

Sandleford Park, Newbury

Appendix F17: Woodland National Vegetation Classification Survey Report



Bloor Homes & The Sandleford Farm Partnership

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Executive Summary

Contents	Summary
Site Location	The site is located at Sandleford Park in Newbury, West Berkshire, centred on OS Grid Reference SU 46847 64550. The site comprises agricultural fields with areas of grassland and several copses of ancient woodland. A central valley runs from the north-western corner of the site towards the River Enborne at the site's southern boundary.
Existing Site Information	WYG completed an initial ecological appraisal in 2008 with update surveys completed in 2011, 2013, 2014, 2015 and 2017. In addition a number of protected species surveys and botanical surveys have been completed at the site over this time, and during 2018.
Scope of this Survey(s)	This survey was originally carried out in May 2014 to record ancient woodland indicator plants on site, to assign National Vegetation Classification (NVC) communities to the woodland areas, and to ascertain possible locations for public footpaths within and around the woodland blocks. The 2014 woodland survey was updated in May 2018.
Results	All of the woodland areas have previously been designated as Local Wildlife Sites and they still merit this designation as all qualify as Ancient Woodland except Gorse Covert.
	Two plant species were recorded that have restricted distributions in Berkshire: thin-spiked wood sedge was recorded in Dirty Ground Copse and Waterleaze Copse whilst Lateral Cryphaea (<i>Cryphaea heteromalla</i> , a species of moss) was recorded in the latter woodland.
	There are no substantive changes to the woodland structure or composition apparent from the descriptions of the woodlands made in 2014, which includes a more detailed study and provided lists of species (including Ancient Woodland Indicators) as well as quadrat data.
	The invasive and Schedule 9 listed Himalayan balsam and Himalayan cotoneaster were noted in Waterleaze Copse and Slockett's Copse respectively.
Recommendations	Avoidance, mitigation and enhancement measures are included within the proposals and outlined within the Ecological Mitigation and Management Plan (<i>Appendix F18</i>), and will be refined during the reserved matters stage. Following the 2018 update survey, long-term control of Holly has been added into the EMMP.
	All of the woodland areas are to be retained within the development as part of the Country Park, with a 15 meter buffer surrounding them where adjacent to housing development.
	Recommendations for the location of footpaths within and around the woodland areas have been incorporated in the proposals as they have evolved, and are recommended to be refined through accurate mapping of existing paths to inform future reserve matters applications.
	It is recommended that Himalayan balsam and Himalayan cotoneaster should be removed as soon as practicable to prevent further spread to the detriment of ancient woodland ground flora.



Glossary

BSBI Botanical Society of the British Isles

CEnv Chartered Environmentalist

CIEEM Chartered Institute of Ecology & Environmental Management

HAP Habitat Action Plan

HPI Habitat(s) of Principal Importance

IUCN International Union for the Conservation of Nature

JNCC Join Nature Conservancy Council LBAP Local Biodiversity Action Plan

LNR Local Nature Reserve
LWS Local Wildlife Site

MCIEEM Member of Chartered Institute of Ecology & Environmental Management

NERC Act Natural Environment and Rural Communities Act 2006

NNR National Nature Reserve

NPPF Revised National Planning Policy Framework

NVC National Vegetation Classification
PEA Preliminary Ecological Appraisal

RPR Rare Plant Registers

SAC Special Area of Conservation SPA Special Protection Area

SPI Species of Principal Importance
SSSI Site(s) of Special Scientific Interest

TVERC Thames Valley Environmental Records Centre

VC Vice-county

W&CA Wildlife & Countryside Act 1981

WHS Wildlife Heritage Site



1.0 Introduction

1.1 Background

WYG was commissioned by Bloor Homes and the Sandleford Farm Partnership in December 2018 to review the findings of the 2014 and 2018 woodland surveys with reference to the current proposals.

1.2 Site Location

The site is located at Sandleford Park in Newbury, West Berkshire and is centred at Ordnance Survey National Grid Reference SU 46847 64550. The survey area, hereafter referred to as the 'site', is shown on Figure 1 and comprises of agricultural fields with areas of grassland and several copses of ancient woodland dispersed throughout. A central valley runs from the north-western corner of the site towards the River Enborne at the site's southern boundary.

For details of the development description, please see the main ES chapter.

1.3 Purpose of the Report

The objective of this is assessment is to review the findings of the 2014 and 2018 woodland surveys with reference to the current proposals.

Note that, where possible, common names for flora and fauna have been used throughout this report for ease of reading.



2.0 Methodology

2.1 Desk Study

2.1.1 Previous Reports

An extended Phase 1 habitat survey was first completed by WYG in 2008, with regular updates, the most recent being in November 2017 (Appendix F1). WYG completed woodland NVC surveys in 2011, 2014 and 2018.

2.1.2 Local Ecological Records Centre

Up to date information was requested from both HBIC and TVERC in November 2017 for information on any nature conservation designations and protected or notable species records within 2 km of the site.

The data search covers:

- Statutory designated sites for nature conservation, namely SACs, SPAs, Ramsar sites, SSSIs, NNRs and LNRs;
- Non-statutory designated sites for nature conservation, namely LWS;
- Legally protected species, such as great crested newts, bats and badger;
- Notable habitats and species, such as those listed as Habitats or Species of Principal Importance; and,
- Priority habitats or species within the Berkshire LBAP.

The data search did not cover:

- Tree Preservation Orders (TPOs); or
- Conservation Areas designated for their special architectural and historic interest.

2.2 Field Surveys

The following methodologies have been used to identify the ecological receptors present on the site, which are relevant to the proposed development.

2.2.1 General Information regarding Botanical Recording

For the purposes of botanical recording, the country is divided into vice-counties (VCs), the boundaries of which remain fixed irrespective of modern political boundary changes. This allows continuity of recording and comparisons with data collected in the past. The site at Sandleford is in VC 22 Berkshire.

A Flora of Berkshire was published in 2005 (Crowley, 2005), with an update published in 2014 covering the years 2005 to 2014 (Crowley, 2014), and these remain the most up-to-date flora for the region and this includes bryophytes (mosses, liverworts and hornworts) besides vascular plants. The Botanical Society of the British Isles (BSBI) is in the process of publishing Rare Plant Registers (RPRs) for all vice-counties within the UK. The RPR for Berkshire was published in 2005.

All RPRs conform to strict regulations on which species are included and which are not. Thus all plants with 10 or fewer vice-county sites are included as VC-scarce and those with 4 or fewer as VC-



rare. Plant species which are Nationally Rare i.e. 1-15 occupied 10km squares (Wigginton 1999) and Nationally Scarce i.e. 16-100 occupied 10km squares (Stewart, Pearman & Preston 1994) are also included irrespective of how many VC records occur. The International Union for the Conservation of Nature (IUCN) criteria are also applied, again irrespective of how many VC records occur, the lowest IUCN category which merits inclusion is "Near-Threatened" defined in this case as more than 20% decline in England; present in 30 locations or fewer in England and with a continuing decline or fewer than 10,000 individuals in England (A Vascular Plant Red Data List for England, Cheffings and Farrell 2006). Value judgements can thus be made on individual species and the overall vegetation assemblage both at national and vice-county level. Modern county records are defined as post-1987.

Plants which receive legal protection through listing on Schedule 8 of the Wildlife and Countryside Act (1981) are also included, as are those listed in Appendix 1 of the Bern Convention and the EC Directive on the Conservation of Wild Fauna and Flora.

2.2.2 Habitats

The site is mainly in agricultural use and also contains several ancient woodland areas, which are dispersed throughout the site. These woodlands are locally designated, as Wildlife Heritage Sites (WHS), also known as Local Wildlife Sites (LWS) and are located on the site and in the immediate surrounds and are designated due to the presence of ancient woodland indicator species. The site has a fairly complex topography, but generally slopes towards the River Enborne which runs along the southern boundary. It also contains a central valley which runs from the north-western corner of the site towards the river in the south. At the fringes of the site are large tracts of mainly flat/gently sloping land, particularly towards the northern and western boundaries. Immediately beyond the site boundary to the south and west is agricultural land and woodland.

2.2.3 Survey Methodology (2014)

An NVC survey was completed for the LWS areas within the site (Figure 1), on the 30th May 2014 to assess their vegetation cover and assign them to habitat types as defined by Rodwell (1998) in *British Plant Communities Volume 1: Woodlands and scrub*. The methodology for assessing woodland sites differs in some respects from that assessing non-woody vegetation: firstly a 50m x 50m square (stand type) was assessed for dominant tree and shrub species, excluding ground flora at this stage. This stand type was taken from a random part of the woodland which was considered to be typical of the woodland block in its entirety. Where the woodland was smaller than the 50m x 50m square, the entire woodland was taken as the stand type.

