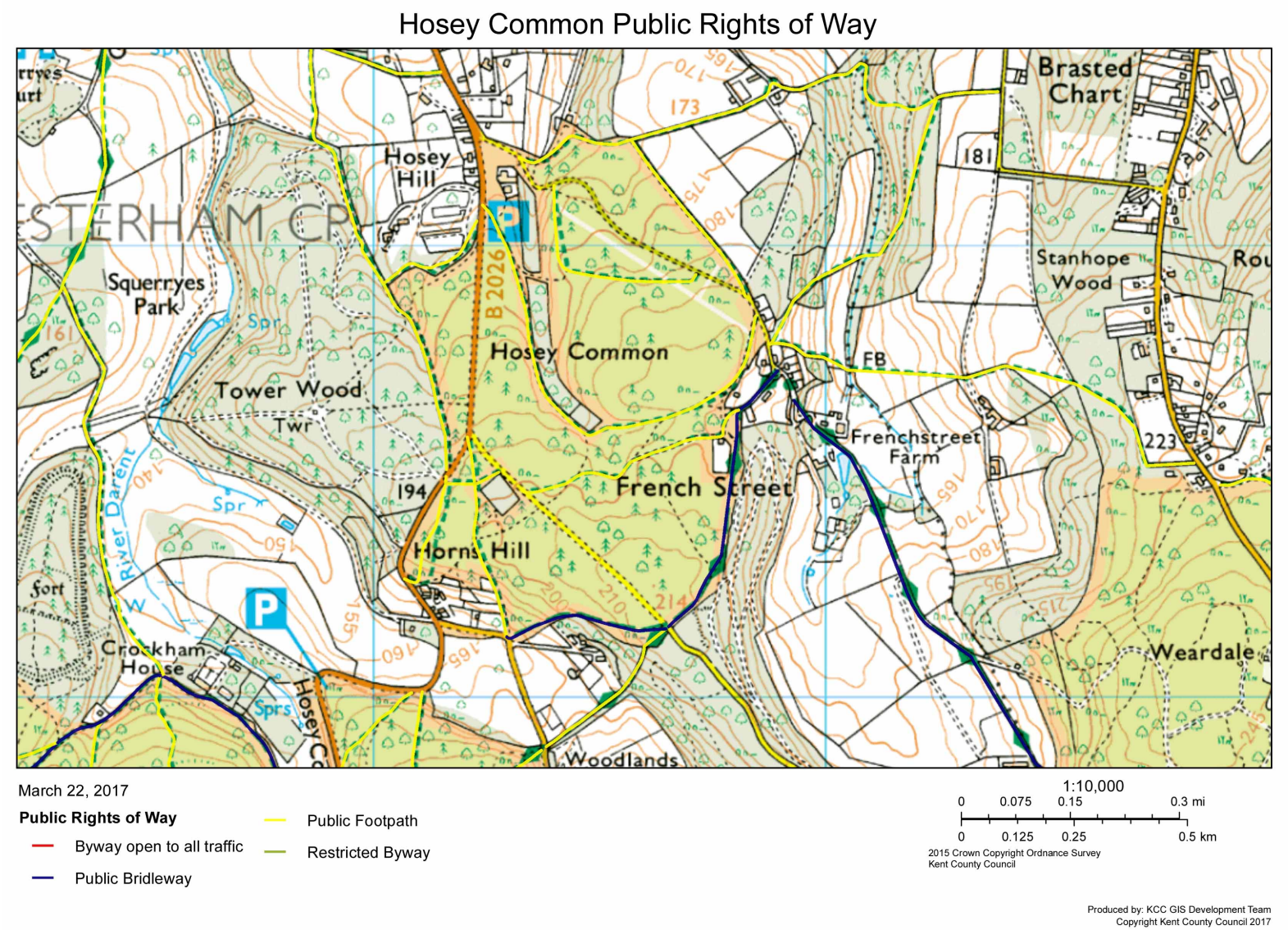

Figure 7: Hosey Common. Public Rights of Way Map

4 ENHANCEMENT OPPORTUNITIES

4.1 Site Evaluation

Hosey Common was found to be dominated by a mosaic of semi-natural and plantation woodland, with fragments of heathy vegetation and grassland.

None of the woodland is shown on Natural England's provisional Ancient Woodland Inventory[33] although some features identified, such as the presence of woodbanks and veteran coppiced trees, have led the surveyor to conclude that some areas of the site may be ancient in origin and / or may have developed from wood pasture as indicated on the Magic website. These include the broadleaved semi-natural woodland within the SSSI, the semi-natural broadleaved woodland block at the southern end of the site, which abuts confirmed ancient semi-natural woodland as well as the block of woodland to the west of Hosey Common Road, which abuts ancient replanted woodland.

The broadleaved semi-natural woodland areas were highlighted within the KMBRC data search[34] as comprising mixed deciduous woodland - a Priority Habitat i.e. a habitat listed on Section 41 as a Habitat of Principal Importance in England (formerly UK BAP Priority Habitat), while the Magic website describes the whole site as wood pasture, again categorised as a Priority Habitat, but also included within the 'Lowland Wood-pasture and Parkland' Kent Habitat Action Plan (Plan 16, 2005a).

Wood pasture is generally is considered to be a vegetation structure rather than a particular plant community, typically consisting of large, open-grown or high forest trees (often pollards) at various densities, in a matrix of grazed grassland, heathland and/or woodland floras. The value for this priority habitat type comes from the range of specialised and varied habitats found within the landscape. The presence of ancient or veteran trees provide such microhabitats as old bark, dead or decaying wood, holes and splits that support a range of insects, fungi and lichens. The grassland component of the complex is frequently grazed and provides open vegetation and habitat for a variety of plants and animals. Dung from grazing animals adds a further component to the invertebrate and fungal diversity of this habitat. The importance of this complex comes from the long continuity in the management and/or the structure of the land, with very long-lived trees supporting significant amounts of dead and decaying timber (Kent Habitat Survey, 2012).