Secondly, two $10m \times 10m$ quadrats were sampled for ground flora where the respective woodland block was considered to be represented by a homogenous (similar) ground flora type. This approach was taken in all but one of the woodlands; the exception being Waterleaze Copse, alongside the River Enborne where it was considered that two vegetation types were present; one at the top and sides of the slope and the other immediately alongside the river and flood zone where a total of four $10m \times 10m$ quadrats were sampled, two in each habitat type. Mature trees and shrubs were not counted in these $10m \times 10m$ quadrats as this information had already been gathered within the stand type assessment although sapling and seedling trees and shrubs were counted.

The species recorded within the quadrats were identified and their respective percentage cover within the quadrat was evaluated, including bryophytes. Non-native species (including invasives) were also counted within the quadrat species totals. The quadrat data was then compared against the floristic



tables in the Woodlands and Scrub volume of British Plant Communities (Rodwell 1998). The list of ancient woodland indicator plants was taken from *Indicators of ancient woodland: the use of vascular plants in evaluating ancient woodlands for nature conservation* (Rose, F. British Wildlife Magazine April 1999), Table 2 where the Central Southern England (JNCC South Region) covers Berkshire.

Protected and otherwise notable plants, including those which are scarce in Berkshire, were also searched for within the woodland survey area boundaries as a whole and were not restricted to those areas sampled by quadrats for NVC.

Assessments were also made of the feasibility of siting public footpaths both within and around each woodland area, based on the practicalities for the precise locations of footpaths and the need to avoid trampling sensitive vegetation and potential disturbance to ground nesting birds. These recommendations have been incorporated in the evolution of the proposals since 2014.

2.2.4 2018 update survey

The woodlands surveyed, and the results of the surveys are shown on Figure 1. They were surveyed using the look-see approach (cf. Hill *et al.* 2005) on 24 May 2018 in warm, dry weather by Dr Tim Rich BSc PhD MCIEEM, who has 36 years of experience of botanical surveys. The survey was completed in May which is the optimal time for woodland botanical surveys. Plant nomenclature follows Stace (2010). Latin names are given at first mention, except for NVC community names which are taken direct from Rodwell (1991).

2.2.5 Invasive Species

The site was searched for evidence of invasive plant species, such as Japanese knotweed, Himalayan balsam, giant hogweed, wall cotoneaster and rhododendron.

2.3 Limitations

2.3.1 2014

The 2014 survey was undertaken towards the end of the optimum period for recording woodland vegetation when many species would be in seed although the surveyor is an experienced botanist who can readily identify vegetative specimens and who is also familiar with the site from previous visits. Where bryophytes could not be identified in the field, samples were taken and these were identified later, using a microscope and identification keys if necessary.

Access was limited in Waterleaze Copse by high water levels and unstable substrates in proximity to the Enborne.

2.3.2 2018

The woodlands were ascribed to vegetation types in the NVC (Rodwell 1991) from a visual walkover survey based on experience with no quadrats recorded which is an acceptable form of survey (Rodwell 2006). All areas of woodland were accessible apart from the pheasant pen in High Wood which was not entered but viewed from the margins through the fence.

This report provides an assessment of the ecological interest present on the day the site was visited and highlights areas where further survey work may be recommended.



3.0 Baseline Conditions

3.1 Designated Sites

Table 1 shows some of designated site of nature conservation importance that have been identified within 2km of the site (Further information on statutory and non-statutory sites is provided in the Ecological Appraisal Report, Appendix F1). LWS High Wood Complex comprises all of the major woodland areas within the application boundary.

Table 1 Designated Sites within 2km

Designation	Site Name	Distance & Direction	Summary of features
SSSI	Greenham & Crookham Common	0.4km, E	Extensive complex of heathland, grassland, gorse scrub, broadleaved woodland and alder lined gullies. The site also includes a large ancient coppice woodland, Peckmoor Copse. The heathland and acid grassland within the SSSI comprises the single largest tract of these habitats within the County. Four species of reptiles are found within the SSSI (adder, common lizard, grass snake and slow worm). In addition, all three native newt species have been identified within the SSSI. A wide range of invertebrates and breeding birds are also located within the SSSI.
SSSI	River Kennet	1.8km, N	A river situated within a chalk catchment which had been modified in the past by the construction of the Kennet and Avon Canal. The river flows through substantial areas of undisturbed marshy grassland, wet woodland and reedbeds. The flora along the river is species-rich and diverse with a clear succession in plant communities reflects variations in the geology. Aquatic invertebrates are abundant with the river noted for large hatchings of mayflies which are of local distribution. The river supports good populations of kingfisher, mute swan and little grebe.
LNR	Herbert Plantation	1.3km, SSE	A mixed woodland of oak, birch, alder and pine.
LWS	High Wood	On-site	A group of six semi-natural ancient woodland (Crooks' Copse, Slockett's



Designation	Site Name	Distance & Direction	Summary of features
	Complex		Copse, Barn Copse, High Wood, Dirty Ground Copse, Gorse Covert) with an encroachment of sycamore. The woodlands are dominated by oak with hazel abundant in the understorey. Bluebells are often the dominant ground flora through the woodlands.
LWS	Waterleaze Copse	On-site	Area of ancient semi-natural woodland dominated by oak, adjacent to the River Enborne with areas of wet alder. The woodland also contains ash, sycamore, downy birch and crack willow. Ground flora is dominated by bracken and creeping soft-grass.

3.2 Survey Results

Raw data from the quadrats used to support the NVC definitions are provided in Appendix A. Totals of over 100% vegetation cover is acceptable in terms of plant abundance due to layering (overlapping) of taller vegetation above bryophytes and other low-growing species. Cover was assessed by eye as a vertical projection onto the ground of all live, above-ground parts of the plants in the quadrat (Rodwell). The distribution and extent of the NVC types is shown on Figure 1.

3.2.1 Crook's Copse

Botanical Assessment (2014)

The stand type for Crook's Copse was dominated by pedunculate oak (*Quercus robur*) with a shrub layer composed largely of hazel (*Corylus avellana*) and holly (*Ilex aquifolium*); both of which were locally dominant. Other tree and shrub species recorded in the stand type were ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and silver birch (*Betula pendula*). There was also a stand of alder (*Alnus glutinosa*) within the woodland occupying a wet flush although this was of relatively small size in comparison with the extent of oak dominated woodland.

The ground flora within the two 10m x 10m quadrats was dominated by bluebell (*Hyacinthoides non-scripta*), wood sorrel (*Oxalis acetosella*) and pignut (*Conopodium majus*).

Crook's Copse has been assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) Woodland: Typical Sub-community. The variant where hazel and holly dominate the shrub layer is widespread across Central Southern England; holly being most prominent on free-draining soils. Bluebell was by far the most abundant ground-flora species in this woodland overall although bracken runs it a close second; however the survey was carried out in late May at a time when the majority of bracken fronds had yet to unfurl completely and hence the ground cover could have been slightly underestimated for this reason. Flora species, including ancient

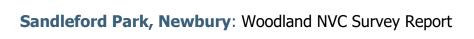


woodland indicators (shown in bold) are given in Table 2 below. Total of 22 ancient woodland indicator species (highlighted species) were recorded in the Copse.