The wood pasture areas at Hosey Common are now much more akin to mature mixed deciduous woodland with a good and near complete canopy structure and a reasonably diverse understorey with some ground flora and a considerable amount of standing and fallen decaying wood.

Given that both mixed deciduous woodland and wood pasture are Priority Habitats, consideration will need to be given as to whether the Common should continue to be managed as a woodland habitat, or whether a more ambitious project to restore the wood

33 http://www.magic.gov.uk/MagicMap.aspx?chosenLayers=ancwoodIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=543327:151447:546668:153876&useDefaultbackgroundMapping=false

34 The 2012 Kent Habitat Survey for Hosey Common was undertaken via aerial photography and over-estimated the amount of broadleaved woodland present. Thus the corresponding Priority Habitat Map has included areas of coniferous plantation within the Lowland mixed deciduous woodland Priority Habitat Inventory.

pasture habitat would be feasible. In the latter scenario, management may include thinning of some of the canopy trees and rotational coppicing of the understorey in order to create halos' around some of the mature trees. Ideally grazing would be considered as a tool to create a much more open structure, so important within wood pasture for encouraging the development of flowering plants and shrubs, which provide the nectar and pollen required by the specialist invertebrates whose larvae develop in decaying wood. Without grazing pressure, creation / maintenance of a wood pasture structure is considered unlikely to be achievable here.

A number of veteran / mature trees (Chapter 3.5) were identified during the site walkover, three within the semi-natural broadleaved woodland above Westerham Mines, and two within the woodland to the west of Hosey Common Road. None were considered on a casual inspection to have obvious bat roost potential; however any management to these trees should consider the potential for bat roosts to be present.

The areas of coniferous planting could perhaps best be described as Plantation on Former Wood Pasture, which may well have historically supported dry heath, as witnessed by the presence of relict heathy vegetation (see subsequent paragraphs). Again, consideration should be given to the future of these areas post-harvesting, when there may be opportunities to consider future habitat restoration.

Several open areas, along paths and under wayleaves within areas 10 (TN10) and 11 (TN11) were found to support relict dry heathy vegetation with species such as heather, bilberry and bracken. Lowland heathland is a rare habitat type in Kent, with the 2012 Kent Habitat Survey suggesting a total of only 71.5ha. It can support many rare and endangered species that are specific to this habitat type including many rare British invertebrates that are at the edge of their European range, as well as species already known to occur at Hosey Common such as adders and other reptiles. The SSSI citation (Appendix B) also highlights that, "*The area has supported a rich heathland breeding bird community, including nightjar.*"

While many of Kent's heathlands have been lost within the last 75 years – it is susceptible to scrub and tree encroachment through lack of management and over-growth of bracken – there have been a number of restoration projects, including around Bitchet Common (another Common within the Sevenoaks Greensand Commons Project area). It is recommended that short-term management should aim to maintain and enhance the existing relict heathy vegetation. In the longer term, consideration could be given to exploring the feasibility of increasing the heathland areas within Hosey Common, perhaps with an aim to provide suitable conditions for supporting breeding specialist birds such as nightjar.

Ash is a component within the broadleaved woodland areas. Although no evidence of ash dieback was observed during the walkover survey, the Forestry Commission has confirmed that ash dieback disease was confirmed in TQ45 in 2014[35]. Ongoing monitoring will therefore be required.

Rhododendron was recorded throughout the Common, and was dominant in some areas. It is an extremely invasive species and may form dense, impenetrable thickets with the resulting deep shade and toxic leaf litter suppressing growth of native plants. It is also of limited value to wildlife and may negatively impact some groups e.g. research has shown that bird numbers

[35] http://chalaramap.fera.defra.gov.uk/

are lower in mature oak woodlands dominated by rhododendron[36]. According it is recommended that steps are taken to eradicate or control the spread of rhododendron at this site.

There are historic records (1971 – 1980) of Japanese knotweed on Hosey Common. Whilst no evidence of this species was observed during the site walkover survey, it is listed on Schedule 9 of the Wildlife and Countryside Act (Chapter 3.6). Accordingly it is recommended that the Common should be checked to establish the presence / absence of this species, with appropriate measures being taken to eradicate any plants encountered[37].

A small area of grassland is present at the northern end of the site, immediately to the north of the car park. It has been described variously as semi-improved lowland meadow, or semi-improved acid grassland. The site visit was undertaken too early in the season to enable a definitive habitat type to be established; however it was found to be grass-dominated with few characteristic indicator species of either lowland meadow or acid grassland and, for the purposes of this survey has been categorised as 'semi-improved grassland'. It was evidently managed by mowing, with the grass-cuttings left in-situ and this will lead to a slow increase in nutrient levels, encouraging the growth of rank grassland species such as Yorkshire fog, whilst suppressing the growth of more desirable species such as harebell *Campanula rotundifolia* and tormentil *Potentilla erecta*. It is recommended that this area should be surveyed at a more optimal time of year in order to establish the type and condition of the grassland. While the mowing will maintain the existing sward structure, ideally the cuttings would be removed in order to avoid a build-up of thatch and nutrients which will lead to a decline in the biodiversity interest of this area.

The results of the data search suggest that Hosey Common is of interest for a number of species groups. In addition to the nationally recognised importance of Westerham Mines for its hibernating bats, the site is also described as supporting a good acid bryophyte flora, a good fungus flora, a rich avifauna and a rich insect fauna. It is also known to support two reptile species including adder, a species currently undergoing a significant decline across much of its range. That said, with the exception of the regular bat monitoring, many of the records provided appear to be in excess of ten years old, and it is recommended that survey work should aim to provide an up-to-date picture of the current status of these species groups within the Common.

The Common was also identified as having potential for a number of protected species including amphibians, breeding birds, badgers and dormice. It is recommended that survey work should aim to establish the presence / absence of protected species within the Common as their presence would need to be taken into account when planning any management works in order to ensure compliance with all relevant legal obligations with regards to protected species.

It is interesting to compare the Google aerial photographs of the Common (Appendix E) dating from 1940 to 2003, as these chart the changes in the proportion of open space / trees. The extensive open areas shown on the 1990 images are presumably a result of the extensive storm damage cause by the 1987 Great Storm.

[36] www.nonnativespecies.org/downloadDocument.cfm?id=1018
[37] Current government advice on controlling the spread of Japanese knotweed is available at https://www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading

4.2 Preliminary Habitat Management

4.2.1 Preliminary Habitat Management Suggestions

The objective of this report is to provide a series of outline nature conservation management recommendations aimed at maintaining and enhancing the main habitats and species of nature conservation interest identified within this report. It is anticipated that these initial recommendations will form the basis of additional consultation with the landowners and other stakeholders, prior to the preparation of a bespoke management plan for the Common, which is likely to happen during the delivery phase of this project.

It should be noted at the outset that any work undertaken within the SSSI will require prior consultation with Natural England (information about Operations likely to damage the special interest of the site is provided in Appendix B). Given the national importance of the SSSI for bats it is further recommended that all management works should be designed and planned in consultation with Kent Bat Group in order to minimise any potential negative impacts for this species group.

Further details are provided below.

4.2.1.1 Management of Existing Woodland / Plantation / Wood Pasture Areas

- Maintain structural diversity as a good variety of woodland and scrub at different ages and structure will be beneficial to species known to inhabit the Common, or which may have the potential to be present, such as breeding birds, invertebrates, mammals such as hazel dormouse and bats, and reptiles.

- Retain all existing veteran / mature trees wherever possible. These are considered to be features of the former wood pasture habitat, and would have traditionally grown in open sunny conditions. Such trees would have supported different invertebrate species from those growing in closed canopy woodland, and ideally there will be a continuum of trees standing in the open, especially mature and ancient trees. This may involve selectively thinning some younger trees in areas where denser woodland is developing.

- Maintain a range of both standing and fallen dead wood. A continuity of dead wood at all stages of decay is vital in providing optimal habitats for species groups already highlighted as being of importance within the Common such as fungi and invertebrates, and potentially also roosting bats.

- Maintain and enhance the overall percentage of open areas within the Common – it has already been demonstrated that the existing open areas support relict heathy vegetation and the creation of additional linking areas may help to encourage the development of this habitat (see Ch 4.2.1.2). Sheltered and sunny open areas, such as along ride edges, and in scallops or glades, also support a greater abundance and variety of flowering plants and shrubs, providing valuable nectar and pollen sources for invertebrates.

- Consider the preparation of a harvesting extraction plan for the plantation areas. Such a plan could consider the location and management of timber extraction routes together with the long-term plans for the felled areas, looking at opportunities for habitat restoration to, for example, wood pasture and / or heathland.

- Undertake consultation on whether the introduction of light grazing may be feasible within the Common. This would be pertinent if options for restoration of wood pasture, or heathland restoration were agreed. Grazing can help to maintain a diversity of species and prevent the re-establishment of tree cover. Note that as Common land, any fencing will require permission from the Secretary of State for the Environment.

- Undertake consultation with local residents and users of the site and other stakeholders including Natural England, Kent Bat Group, Kent Ornithological Society, Kent Reptile and Amphibian Group to explore the feasibility of larger scale management of the woodland in order to provide suitable habitat for supporting breeding nightjar. This may include for example the establishment of an active coppice management regime of the woodland, with large blocks being cleared on a fairly short rotation.

- Rhododendron Eradication / Control. The following recommendations are taken from the Kent Wildlife Trust Woodland Management Advice Sheet relating to the control of rhododendron and cherry laurel[38]:

    - Cut during the winter (September to March), focussing on older, seedbearing bushes first, and follow up with stump treatment immediately. Seeds dispersal tends to be very low, generally within a few metres of the bush, and research shows that destroying the oldest/core plant is more effective than starting at the edge of the infested area and dealing with younger plants and seedlings.

    - Pull up any seedlings if they come out easily and dig out any plants manually where feasible (don't leave any roots behind)

    - Treat young bushes, any regrowth from stumps and any remaining seedlings with a foliar spray mixed with an adjuvant (this breaks down the waxy layer on the surface of the leaf) between May to October. Research seems to show that these sprays are most effective on younger bushes that are less than 1.3m tall.

    - Treat mature bushes with a stem injection treatment, if available. If not, then apply a foliar spray as for other younger bushes.

    - Burn the cuttings but make sure you limit the number of fire sites since any bare ground created will result in more sites being available for the seeds to take hold.

[38] http://www.kentwildlifetrust.org.uk/sites/default/files/kwt_land_mgt_advice_sheet_9_-_woodland_management_-_control_of_rhododendron.pdf

- Some removal of toxic leaf litter may be required since nothing else will grow there.

- Ash die-back disease. All woodland areas should be monitored annually for the presence of ash dieback and if any disease is found steps should be taken according to the most up-to-date advice available[39].

- Japanese knotweed. Staff, contractors and volunteers should be asked to keep an eye out for and report any sightings of Japanese knotweed. Any confirmed sightings should be dealt with immediately following current best practice[40].

4.2.1.2 Management of Relict Heathy Areas

- Existing heathy vegetation is very much even-aged. Ideally management would aim to create a range of heather age classes from young through to late-mature degenerate stages[41].