Table 2 Flora in Crook's Copse

2.1 Trees & Shrubs	
Field maple	Acer campestre
Sycamore	Acer pseudoplatanus
Silver birch	Betula pendula
Downy birch	Betula pubescens
Hazel	Corylus avellana
Hawthorn	Crataegus monogyna
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Aspen	Populus tremula
Wild cherry	Prunus avium
Blackthorn	Prunus spinosa
Pedunculate oak	Quercus robur
Elder	Sambucus nigra
Wych elm	Ulmus glabra

2.2 Herbs	
Lesser burdock	Arctium minus
Wild arum	Arum maculatum
Common mouse-ear	Cerastium fontanum
Opposite leaved golden- saxifrage	Chrysosplenium oppositifolium
Enchanter's nightshade	Circaea lutetiana
Creeping thistle	Cirsium arvense
Smooth hawk's-beard	Crepis capillaris
Foxglove	Digitalis purpurea
Common hemp-nettle	Galeopsis tetrahit
Cleavers	Galium aparine
Herb-Robert	Geranium robertianum
Ground ivy	Glechoma hederacea
Wood avens	Geum urbanum





Ivy	Hedera helix
Hogweed	Heracleum sphondylium
Bluebell	Hyacinthoides non-scripta
Honeysuckle	Lonicera periclymenum
Yellow pimpernel	Lysimachia nemorum
Creeping jenny	Lysimachia nummularia
Three-nerved sandwort	Moehringia trinervia
Wood sorrel	Oxalis acetosella
Solomon's-seal	Polygonatum multiflorum
Barren strawberry	Potentilla sterilis
Primrose	Primula vulgaris
Bramble	Rubus fruticosus agg.
Sanicle	Sanicula europaea
Common figwort	Scrophularia nodosa
White campion	Silene alba
Hedge woundwort	Stachys sylvatica

2.3 Grasses, Sedges, Rushes & Ferns		
Lady fern	Athyrium filix-femina	
False brome	Brachypodium sylvaticum	
Remote sedge	Carex remota	
Wood sedge	Carex sylvatica	
Cock's-foot	Dactylis glomerata	
Tufted hair-grass	Deschampsia cespitosa	
Broad buckler fern	Dryopteris dilatata	
Male fern	Dryopteris filix-mas	
Creeping soft-grass	Holcus mollis	
Wood melic	Melica uniflora	
Wood meadow-grass	Poa nemoralis	

2.4 Bryophytes		
Rough-stalked feather-moss	Brachythecium rutabulum	
Rusty swan-neck moss	Campylopus flexuosus	
Silky forklet-moss	Dicranella heteromalla	





Common pincushion moss	Dicranoweisia cirrata
Common pocket-moss	Fissidens taxifolia
Cypress-leaved plait-moss	Hypnum cupressiforme
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum
Wood bristle-moss	Orthotrichum affine

Crook's Copse is one of the more botanically diverse woodlands within the site and has an impressive carpet of native bluebells which is particularly sensitive to trampling. No footpaths are proposed to intersect this woodland although paths around the perimeter would be acceptable; this is to protect sensitive vegetation and also, potentially, sensitive nesting birds including woodcock (*Scolopax rusticola*) which has been recorded previously on WYG surveys for other species in this area.

2018 update

This wood is on a hill crest at the north end of the park. The wood is located on apparently slightly more clayey, base-rich soils than most of the other copses and consequently has a slightly richer flora with locally abundant primroses (*Primula vulgaris*) and pignut (*Conopodium majus*), and carpets of pure bluebells where not shaded out by holly. Unlike the other woods, there are only small patches of creeping soft-grass and very little sorrel. The woodland is considered to fit **W10a** *Quercus robur* – *Pteridium aquilinum-Rubus fruticosus* woodland typical subcommunity. The small area of alder (*Alnus glutinosa*) woodland with remote sedge (*Carex remota*) noted in 2014 is considered too small to map.

3.2.2 Dirty Ground Copse

Botanical Assessment (2014)

The central 50m² was taken as the stand type for Dirty Ground Copse, which was dominated by pedunculate oak with locally frequent holly and hazel. Silver birch was joined by downy birch (*Betula pubescens*) and there was a small amount of sycamore (*Acer pseudoplatanus*).

Dirty Ground Copse was assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) Woodland: Typical Sub-community. Bracken formed 45% of one of the two 10m x 10m quadrats but only 4% in the other and this species was not uniformly present throughout the wood but occurred in several large stands, beneath which were stands of bluebells and wood sorrel and grasses, in the form of creeping soft-grass (*Holcus mollis*) and rough meadow-grass.

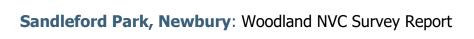
A clump of thin-spiked wood-sedge (*Carex strigosa*) was recorded near a wet flush in the centre of the wood at the intersection of two rides; this species having a restricted distribution in Berkshire. The ground flora species list is shown in Table 3 below. Total of 17 ancient woodland indicator species (highlighted species) were found in Dirty Ground Copse.



Table 3 Flora in Dirty Ground Copse

3.1 Trees & Shrubs	
Sycamore	Acer pseudoplatanus
Alder	Alnus glutinosa
Silver birch	Betula pendula
Downy birch	Betula pubescens
Hawthorn	Crataegus monogyna
Hazel	Corylus avellana
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Wild Cherry	Prunus avium
Blackthorn	Prunus spinosa
Pedunculate oak	Quercus robur
Dog rose	Rosa canina
Elder	Sambucus nigra
Rowan	Sorbus aucuparia

3.2 Herbs	
Bugle	Ajuga reptans
Wood anemone	Anemone nemorosa
Lesser burdock	Arctium minus
Lords-and-ladies	Arum maculatum
Wavy bitter-cress	Cardamine flexuosa
Common mouse-ear	Cerastium fontanum
Opposite leaved saxifrage	Chrysosplenium oppositifolium
Enchanter's nightshade	Circaea lutetiana
Spear thistle	Cirsium vulgare
Foxglove	Digitalis purpurea
Cleavers	Galium aparine
Herb Robert	Geranium robertianum
Ground-ivy	Glechoma hederacea
Ivy	Hedera helix ssp. Helix
Hogweed	Heracleum sphondylium
Bluebell	Hyacinthoides non-scripta





Honeysuckle	Lonicera periclymenum
creeping jenny	Lysimachia nummularia
Dog's mercury	Mercurialis perennis
Wood sorrel	Oxalis acetosella
Solomon's seal	Polygonatum multiflorum
Primrose	Primula vulgaris
Creeping buttercup	Ranunculus repens
Bramble	Rubus fruticosus agg.
Wood dock	Rumex sanguineus
Elder	Sambucus nigra
Sanicle	Sanicula europaea
Red campion	Silene dioica
Hedge woundwort	Stachys sylvatica
Greater stitchwort	Stellaria holostea.
Dandelion sp	Taraxacum sp.
Common nettle	Urtica dioica
Wood speedwell	Veronica montana
Common dog violet	Viola riviniana

3.3 Grasses, Sedges, Rushes & Ferns	
Hairy-brome	Bromopsis ramosa
Remote sedge	Carex remota
Thin-spiked wood-sedge	Carex strigosa
Cock's-foot	Dactylis glomerata
Tufted hair-grass	Deschampsia cespitosa
Male fern	Dryopteris filix-mas
Yorkshire fog	Holcus lanatus
Creeping soft grass	Holcus mollis
Wood millet	Milium effusum
Wood meadow-grass	Poa nemoralis
Bracken	Pteridium aquilinum

3.4 Bryophytes	
Rough-stalked feather-moss	Brachythecium rutabulum



Cypress-leaved plait-moss	Hypnum cupressiforme
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum

2018 update

This gently sloping, north-east-facing wood has large open areas of creeping soft-grass, bluebells and wood sorrel with little or no bracken (*Pteridium aquilinum*) and bramble (*Rubus fruticosus*), and a mixed sycamore - pedunculate oak canopy. There is little defined shrub layer other than a few areas of dense holly towards the SW end of the wood.

WYG (2014) considered this to fit W10a *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland typical subcommunity but the broad extent of creeping soft-grass and bluebell noted during 2018, now indicates it to be closest to the **W10e** *Acer pseudoplatanus-Oxalis acetosella* **subcommunity**.

At regular intervals in the wood there are springs and flushes running downhill to the north-east, often with iron-rich ground water flushing (which consequently raises the soil pH). These flushes are typically lined with remote sedge, creeping buttercup (*Ranunculus repens*), bugle (*Ajuga reptans*), enchanter's nightshade (*Circaea lutetiana*) and yellow pimpernel (*Lysimachia nemorum*), and sometimes have a few alder trees along the sides (Photograph 1). These are 2–4 m wide, narrow, impoverished fragments of the W7b *Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum* woodland, *Carex remota – Cirsium palustre* woodland. These fragments here, as elsewhere in the SE of England, lack marsh thistle (*Cirsium palustre*) and valerian (*Valeriana officinalis*). Where there has been significant fertiliser inflow washed in from the adjacent arable field above, these may also have patches of nettles (*Urtica dioica*).



Photograph 1. W7b *Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum* woodland, *Carex remota – Cirsium palustre* woodland flushes in Dirty Ground Copse



This is the only copse in which the flushes are obvious to any extent and are probably the origin of the name of the wood (Dirty Ground Copse).

3.2.3 Barn Copse

Botanical Assessment (2014)

The stand type for this woodland was taken as a random $50m \times 50m$ stand which was dominated by pedunculate oak and a shrub layer where holly was locally dominant. Although sessile oak (*Quercus petraea*) was recorded, this was in the minority and subordinate to pedunculate oak in abundance. Bluebell was the dominant ground flora species, both inside the quadrats and without and there were also several stands of bracken.