- In the short – to - medium-term explore opportunities to exploit existing / planned management proposals in order to create linking corridors between existing areas of heathy vegetation. The creation / management of wide ride margins, box junctions, scallops and glades may all encourage the development / spread of heathy / acid-loving vegetation. Such areas will benefit a wide range of species including reptiles, invertebrates and foraging bats.

- In the long-term carry out consultation with local residents and users of the site and other stakeholders including Natural England, Kent Bat Group, Kent Ornithological Society, Kent Reptile and Amphibian Group to explore the feasibility of larger scale heathland restoration, possibly with the aim of encouraging breeding nightjar back to the site.

4.2.1.3 Management of Grassland Area

- Manage by cutting as-and-when necessary in order to maintain current sward structure. Ideally the arisings should be removed.

4.3 Additional Survey Work

The ecological scoping survey has highlighted that Hosey Common may be of potential interest for its bird and invertebrate populations, but there appears to be little evidence to support these claims and further survey work is highly recommended. In addition many of records relating to other groups of interest i.e. bryophytes and fungi are more than ten years old, and would benefit from repeat surveys to establish their current status.

[39] http://www.forestry.gov.uk/forestry/infd-92pjkx
[40] https://www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading
[41] For further information refer to the FEP Handbook page 96 http://adlib.everysite.co.uk/resources/000/251/202/NE264.pdf

A number of surveys are therefore recommended:

- A preliminary, broad brush-stroke NVC survey of the site to establish the main vegetation communities; the results may help to determine the direction of future management.
- Relict heathy vegetation survey to establish the location and extent of all remaining areas of heathy vegetation across the Common.
- Survey of the semi-natural grassland to establish grassland type; this could be undertaken as part of the NVC survey.
- Bat Survey. In addition to the annual winter monitoring visits undertaken by Kent Bat Group, it is recommended that additional surveys should be undertaken across the Common in order to establish the bat roost potential of the veteran trees and other mature trees within the Common. Survey work should also establish how bats are using the Common for foraging and for commuting. The results of the survey work should be used to inform management work and the requirement for any EPS licencing.
- Hazel dormouse Survey. To establish presence / absence of dormice within the Common. The results of the survey work should be used to inform management work and the requirement for any EPS licencing.
- Breeding Bird Survey. The aim of the survey should be to establish the importance of Hosey Common for breeding birds.
- Reptile Survey. To establish presence / absence of reptiles (and amphibians) within the Common. The results of the survey work should be used to inform management aimed at enhancing the Common for these species.
- Invertebrate Survey. The aim of the survey should be to establish the importance of Hosey Common for invertebrates. The results of the survey work should be used to inform management aimed at enhancing the Common for these species.
- Lower Plant Survey. Concentrating on providing an update on the bryophytes and fungi, particularly to establish the current status of the notable species identified in Chapter 3.6.

5 REFERENCES

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Appendix A: Photographs taken during the site survey March 2017

1. Area 3 (TN3): Photograph showing lime pollard veteran tree

2. Area 3 (TN3): Photograph showing coppiced beech veteran tree

3. Area 3 (TN3): Photograph showing coppiced beech veteran tree

4. Area 10 (TN10): Photograph showing mature standard beech tree adjacent to French Street

5. Area 12 (TN12): Photograph showing good mature standard oak

6. SSSI area around Westerham Mines

7. One of the grilled entrances at Westerham Mines / Hosey Caves

8. Area 1(TN1): General view of area

9. Area 2 (TN2): Showing typical woodland area within Westerham Mines SSSI

10: Area 3 (TN3) Line of beech coppice marking edge of Kennedy Gardens

11: Area 3 (TN3) Line of beech coppice on woodbank marking edge of Kennedy Gardens

12: Photograph showing broadleaved woodland with features of wood pasture

13: Area 5 (TN5): General view

14: Area 5 (TN5): General view

15: Area 5 (TN5). General view

16: Area 8 (TN8). General view

17: Area 10 (TN10): showing relict heathy vegetation within coniferous plantation

18. Area 10 (TN10): Showing development of heathy vegetation beneath wayleave

19. Area 10 (TN10): Plantation area with open relict heathy structure

20. Area 10 (TN10): Showing heather occurring within conifer plantation

21. Area 12 (TN12): Conifer plantation

22: Area 13 (TN13): General view

23. (TN20): Semi-improved grassland at northern end of site

Appendix B: SSSI Citation

COUNTY: KENT SITE NAME: WESTERHAM MINES

DISTRICT: SEVENOAKS

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: SEVENOAKS DISTRICT COUNCIL

National Grid Reference: TQ 455528 Area: 26.2 (ha.) 64.7 (ac.)

Ordnance Survey Sheet 1:50,000: 188 1:10,000: TQ 45 SE

Date Notified (Under 1949 Act): 1981 Date of Last Revision: –

Date Notified (Under 1981 Act): 1986 Date of Last Revision: –

Other Information:
This site was formerly known as Hosey Common. The area of the site has been reduced. The mines are a nature reserve managed by the Kent Trust for Nature Conservation.

Reasons for Notification:
The principal interest of this site is the use of its abandoned ragstone mines by a variety of hibernating bats. The surrounding area is chiefly mixed secondary woodland on former heathland, with pockets of remnant heath.

With the increasing scarcity of bats in south-east England and the continued loss of the few suitable hibernacula remaining available to them, these mines represent an important winter refuge for bats in the county. Five species have been recorded hibernating here: whiskered bat *Myotis mystacinus*, Brandt's bat *M. brandti*, Daubenton' bat *M. daubentoni*, Natterer's bat *M. nattereri* and long-eared bat *Plecotus auritus*. The number of bats using the mines declined from the 1950s onwards, largely because of disturbance, but the fitting of grilles (allowing access for bats, but not humans) and devices to maintain the air flow through the mines is thought to have led to an increase in numbers in recent years. However, it is very difficult to locate all the bats using the tunnels and different species use them at different times during the winter. Thus it is extremely hard to estimate the true numbers using the mines. There is also evidence that some use is made of the mines by bats in summer.