Barn Copse was assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) woodland, Typical Sub-community. The flora recorded in Barns Copse is shown in Table 4 below. Total of 16 ancient woodland indicator species (highlighted species) was recorded in this copse.

Table 4 Flora in Barn Copse

4.1 Trees & Shrubs	
Sycamore	Acer pseudoplatanus
Alder	Alnus glutinosa
Hazel	Corylus avellana
Hawthorn	Crataegus monogyna
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Blackthorn	Prunus spinosa
Pedunculate oak	Quercus robur
Sessile oak	Quercus petraea
Crack willow	Salix fragilis
Rowan	Sorbus aucuparia
Silver birch	Betula pendula

4.2 Herbs	
Bugle	Ajuga reptans
Garlic-mustard	Alliaria petiolata
Cow parsley	Anthriscus sylvestris
Lesser burdock	Arctium minus
Enchanter's nightshade	Circaea lutetiana
Creeping thistle	Cirsium arvense





Pignut	Conopodium majus
Foxglove	Digitalis purpurea
Common hemp nettle	Galeopsis tetrahit
Cleavers	Galium aparine
Herb Robert	Geranium robertianum
Wood avens	Geum urbanum
Ground-ivy	Glechoma hederacea
Ivy	Hedera helix
Bluebell	Hyacinthoides non-scripta
Creeping jenny	Lysimachia nummularia
Three-nerved sandwort	Moehringia trinervia
Wood sorrel	Oxalis acetosella
Primrose	Primula vulgaris
Creeping buttercup	Ranunculus repens
Gooseberry	Ribes uva-crispa
Bramble	Rubus fruticosus agg.
Broad-leaved dock	Rumex obtusifolius
Wood dock	Rumex sanguineus
Sanicle	Sanicula europaea
Common figwort	Scrophularia nodosa
Red campion	Silene dioica
Bittersweet	Solanum dulcamara
Hedge woundwort	Stachys sylvatica
Greater stitchwort	Stellaria holostea
Dandelion species	<i>Taraxacum</i> sp
Stinging nettle	Urtica dioica
Wood speedwell	Veronica montana
Tufted vetch	Vicia cracca on wood margins

4.3 Grasses, Sedges, Rushes & Ferns	
Creeping bent	Agrostis stolonifera
Hairy-brome	Bromopsis ramosa
Wood sedge	Carex sylvatica
Broad buckler-fern	Dryopteris dilatata
Male fern	Dryopteris filix-mas





Bearded couch	Elymus canina
Creeping soft-grass	Holcus mollis
Wood millet	Milium effusum
Wood meadow-grass	Poa annua
Bracken	Pteridium aquilinum

4.4 Bryophytes	
Common smoothcap moss	Atrichum undulatum
Rough-stalked feather-moss	Brachythecium rutabulum
Silky forklet-moss	Dicranella heteromalla
Cypress-leaved plait-moss	Hypnum cupressiforme
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum
Juniper haircap moss	Polytrichum juniperinum

2018 update

This gently sloping, north-facing wood has large areas of dense holly (*Ilex aquifolium*) with little ground flora, but where there is ground flora this is composed of patchy carpets of bluebells (*Hyacinthoides non-scripta*) and creeping soft-grass (*Holcus mollis*) with frequent wood sorrel, and sparse bracken and bramble. The canopy is mixed sycamore (*Acer pseudoplatanus*) and pedunculate oak (Quercus robur), with occasional ash (*Fraxinus excelsior*).

WYG (2014) treated this as the **W10a** *Quercus robur-Pteridium aquilinum-Rubus fruticosus* **woodland typical subcommunity** – which is considered to remain valid for the areas with little or no ground flora. Where there is ground flora, the community is considered to be the **W10e** *Acer pseudoplatanus-Oxalis acetosella* **subcommunity**.

3.2.4 Gorse Covert

Botanical Assessment (2014)

The central 50m x 50m square was taken as the stand type where pedunculate oak was dominant over a shrub layer dominated by holly. Beech (*Fagus sylvatica*) had probably been planted in this locality as it is not considered characteristic of acid soils which predominate on this site.

Gorse covert has been assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) Woodland, Typical Sub-community. The flora species recorded, including bryophytes is shown in Table 5 below. Total of 8 ancient woodland indicator species (highlighted species) were found in Gorse Covert woodland.



Table 5 Flora in Gorse Covert

5.1Trees & Shrubs	
Sycamore	Acer pseudoplatanus
Silver birch	Betula pendula
Hornbeam	Carpinus betulus
Beech	Fagus sylvatica
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Pedunculate oak	Quercus robur
Rowan	Sorbus aucuparia
Common gorse	Ulex europaeus
Wych elm	Ulmus glabra

5.2 Herbs	
Common mouse-ear	Cerastium fontanum
Enchanter's nightshade	Circaea lutetiana
Foxglove	Digitalis purpurea
Cleavers	Galium aparine
Wood avens	Geum urbanum
Bluebell	Hyacinthoides non-scripta
Honeysuckle	Lonicera periclymenum
Three-nerved sandwort	Moehringia trinervia
Primrose	Primula vulgaris
Creeping buttercup	Ranunculus repens
Bramble	Rubus fruticosus agg.
Raspberry	Rubus idaeus
Wood dock	Rumex sanguineus
Common ragwort	Senecio jacobaea
Red campion	Silene dioica
Hedge woundwort	Stachys sylvatica
Greater stitchwort	Stellaria holostea
Wood sage	Teucrium scorodonia
Stinging nettle	Urtica dioica





5.3 Grasses, Sedges, Rushes & Ferns	
Bracken	Pteridium aquilinum
Yorkshire-fog	Holcus lanatus
Creeping soft-grass	Holcus mollis
Common bent	Agrostis capillaris
Soft rush	Juncus effusus
Cock's-foot	Dactylis glomerata
Wood meadow-grass	Poa nemoralis
Rough meadow-grass	Poa trivialis
Male fern	Dryopteris filix-mas

5.4 Bryophytes	
Common smoothcap moss	Atrichum undulatum
Rough-stalked feather-moss	Brachythecium rutabulum
Rusty swan-neck moss	Campylopus flexuosus
Silky forklet-moss	Dicranella heteromalla
Broom fork-moss	Dicranum scoparium
Cypress-leaved plait-moss	Hypnum cupressiforme
Larger mouse-tail moss	Isothecium alopecuroides
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum
Common haircap moss	Polytrichum commune
Juniper haircap moss	Polytrichum juniperinum

2018 update

This woodland has a sparser ground flora composition than the other woodlands, with more bramble and a smaller range of woodland herbs as noted in WYG (2014). Only the east end has scattered patches of creeping soft-grass and wood sorrel is apparently absent, so this woodland is considered to be **W10a** *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland typical subcommunity.

The name 'Gorse Covert' implies it may once not have been woodland (gorse is still abundant along the south-east edge) and is of younger age than the other woodlands on site. It is not included in the Ancient Woodland Inventory (MagicMap https://magic.defra.gov.uk/MagicMap.aspx).



3.2.5 Slockett's Copse

Botanical Assessment (2014)

The stand type was taken at random and was dominated by pedunculate oak with a shrub layer dominated by holly. Slockett's Copse has been assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) Woodland, Typical Sub-community. The flora recorded including bryophytes is shown in Table 6 below. Total of 15 ancient woodland indicator species (highlighted species) were found in this woodland.

Table 6 Flora in Slockett's Copse

6.1 Trees & Shrubs	
Sycamore	Acer pseudoplatanus
Alder	Alnus glutinosa
Birch	Betula pendula
Hazel	Corylus avellana
Hawthorn	Crataegus monogyna
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Pedunculate oak	Quercus robur
Butcher's broom	Ruscus aculeatus
Elder	Sambucus nigra
Rowan	Sorbus aucuparia

6.2 Herbs	
Bugle	Ajuga reptans
Garlic mustard	Alliaria petiolata
lesser burdock	Arctium minus
lords-and-ladies	Arum maculatum
Common mouse-ear	Cerastium fontanum
Enchanter's nightshade	Circaea lutetiana
Spear thistle	Cirsium vulgare
Pignut	Conopodium majus
Foxglove	Digitalis purpurea
Common hemp nettle	Galeopsis tetrahit
Cleavers	Galium aparine
Herb Robert	Geranium robertianum





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Wood avens	Geum urbanum
Ground-ivy	Glechoma hederacea
Ivy	Hedera helix
Hogweed	Heracleum sphondylium
Bluebell	Hyacinthoides non-scripta
Honeysuckle	Lonicera periclymenum
Yellow pimpernel	Lysimachia nemorum
Creeping Jenny	Lysimachia nummularia
Three-nerved sandwort	Moehringia trinervia
Wood sorrel	Oxalis acetosella
Solomon's seal	Polygonatum multiflorum
Primrose	Primula vulgaris
Bramble	Rubus dasyphyllus
Bramble	Rubus fruticosus agg.
Bramble	Rubus ulmifolius
Common figwort	Scrophularia nodosa
Red campion	Silene dioica
Hedge woundwort	Stachys sylvatica
Greater stitchwort	Stellaria holostea.
Wood sage	Teucrium scorodonia
Stinging nettle	Urtica dioica
Wood speedwell	Veronica montana
Common dog violet	Viola riviniana

6.3 Grasses, Sedges, Rushes & Ferns	
False oat-grass	Arrhenatherum elatius
Remote sedge	Carex remota
Broad buckler-fern	Dryopteris dilatata
Male fern	Dryopteris filix-mas
Yorkshire-fog	Holcus lanatus
Creeping soft-grass	Holcus mollis
Soft rush	Juncus effusus
Wood millet	Milium effusum
Wood meadow-grass	Poa nemoralis
Rough meadow-grass	Poa trivialis



Bracken	Pteridium aquilinum
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6.4 Bryophytes	
Rough-stalked feather-moss	Brachythecium rutabulum
Cypress-leaved plait-moss	Hypnum cupressiforme
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum
Common pocket-moss	Fissidens taxifolius

2018 update

Similar to Barn Copse and parts of High Wood, this copse has some very dense areas of holly and small areas of open ground flora with bluebells and wood sorrel, but less creeping soft-grass overall (probably more shaded). This is also considered to fit the **W10e** *Acer pseudoplatanus-Oxalis acetosella* subcommunity rather than the W10a typical subcommunity.

3.2.6 High Wood

Botanical Assessment (2014)

The stand type for High Wood was a random 50m x 50m quadrat where pedunculate oak predominated although a small amount of sessile oak (*Quercus petraea*) was also present. High Wood has been assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak - Bracken – Bramble) Woodland, Typical Sub-community although there were some affinities with the *Acer pseudoplatanus – Anemone nemorosa* (Sycamore – Wood anemone) sub-community where these two species were frequent to locally abundant although they were not recorded within the quadrats.

The flora recorded within High Wood is shown in Table 6 below. Total of 14 ancient woodland indicator species (highlighted species) were found in this woodland.

Table 6 Flora in High Wood

7.1 Trees & Shrubs	
Sycamore	Acer pseudoplatanus
Silver birch	Betula pendula
Downy birch	Betula pubescens
Sweet chestnut	Castanea sativa
Hazel	Corylus avellana
Hawthorn	Crataegus monogyna
Ash	Fraxinus excelsior
Holly	Ilex aquifolium
Sessile oak	Quercus petraea





7.1 Trees & Shrubs	
Pedunculate oak	Quercus robur
Rowan	Sorbus aucuparia

7.2 Herbs		
Wood anemone	Anemone nemorosa	
Lords-and-ladies	Arum maculatum	
Common mouse-ear	Cerastium fontanum	
Enchanter's nightshade	Circaea lutetiana	
Pignut	Conopodium majus	
Foxglove	Digitalis purpurea	
Common hemp nettle	Galeopsis tetrahit	
Cleavers	Galium aparine	
Heath bedstraw	Galium saxatile	
Ground ivy	Glechoma hederacea	
Ivy	Hedera helix	
Bluebell	Hyacinthoides non-scripta	
Yellow iris	Iris pseudacorus	
Yellow archangel	Lamiastrum galeobdolon	
Honeysuckle	Lonicera periclymenum	
Creeping jenny	Lysimachia nummularia	
Three-nerved sandwort	Moehringia trinervia	
Wood sorrel	Oxalis acetosella	
Water-pepper	Persicaria hydropiper	
Solomon's seal	Polygonatum multiflorum	
Primrose	Primula vulgaris	
Bramble	Rubus dasyphyllus	
Sanicle	Sanicula europaea	
Common figwort	Scrophularia nodosa	
Greater stitchwort	Stellaria holostea	
Wood sage	Teucrium scorodonia	





7.3 Grasses, Sedges, Rushes & Ferns		
False brome	Brachypodium sylvaticum	
Wood sedge	Carex sylvatica	
Cock's-foot	Dactylis glomerata	
Tufted hair-grass	Deschampsia cespitosa	
Male fern	Dryopteris filix-mas	
Yorkshire-fog	Holcus lanatus	
Creeping soft-grass	Holcus mollis	
Soft rush	Juncus effusus	
Wood meadow-grass	Poa nemoralis	
Rough meadow-grass	Poa trivialis	
Bracken	Pteridium aquilinum	

7.4 Bryophytes	
Rough-stalked feather-moss	Brachythecium rutabulum
Common pincushion moss	Dicranoweisia cirrata
Broom fork-moss	Dicranum scoparium
Common pocket-moss	Fissidens taxifolius
Cypress-leaved plait-moss	Hypnum cupressiforme
Common feather-moss	Kindbergia praelonga
Swan's-neck thyme-moss	Mnium hornum
Common haircap moss	Polytrichum commune

2018 update

This large wood is quite varied. There is a large pheasant pen on the east side (not entered), a small area of neglected sweet chestnut (*Castanea sativa*) coppice in the centre and a few planted conifers (larch *Larix* sp., Sitka spruce *Picea sitchensis* and silver fir *Abies alba*) and some dense areas of holly with little ground flora, especially across the middle of the wood. However, the southern end is quite open with extensive glades of creeping soft-grass or mixed creeping soft-grass and bluebell as are areas on the east and north side, and occasionally on the west side. As with Barn Copse and Dirty Ground Copse, these are considered to be **W10e** *Acer pseudoplatanus-Oxalis acetosella* **subcommunity** rather than the W10a typical subcommunity.



3.2.7 Waterleaze Copse

Botanical Assessment (2014)

There are two distinct woodland compartments to Waterleaze Copse, the dry woodland at the top of the slope and the wet woodland alongside the River Enborne. Two 10m x 10m quadrats were sampled in each of these two habitat types.

The stand type for the dry woodland was taken as a random 50m x 50m square where pedunculate oak was dominant and the shrub layer was dominated by holly and hazel, the latter appearing to have been coppiced in the past. This drier section of woodland has been assigned to W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* (Pedunculate oak – Bracken – Bramble) Woodland, Typical Sub-community. The presence of sycamore (*Acer pseudoplatanus*) is not untypical for this sub-community although wood sorrel was only present in small quantity and not found in the quadrats which would appear to preclude the *Acer pseudoplatanus – Oxalis acetosella* (Sycamore – Wood sorrel) sub-community.

Although bracken was not a prominent feature of the quadrats, it was present on the free-draining slopes leading down to the River Enborne, as also was bramble. Creeping soft-grass (*Holcus mollis*) was patchily distributed as is typical for this sub-community; small amounts of wood millet (*Milium effusum*) and wood spurge (*Euphorbia amyqdaloides*) are also characteristic species.

The stand type for the wet woodland alongside the river corridor was also taken as a random 50m x 50m area where alder (*Alnus glutinosa*) was dominant although other trees and shrubs recorded comprised wych elm, silver birch, hazel, pedunculate oak, hazel and hawthorn. The wet woodland has been assigned to W6 *Alnus glutinosa* – *Urtica dioica* (Alder – Stinging nettle) Woodland, Typical Subcommunity. Stinging nettle was the dominant ground flora species with dense stands scattered throughout this section of the woodland. The presence of Ramsons (*Allium ursinum*) is an apparent anomaly although it is a feature of the *Sambucus nigra* (elder) sub-community of W6.

The species list for the two woodland types has been amalgamated in Table 7 below. Total of 25 ancient woodland indicator species were found in the two communities in Waterleaze copse. Non-native species recorded are shown in blue text, while invasive species are in red.