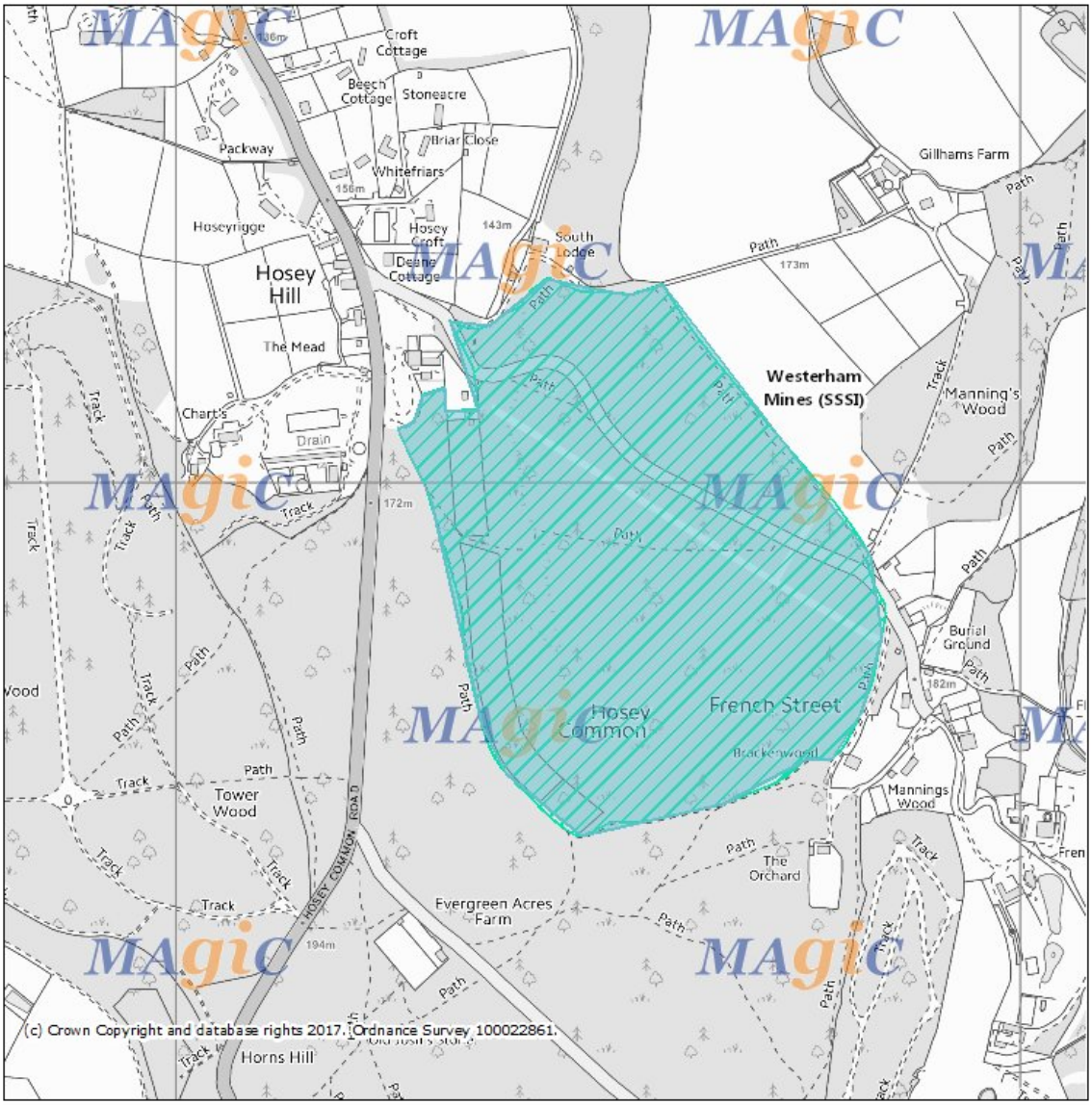
A rich insect fauna exists in and around the tunnels, flies (Diptera) being particularly well represented, and some moths also hibernate in the mines.

The mixed woodland around the old mines is typical of that which now covers much former heathland on the Lower Greensand in Kent. Oaks *Quercus petraea* and *Q. robur*, birch *Betula* sp., bracken *Pteridium aquilinum* and Scots pine *Pinus sylvestris* dominate the vegetation, but remnants of former heathland, including

ling *Calluna vulgaris*, bilberry *Vaccinium myrtillus* and heath bedstraw *Galium saxatile*, occur locally.

The area has supported a rich heathland breeding bird community, including nightjar.

MAGIC **Westerham Mines SSSI**



Legend

Sites of Special Scientific Interest (England)

Projection = OSGB36
xmin = 544300
ymin = 152200
xmax = 546500
ymax = 153700

Map produced by MAGIC on 15 March, 2017.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Operations likely to damage the special interest

Site name: Westerham Mines, Kent

OLD1004499

Ref. No.	Type of Operation
1	Cultivation, including ploughing, rotovating, harrowing, and re-seeding.
2	Grazing.
3	Stock feeding.
4	Mowing or other methods of cutting vegetation.
5	Application of manure, fertilisers and lime.
6	Application of pesticides, including herbicides (weedkillers).
7	Dumping, spreading or discharge of any materials.
8	Burning.
9	The release into the site of any wild, feral or domestic animal*, plant or seed.
10	The killing or removal of any wild animal*, including pest control.
11	The destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould, turf.
12	Tree and/or woodland management+.
14	The changing of water levels and tables and water utilisation (including irrigation, storage and abstraction through boreholes).
15	Infilling of ditches or pits.
20	Extraction of minerals, including sand and gravel, topsoil and subsoil.
21	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.
22	Storage of materials.
23	Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.
24	Modification of natural or man-made features, (including mine entrances), clearance of boulders, large stones, loose rock or scree and battering, buttressing or grading rock-faces and cuttings, infilling of disused mines.
26	Use of vehicles or craft likely to damage or disturb features of interest.
27	Recreational or other activities likely to damage or disturb features of interest.
28	Game management and hunting practices.