Table 7 Flora in Waterleaze Copse

8.1 Trees & Shrubs		
Alder	Alnus glutinosa	
Ash	Fraxinus excelsior	
Aspen	Populus tremula	
Beech	Fagus sylvatica	
Blackthorn	Prunus spinosa	
Downy birch	Betula pubescens	
Elder	Sambucus nigra	
Goat willow	Salix caprea	
Hawthorn	Crataegus monogyna	





8.1 Trees & Shrubs		
Hazel	Corylus avellana	
Holly	Ilex aquifolium	
Hornbeam	Carpinus betulus	
Pedunculate oak	Quercus robur	
Rowan	Sorbus aucuparia	
Silver birch	Betula pendula	
Sycamore	Acer pseudoplatanus	
Wild cherry	Prunus avium	
Wych elm	Ulmus glabra	

8.2 Herbs		
Bugle	Ajuga reptans	
Garlic-mustard	Alliaria petiolata	
Ramsons	Allium ursinum	
Lesser burdock	Arctium minus	
Lords and ladies	Arum maculatum	
Wavy bitter-cress	Cardamine flexuosa	
Greater cuckoo-flower	Cardamine raphanifolia	
Rosebay willowherb	Chamerion angustifolium	
Enchanter's nightshade	Circaea lutetiana	
Pink purslane	Claytonia sibirica	
Pignut	Conopodium majus	
Foxglove	Digitalis purpurea	
Spear-leaved willowherb	Epilobium lanceolatum	
Wood spurge	Euphorbia amygdaloides	
Meadowsweet	Filipendula ulmaria	
Common hemp-nettle	Galeopsis tetrahit	
Cleavers	Galium aparine	
Herb-Robert	Geranium robertianum	
Wood avens	Geum urbanum	
Ground ivy	Glechoma hederacea	
Ivy	Hedera helix	
Hogweed	Heracleum sphondylium	





Bluebell	Hyacinthoides non-scripta
Himalayan balsam	Impatiens glandulifera
Yellow archangel	Lamiastrum galeobdolon
Nipplewort	Lapsana communis
Honeysuckle	Lonicera periclymenum
Yellow pimpernel	Lysimachia nemorum
Creeping jenny	Lysimachia nummularia
Dog's-mercury	Mercurialis perennis
Three-nerved sandwort	Moehringia trinervia
Hemlock water-dropwort	Oenanthe crocata
Wood sorrel	Oxalis acetosella
Water-pepper	Persicaria hydropiper
Primrose	Primula vulgaris
Bramble	Rubus fruticosus agg.
Broad-leaved dock	Rumex obtusifolius
Wood dock	Rumex sanguineus
Red campion	Silene dioica
Bittersweet	Solanum dulcamara
Hedge woundwort	Stachys sylvatica
Greater stitchwort	Stellaria holostea
Common chickweed	Stellaria media
Wood sage	Teucrium scorodonia
Upright hedge-parsley	Torilis japonica
Stinging nettle	Urtica dioica
Wood speedwell	Veronica montana

8.3 Grasses, Sedges, Rushes & Ferns		
Wood false brome	Brachypodium sylvaticum	
Hairy brome	Bromopsis ramosa	
Remote sedge	Carex remota	
Wood sedge	Carex sylvatica	
Cock's-foot	Dactylis glomerata	
Tufted hair-grass	Deschampsia cespitosa	
Broad buckler-fern	Dryopteris dilatata	
Male fern	Dryopteris filix-mas	





Bearded couch	Elymus caninus
Giant fescue	Festuca gigantea
Creeping soft-grass	Holcus mollis
Soft rush	Juncus effusus
Thin-spiked wood-sedge	Carex strigosa
Wood millet	Melica uniflora
Wood meadow-grass	Poa nemoralis
Rough meadow-grass	Poa trivialis
Bracken	Pteridium aquilinum

8.4 Bryophytes		
Rough-stalked feather-moss	Brachythecium rutabulum	
Common pocket-moss	Fissidens taxifolius	
Cypress-leaved plait-moss	Hypnum cupressiforme	
Common feather-moss	Kindbergia praelonga	
Common haircap moss	Polytrichum commune	
Juniper haircap moss	Polytrichum juniperinum	
Swan's-neck thyme-moss	Mnium hornum	
Silky forklet moss	Dicranella heteromalla	
Mouse-tail moss	Isothecium myosuroides	
Lateral Cryphaea	Cryphaea heteromalla	

2018 update

The wood drops from the dry ground to the River Enborne with old meander channels and erosion terraces and the woodland types consequently also change with soils and water regimes. This woodland is considered more complex in structure than previously outlined in WYG (2014), which also notes the variation.

Parts of the woodland on the upper edge on the east side are considered to fit **W10a** *Quercus robur* –*Pteridium aquilinum-Rubus fruticosus* woodland typical subcommunity as previously reported (WYG 2014). The drier, large bank down to the river at the east end has extensive creeping soft-grass and is considered to fit the **W10e** *Acer pseudoplatanus-Oxalis acetosella* subcommunity.

The woodland upstream of the pond at SU471641 is considered to be **W6a** *Alnus glutinosa* – *Urtica dioica* woodland typical subcommunity.

The woodlands along the flood plain are more complex. On the wetter soils there are alders with nettles and these fit the W6a *Alnus glutinosa – Urtica dioica* woodland typical subcommunity. On the



slightly more raised soils there are large areas of dominant ramsons, which is usually typical of the **W8f** *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland *Allium ursinum* **subcommunity**, yet these are also partly under alder, not a typical canopy associate of W8e and many of the other W8 constants are sparse or absent. WYG (2014) also point out that there are large areas of ramsons that are not characteristic of the W6 woodlands (though known in the W6d *Sambucus nigra* subcommunity) and the 2019 survey accepts this classification of these stands as W6 though they could be considered to grade into W8f where there is more sycamore (Photograph 2).



Photograph 2. Areas of ramsons and sycamore in Waterleaze Copse.

3.2.8 Protected and Notable Species

No Wildlife and Countryside Act Schedule 8 legally protected species were found noted during the survey, nor were there any Section 41 NERC Act or Berkshire BAP plant species. However there were two species with restricted distributions in the vice county which are considered to be native. These are listed in Table 8 below.

Table 8 Plants with restricted distribution in Berkshire

Common Name	Scientific Name	Location	Comments
Thin-spiked wood- sedge	Carex strigosa	Dirty Ground Copse at SU 4675 6447 and Waterleaze Copse at SU 4698 6388	Both populations were associated with watercourses (ditch and River Enborne respectively). The population in Waterleaze Copse is listed in The Flora of Berkshire (Crawley 2005)
Lateral Cryphaea	Cryphaea heteromalla	Waterleaze Copse, growing on tree trunks overhanging the River Enborne	Although uncommon in Berkshire, this is not considered scarce on a National level



3.2.9 Invasive Species

A relatively small population of Himalayan balsam (*Impatiens glandulifera*) was present alongside the River Enborne within Waterleaze Copse during the 2014 survey. Removal of this species would be desirable although it is considered possible that there could be stands further up river which would also need to be eliminated in order to ensure that it does not re-appear on the site through seeds being brought downriver. Liaison with the Environment Agency is recommended in order that a systematic approach can be undertaken to remove Himalayan balsam from the river catchment to prevent further infestations occurring.

A single plant of Himalayan cotoneaster was noted in Slockett's Copse in 2018 (see Figure 1). Removal of this invasive species is recommended.

A further three non-native species were also recorded in Waterleaze Copse in 2014 (dame's violet, pink purslane and greater cuckoo-flower); all of which have restricted distributions in Berkshire but are not considered to be invasive and all were present in very small quantity.



4.0 Summary

4.1 Designated Sites

No statutory sites with plant interest which were identified though consultation will be affected by the proposed development.

All of the woodland areas within the surveyed area still merit their LWS status (non-statutory) as all can still be classified as ancient woodland except Gorse Covert irrespective of how many ancient woodland indicators are present as they are listed on the national ancient woodland inventory and appear on the 1877 first edition map of the Ordnance Survey. The low number of ancient woodland indicators in Gorse Covert is explained by the fact that this was originally open gorse scrub in 1877 (information supplied with the data search).

Table 9 below lists the number of ancient woodland indicator plants from each woodland site (2014).

Table 7 Ancient Woodland Indicator Plant Numbers per Wood

Woodland Name	Number of Ancient Woodland Indicators
Crook's Copse	22
Barn Copse	16
Slockett's Copse	15
High Wood	14
Dirty Ground Copse	17
Gorse Covert	8
Waterleaze Copse	25

4.2 NVC Communities

There are no substantive changes to the woodland structure or composition apparent from the descriptions of the woodlands given by WYG (2014), which includes a more detailed study and provided lists of species (including Ancient Woodland Indicators) as well as quadrat data. The some differences of interpretation of NVC types are given above with a slightly revised map provided as Figure 1.

The huge increase of holly in the understory of unmanaged woods in SE England over the last 50 years indicates that the Sandleford Park woods, without management over the next 20-30 years, may become uniformly dull and overgrown with holly as both a shrub and understory tree, resulting in dense shade and loss of ground flora plants such as the bluebells. This is already evident at Sandleford Park, for example in Barn Copse where the north-west arm of the wood has a very poor ground flora due to shade from holly. Holly management will give a long-term benefit to the overall diversity of the woodlands.



4.3 Notable Flora

The W10 communities in Dirty Ground Copse and Waterleaze Copse support small populations of thin-spiked wood-sedge which has a restricted distribution in Berkshire. In both cases, the sedge was strongly associated with water, as also was the Lateral Cryphaea in Waterleaze Copse. There are no apparent threats to these species as a result of the proposed development as the woodland will not be directly impacted upon as the footpaths within the masterplan will avoid the wet habitats where it grows in both woods. Further mitigation for these species is not considered necessary.

4.4 Assessment of current proposals

The current design has been shaped by ongoing ecological involvement, and as such, all woodlands have been retained with a 15m buffer in accordance with the Standing Advice from Natural England (2017, updated January 2018). The recommendations for footpath locations made in the 2014 report have been fully adhered to within the proposals, and it is recommended that existing paths are accurately mapped to fully inform future reserved matters applications.

4.5 Recommendations

Avoidance, mitigation and enhancement measures are included within the proposals and outlined within the Ecological Mitigation and Management Plan (*Appendix F18*), and will be refined during the reserved matters stage.

Following the 2018 update survey, the following additional recommendations have been added into the EMMP (*Appendix F18*):

- The huge increase of holly in the understory of unmanaged woods in SE England over the last 50 years indicates that the Sandleford Park woods, without management over the next 20-30 years, may become uniformly dull and overgrown with holly as both a shrub and understory tree, resulting in dense shade and loss of ground flora plants such as the bluebells. This is already evident at Sandleford Park, for example in Barn Copse where the north-west arm of the wood has a very poor ground flora due to shade from holly. Holly management will give a long-term benefit to the overall diversity of the woodlands.
- As already incorporated within the proposals, the use of existing paths are proposed
 wherever possible to minimise impacts. There are already vehicle paths in most of the
 woods either old or likely to have been created by the game keepers as part of the
 pheasant shoot. It is recommended that the existing tracks be mapped accurately and
 assessed for requirements for improving their bases for use as paths (some of the muddier
 parts of tracks in High Wood have already been improved with ballast) to inform future
 reserved matters applications.
- Recommendations for the eradication of Himalayan cotoneaster has been added to the eradication of other invasive species, including Himalayan balsam, as already outlined in the EMMP.



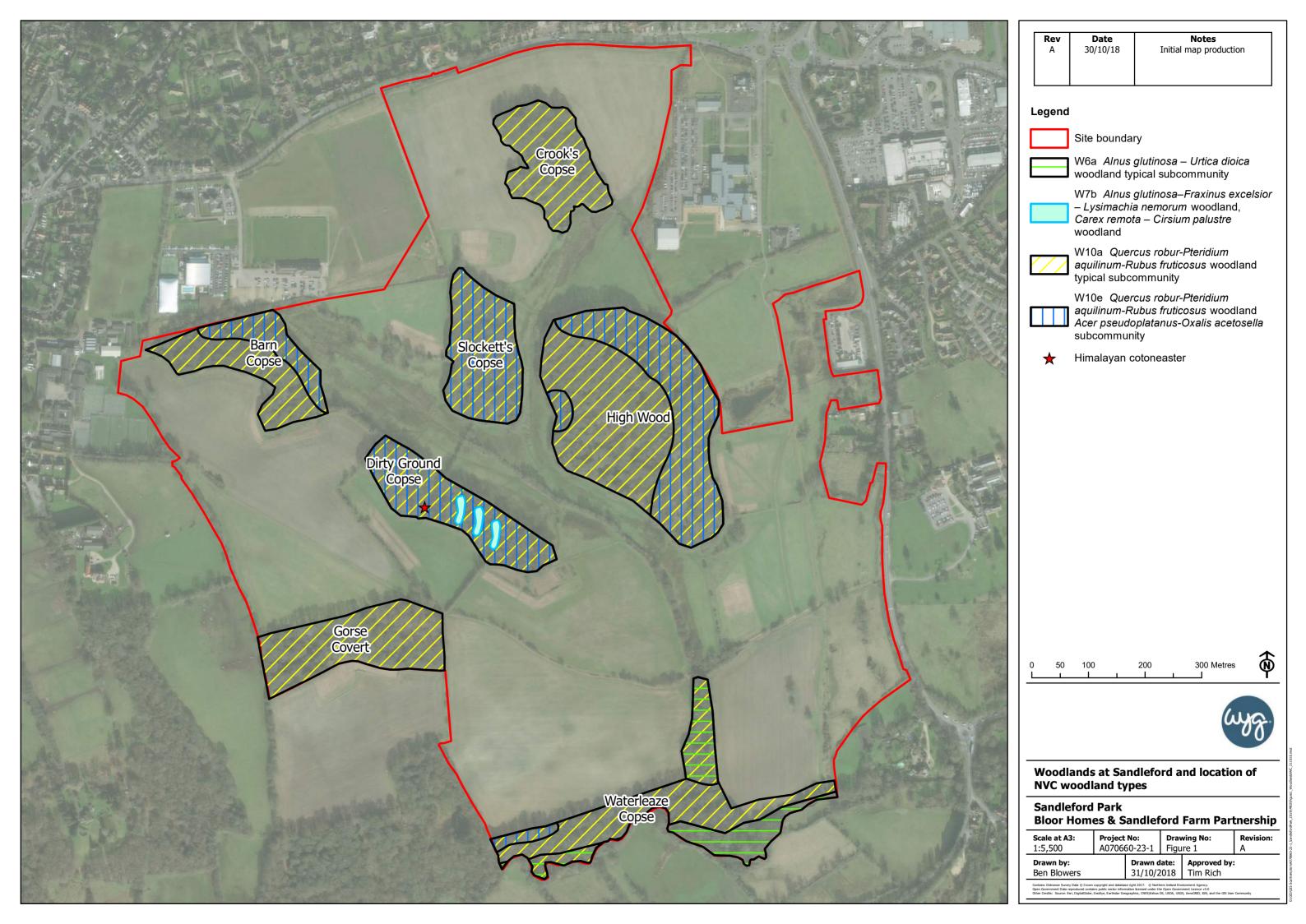
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FIGURES

Figure 1 – Site Location Plan & NVC Types (2018)





APPENDICES Appendix A – Quadrat Data (2014)





Crook's Copse		Stand Type: 50m x 50m	
		W10 Typical sub-community	
Q1	% cover		DAFOR
Conopodium majus	15	Quercus robur	D
Primula vulgaris	13	Corylus avellana	F LA
Hyacinthoides non-scripta	12	Ilex aquifolium	LD
Carex remota	11	Fraxinus excelsior	R
Poa trivialis	6	Crataegus monogyna	0
Pteridium aquilinum	6	Prunus spinosa	R
Veronica montana	5	Betula pendula	R
Kindbergia praelonga	4		
Melica uniflora	4		
Ilex aquifolium seedlings	3		
Oxalis acetosella	3		
Viola riviniana	3		
Brachypodium sylvaticum	2		
Galium aparine	2		
Geum urbanum	2		
Poa nemoralis	2		
Dactylis glomerata	1		
Galeopsis tetrahit	1		
Geranium robertianum	1		
Lysimachia nemorum	1		
Rubus fruticosus agg	1		
Sanicula europaea	1		
Scrophularia nodosa	1		
Total Cover =	100		

Q2	% cover
Hyacinthoides non-scripta	33
Oxalis acetosella	22
Ilex aquifolium saplings	8
Veronica montana	6
Dryopteris filix-mas	5
Kindbergia praelonga	5
Circaea lutetiana	5
Poa nemoralis	4
Fissidens taxifolia	3
Carex remota	3
Pteridium aquilinum	2
Brachypodium sylvaticum	2



Sanicula europaea	1
Lysimachia nemorum	1
Total Cover =	100

Additional
Athyrium filix-femina
Digitalis purpurea

Dirty Ground Copse		Stand Type - central 50m x 50m
		W10 Typical sub-community
Q1	% cover	Quercus robur
Poa trivialis	21	Betula pendula
Hyacinthoides non-scripta	19	Betula pubescens
Holcus mollis	15	Corylus avellana
Stellaria holostea	13	Ilex aquifolium
Circaea lutetiana	12	Acer pseudoplatanus
Poa nemoralis	5	
Pteridium aquilinum	4	
Rubus fruticosus agg	2	
Ilex aquifolium saplings	2	
Galium aparine	2	
Kindbergia praelonga	2	
Holcus lanatus	1	
Geranium robertianum	1	
Corylus avellana seedlings	1	
Total Cover =	100	
Q2	% cover	
Pteridium aquilinum	45	
Oxalis acetosella	16	
Hyacinthoides non-scripta	12	
Circaea lutetiana	9	
Stellaria holostea	9	
Milium effusum	4	
Poa trivialis	3	
Ilex aquifolium saplings	1	
Galium aparine	1	
Total Cover =	100	