* ‘animal’ includes any mammal, reptile, amphibian, bird, fish or invertebrate.

\+ including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood, changes in species composition, cessation of management.

Appendix C: LWS Citation

KENT LOCAL WILDLIFE SITE

KWT File No.: 458520

Site:	Hosey Common, Westerham	**Site Ref. No:**	SE40
LPA:	Sevenoaks	**Central Grid Ref:**	TQ 458520
Parish:	Westerham	**Category:**	Woodland, heath, grassland
Owner:	Private / Common Land	**Natural Area:**	Wealden Greensand
Area:	53.51 ha	**AONB:**	Yes
First notified:	1986	**TPO:**	Yes
Date revised:	2007		
Date approved:	6 Dec 2007		

REASON FOR DESIGNATION
Ancient woodland with adjacent secondary woodland. 30 ancient woodland indicator plants have been recorded from the site as a whole. An area of acid grassland exists at the north of the site which contains a range of indicator plant species. The woodland is part of a large block of woodland / heathland extending along the greensand ridge well to the east of Sevenoaks and, with small breaks, almost to Maidstone.

RATIONALE FOR SITE BOUNDARY
The site includes the grassland around the car park at Westerham Mines, and the broadleaved woodland from there, running south along both sides of Hosey Common Lane, to Round Wood (including Long Wood, Woodlands and Horns Hill).

DESCRIPTION
The site, which is adjacent to Westerham Mines Site of Special Scientific Interest (SSSI), comprises a mosaic of heath, and ancient and adjacent secondary woodland on acid soils, derived from the Lower Greensand.

Large areas of unmanaged woodland are effectively high forest, comprising mature sessile oak standards and tall sessile oak coppice. Beech is widespread throughout as mature standards, overgrown layered boundary markers and juvenile trees. Mature pine, both Scots and Austrian, is scattered throughout but neither this, nor the occasional long overstood chestnut coppice forms significant stands. The understorey is dominated by holly, and honeysuckle. Hornbeam, whitebeam, birch and rowan are occasional on the higher drier soils while the lower slopes with richer soils support field maple and hazel. Alder buckthorn occurs and is important as the food plant of the brimstone butterfly. Sycamore is frequent but mostly near the perimeter. A relatively small, discrete area of conifer plantation remains on the western edge but most of the once extensive planting fell in the 1987 storm and has not been replaced. Semi-natural broadleaved species have regenerated and/or been planted in its wake although some places have been colonised by dense birch and others, which have remained open, by bracken.

However, relict heathland occurs along paths and tracks, with species including heather *Calluna vulgaris*, tormentil *Potentilla erecta* and heath bedstraw *Galium saxatile*. Bilberry [1] *Vaccinium myrtillis* also forms extensive patches under the high forest trees and also in open areas. A good acid bryophyte flora, including *Dicranum majus*, is also present.

A small area of open acid/neutral dry grassland occurs at the north of the site. Managed by occasional mowing, it is dominated by common bent *Agrostis capillaris* but also contains sweet vernal-grass *Anthoxanthum odoratum*, red fescue *Festuca rubra* and, rarely, wavy hair-grass *Deschampsia flexuosa*. Common cat's-ear *Hypochoeris radicata* and autumn hawkbit *Leontodon autumnalis* are widespread, together with bird's-foot-trefoil *Lotus corniculatus*, common knapweed *Centaurea nigra*, lesser stitchwort *Stellaria graminea*, tormentil *Potentilla erecta,* field wood-rush *Luzula campestris* and meadow buttercup *Ranunculus acris*. Heather *Calluna vulgaris* just survives in an area of very short, managed turf. At the northern end there is a good colony of harebell *Campanula rotundifolia* with lady's bedstraw *Galium verum.* There are bare, gravelly areas near the car park. Wide rides in the woodland to the south east support a similar flora. Additional species here include hard fern *Blechnum spicant*, sheep's sorrel *Rumex acetosella*, heath speedwell *Veronica officinalis* and beautiful St John's wort *Hypericum pulchrum*.

Good numbers of common butterflies have been recorded, including small heath, common blue, meadow brown and Essex skipper. Grasshoppers are also abundant.

The whole area supports a good fungus flora, including many mycorrhizal species associated with oak, pine and birch. Many species associated with dead wood have also been recorded.

The site is likely to have a rich avifauna. Nuthatch, great spotted woodpecker and green woodpecker [3] have been recorded. The site is has good potential for invertebrates.

Adder [2,4] and common lizard [2] are both present.

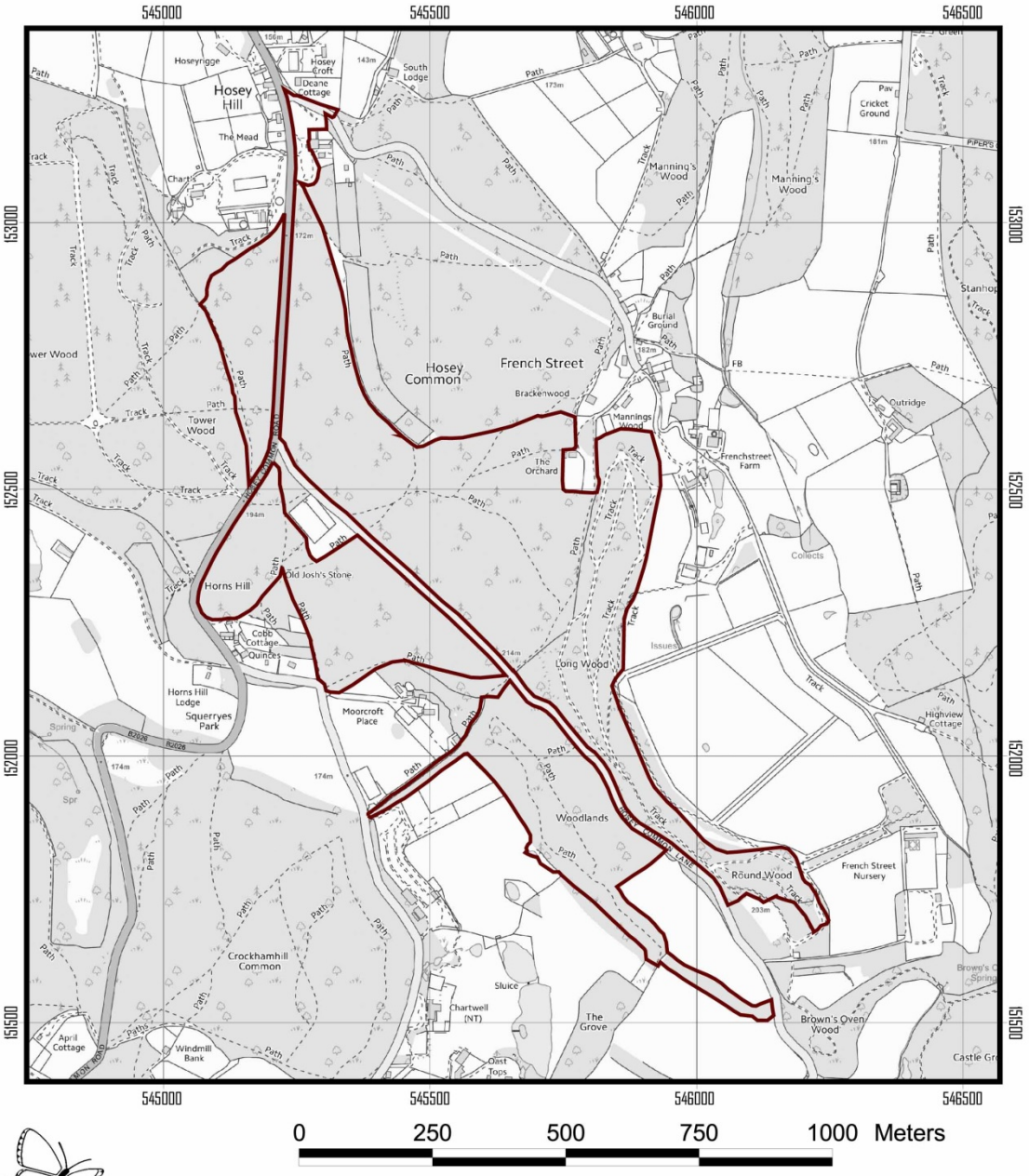
1 County Scarce. Atlas of Kent Flora. Philp. 1982.
2 Protected under Wildlife & Countryside Act 1981.
3 Amber List. Birds of Conservation Concern 2002-2007.
4 Kent Red Data Book Status 2. A. Waite (Ed.) 2000.

KENT LOCAL WILDLIFE SITE

Site Ref No: **SE40**

Site: HOSEY COMMON, WESTERHAM

Map ref: TQ 458520
TQ 453532



Kent Wildlife Trust © 2014

Appendix D: RIGS Citation

KENT GEOLOGICAL SITE

Kent RIGS – Regionally Important Geological and Geomorphological Sites

Site name:	Hosey Common Quarry tunnels	**Site Ref. No:**	SE 1 RIGS
LPA:	Sevenoaks	**Map reference:**	TQ 455528
Parish	Westerham	**BGS sheet no.:**	288
Special area:	N/A		
Present site status:	Biological SSSI (Westerham Mines)		
Natural area:	Wealden Greensand		
Stratigraphic horizon:	Lower Greensand, Hythe Beds		
Site ownership and/or tenancy details:	contact Kent Wildlife Trust		
Date of survey:	3 August 2003	**First notified:**	June 2005

REASON FOR DESIGNATION

1) For Kent, an unusual example of stone mining rather than quarrying.
2) Access to a sandstone development of the rag and hassock facies rather than the usual limestone that occurs further east.
3) Access to gulls (widened fractures) from within the mine. The fill may have a palaeontological interest.
4) Although an SSSI the site could conceivably have a role to play in local historic building restoration.

DESCRIPTION

The site lies along the eastern side of a dry valley on Hosey Common and consists of several tunnel entrances to the underground quarry workings. Surface workings are also known in the area.