Additional	
Carex strigosa	



Taraxacum sp. Ranunculus repens

Barn Copse		W10 Typical Sub-community	
Q1	% cover	Stand Type = random 50m x 50m	
Hyacinthoides non-scripta	25		
Circaea lutetiana	17	Quercus robur	D
Oxalis acetosella	15	Betula pendula	
Poa nemoralis	10	Acer pseudoplatanus	
Kindbergia praelonga	7	Corylus avellana	
Glechoma hederacea	6	Ilex aquifolium	F LD
Ilex aquifolium saplings	5		
Geranium robertianum	3	Additional	
Pteridium aquilinum	3		
Conopodium majus	2	Prunus spinosa	
Isothecium myosuroides	2	Crataegus monogyna	
Brachythecium rutabulum	2	Fraxinus excelsior	
Stellaria holostea	2	Quercus petraea	
Galeopsis tetrahit	1		
Total Cover =	100		

	%
Q2	cover
Hyacinthoides non-scripta	26
Poa trivialis	13
Stellaria holostea	11
Ilex aquifolium seedlings	7
Alliaria petiolata	6
Circaea lutetiana	6
Glechoma hederacea	5
Oxalis acetosella	5
Poa nemoralis	4
Veronica montana	3
Sanicula europaea	2
Geranium robertianum	2
Primula vulgaris	2
Polytrichum juniperinum	2
Corylus avellana saplings	2
Galium aparine	1
Ranunculus repens	1
Hedera helix	1



Total Cover =	100
Stachys sylvatica	1

Additional
Ajuga reptans
Moehringia trinervia
Rumex sanguineus
Arctium minus
Anthriscus sylvestris
Geum urbanum

Slockett's Copse		W10 Typical sub-community	
		Stand type = random 50m x 50m	
Q1	% cover		
Hyacinthoides non-scripta	24	Quercus robur	D
Stellaria holostea	15	Ilex aquifolium	LD - A
Holcus mollis	10	Corylus avellana	
Circaea lutetiana	9	Acer pseudoplatanus	
Poa trivialis	7	Crataegus monogyna	
Ilex aquifolium seedlings	6		
Oxalis acetosella	5		
Kindbergia praelonga	5		
Dryopteris filix-mas	4		
Poa nemoralis	3		
Veronica montana	3		
Pteridium aquilinum	2		
Scrophularia nodosa	2		
Fissidens taxifolius	2		
Conopodium majus	2		
Crataegus monogyna seedlings	1		
Geum urbanum	1		
Silene dioica	1		
Moehringia trinervia	1		
Total Cover =	103		

	%
Q2	cover
Dryopteris filix-mas	2
Galeopsis tetrahit	2





Total Cover =	100
Milium effusum	1
Galium aparine	1
Moehringia trinervia	2
Urtica dioica	4
Oxalis acetosella	8
Poa trivialis	18
Carex remota	10
Lysimachia nemorum	15
Dryopteris dilatata	1
Circaea lutetiana	18
Hyacinthoides non-scripta	18

Gorse Covert		Stand type = central 50m x 50m	
		W10 Typical sub-co	mmunity
Q1	% cover	Quercus robur	D
Pteridium aquilinum	39	Betula pendula	
Hyacinthoides non-scripta	8	Ilex aquifolium	F LD
Holcus mollis	8	Acer pseudoplatanus	
Brachythecium rutabulum	7	Sorbus aucuparia	
Poa trivialis	5	Fagus sylvatica (planted)	
Stellaria holostea	5	Ulex europaeus	
Rubus fruticosus agg	5	Ulmus glabra	
Ulex europaea seedlings	5		
Galium aparine	3		
Circaea lutetiana	3		
Dactylis glomerata	2		
Digitalis purpurea	2		
Lonicera periclymenum	2		
Dryopteris filix-mas	2		
Stachys sylvatica	2		
Moehringia trinervia	1		
Betula pendula seedlings	1		

Total Cover = 100

	%
Q2	cover
Pteridium aquilinum	30
Holcus mollis	25
Lonicera periclymenum	12



Rubus fruticosus agg	9
Brachythecium rutabulum	6
Stellaria holostea	5
Galium aparine	3
Dryopteris filix-mas	3
Poa trivialis	2
Digitalis purpurea	2
Dactylis glomerata	1
Betula pendula seedlings	1
Ulex europaeus seedlings	1
Total Cover =	100

Additional	
Ranunculus repens	
Urtica dioica	
Agrostis stolonifera	
Isothecium alopecuroides	

Waterleaze Copse Wood West (dry - top of bank)		Stand type = random 50m x 50r	
		W10 Typical sub-community	
Q1	% cover	Quercus robur	D
Holcus mollis	25	Acer pseudoplatanus	
Hyacinthoides non-scripta	15	Ulmus glabra	
Mercurialis perennis	10	Ilex aquifolium	
Circaea lutetiana	9	Corylus avellana	
Kindbergia praelonga	8	Betula pendula	
Veronica montana	7	Fraxinus excelsior	
Euphorbia amygdaloides	6	Alnus glutinosa	
Stellaria holostea	5		
Brachythecium rutabulum	5		
Pteridium aquilinum	3		
Carex remota	2		
Rubus fruticosus agg	2		
Ajuga reptans	1		
Galium aparine	1		
Lysimachia nemorum	1		
Arum maculatum	1		
Total Cover =	101		





Q4	% cover
Hyacinthoides non-scripta	31
Allium ursinum	24
Poa trivialis	9
Stellaria holostea	8
Poa nemoralis	6
Conopodium majus	5
Milium effusum	5
Veronica montana	4
Galeopsis tetrahit	3
Lamiastrum galeobdolon	2
Pteridium aquilinum	2
Carex remota	1
Total Cover =	100

Additional
Polytrichum juniperinum
Geranium robertianum
Oenanthe crocata
Montia sibirica
Epilobium lanceolatum
Cardamine flexuosa

River Enborne Wood (Wet)	W6 Alnus glutinosa - Urtica dioica typical sub-community
Q2	% cover
Urtica dioica	27
Allium ursinum	23
Mercurialis perennis	19
Holcus mollis	8
Alliaria petiolata	5
Impatiens glandulifera	3
Poa trivialis	3
Veronica montana	3
Poa nemoralis	2
Glechoma hederacea	2
Geum urbanum	2
Lamiastrum galeobdolon	1
Galium aparine	1
Cardamine raphanifolia	1
Carex remota	1



Total Cover =	103
Hedera helix	1
Dryopteris filix-mas	1

Q3	% cover
Urtica dioica	25
Mercurialis perennis	20
Allium ursinum	9
Carex remota	8
Poa trivialis	8
Impatiens glandulifera	6
Geum urbanum	5
Holcus mollis	4
Milium effusum	3
Ranunculus repens	3
Galium aparine	2
Deschampsia cespitosa	2
Rumex sanguineus	1
Oenanthe crocata	1
Hedera helix	1
Veronica montana	1
Silene dioica	1
Total Cover =	100

Additional
Ajuga reptans
Melica uniflora
Arctium minus
Fissidens taxifolius

High Wood			Stand Type = Random 50m x 50m	
			W10 Typical Sub- community	
Q1	% cover		Quercus robur	D
Holcus mollis		50	Betula pendula	
Pteridium aquilinum		36	Betula pubescens	
Stellaria holostea		3	Corylus avellana	
Brachythecium rutabulum		2	Crataegus monogyna	
Rubus fruticosus agg		2	Sorbus aucuparia	
Lonicera periclymenum		2	Acer pseudoplatanus	
Dryopteris filix-mas		2	Ilex aquifolium	LD
Lamiastrum galeobdolon		1	Fraxinus excelsior	



Total Cover =	100	
Digitalis purpurea	1	
Oxalis acetosella	1	

Q2	% cover
Holcus mollis	22
Pteridium aquilinum	19
Poa trivialis	13
Circaea lutetiana	12
Oxalis acetosella	10
Hyacinthoides non-scripta	7
Kindbergia praelonga	6
Poa nemoralis	5
Brachythecium rutabulum	3
Moehringia trinervia	2
Ilex aquifolium seedlings	1
Conopodium majus	1
Total Cover =	101

Additional
Carex sylvatica
Galeopsis tetrahit
Persicaria hydropiper
Anemone nemorosa