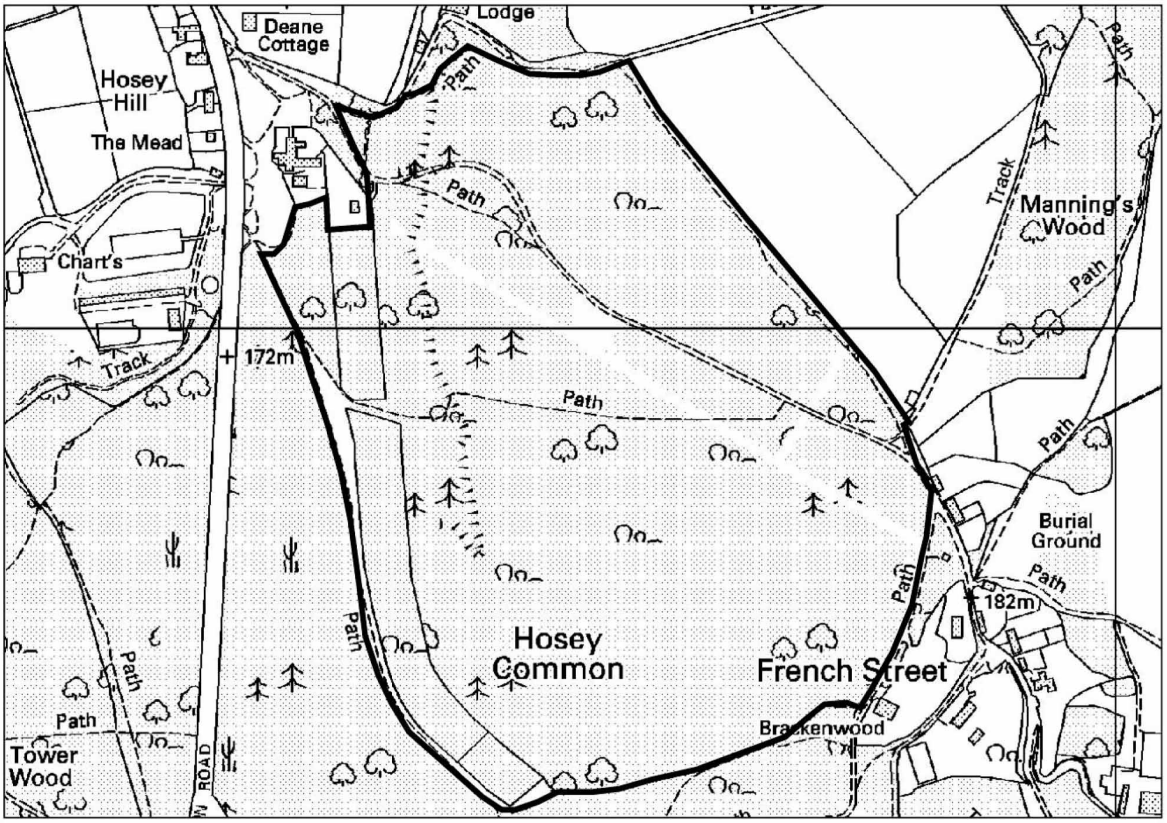
The mines consist of parallel tunnels up to 70m long, 1.8m high and about 3m wide. They provide excellent sections through the rag and hassock facies of the Lower Cretaceous Hythe Formation. A sandstone variety of Ragstone (usually a limestone) was extracted as a building stone with the soft sandy hassock left in the tunnels.

The tunnels intersect gulls, these are fissures through the Ragstone that opened as stream excavated valleys and allowed the Ragstone to collapse valleywards. Such gulls at other sites have produced valuable palaeontological data from their fills. No investigation of the fills has been undertaken at Hosey mines.

KENT GEOLOGICAL SITES **Site ref:** SE 1 RIGS

KENT RIGS – Regionally Important Geological and Geomorphological Sites

Site: HOSEY COMMON QUARRY TUNNELS **Map ref**: TQ 455528

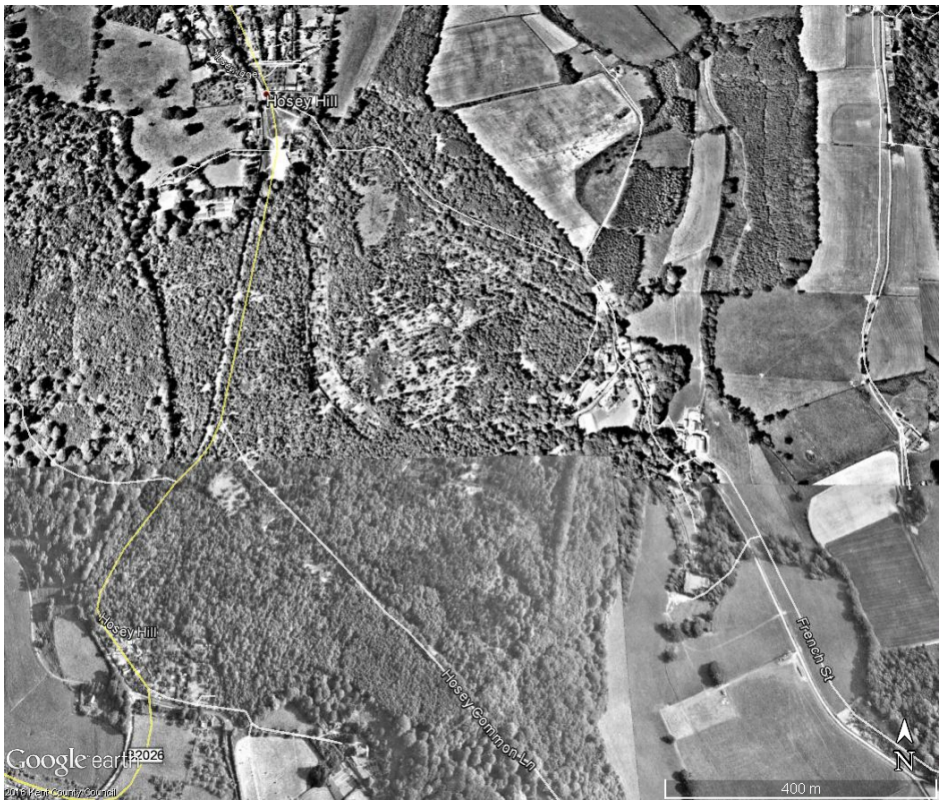


ACCESS AND SAFETY

Westerham, with scheduled bus services, is a few minutes walk. There is a car park on the B2026 at Hosey Common. Protective headgear is needed in the tunnels. Permission to visit the site is rarely given. It is an important bat hibernaculum and permission will not be given during the winter months (October-April). An Open Day is organised once a year, contact the Kent Wildlife Trust for details.

Appendix E: Google Earth Aerial photographic images 1940 - 2003

Hosey Common - 1940



Hosey Common - 1960

Hosey Common - 1990

Hosey Common - 2003