

Ecological Scoping/extended Phase 1 Habitat Survey

Sandleford Park, Newbury

ECOLOGICAL SCOPING/EXTENDED PHASE 1 HABITAT SURVEY

Sandleford Park

for

SANDLEFORD FARM OWNERS

Reference: A048365 Sandleford Park - ecology				
Issue		Prepared by:	Reviewed by:	Verified by:
1	Aug 2008	<i>A.R. Hutchings</i>	<i>S. Bremner</i>	<i>Derek Hair</i>
		ADRIAN HUTCHINGS Principal Ecologist	SABRINA BREMNER Consultant Ecologist	DEREK HAIR Associate Director
File Ref : A048365 Sandleford Park - ecology				
<p>White Young Green Environmental, The Mill Yard, Nursling Street, Southampton, Hants SO16 OAJ</p> <p>Telephone: 0870 609 1084 Facsimile: 023 80743762 www.wyg.com</p>				

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0.0 EXECUTIVE SUMMARY

Introduction	<p>White Young Green Environmental (WYGE) was commissioned by the Sandleford Farm Owners for the Sandleford Park Partnership to undertake an ecological scoping/extended Phase 1 habitat survey of the Sandleford Park area south of Newbury, in West Berkshire (Ordnance Survey Grid Reference of a central point on the site SU 46910,64395 (446910,164395)).</p> <p>The aims of this survey were to:</p> <ul style="list-style-type: none"> • To survey the ecological interests of this site and to make an assessment of the nature conservation value of the area; • To recommend further considerations and survey work as required; • To report on the findings from the above.
Site Overview	<p>Sandleford Park lies near Newbury in the Unitary Authority area of West Berkshire (see Figure 1. for the location and the site boundary and Figure 2. for general area). The survey area lies centrally between Newtown Road (A339) to the east, Monks Lane in the north and the Andover Road (A343) to the west. The River Enborne forms the southern boundary to the site.</p> <p>The site is mainly in agricultural use and also contains several ancient woodland areas, which are dispersed throughout the area. The site has a fairly complex topography, but generally slopes downwards from north to south towards the River Enborne. It also contains a central valley which runs from the north-western corner of the site towards the river at the site's southern boundary. 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.</p>
Evaluation of nature conservation interests	<p>The main ecological value of this site is summarised below.</p> <ul style="list-style-type: none"> • The woodlands at Sandleford Park are valuable at the County level; • Veteran trees on this site are considered to be valuable at the District level; • The central grasslands complex is valuable at the Local to District level; • The improved grassland areas are valuable within the zone of influence only; • The grassy banks/tracks and hedgerows are considered to be valuable at the Local level;

	<ul style="list-style-type: none"> • The section of the River Enborne along the southern boundary is considered to be valuable at a <i>District to County</i> level; • The ponds in Waterleaze Copse are valuable at the <i>Local</i> level, but collectively and given the complex hydrological regime of the central area providing a sub catchment for the River Enborne the waterbodies generally are of <i>District to County</i> level value; • The arable areas are valuable <i>within the zone of influence only</i>; • The site generally is valuable at the <i>District</i> Level, in terms of the influence of Sandleford Park on the surrounding landscape and in particular the interaction of the species and habitats on this site with those surrounding it; • The site is valuable at the <i>District</i> level for bats; • The site is of <i>Local</i> value as a general habitat for badgers; • The site is valuable at the <i>Local to District</i> level for dormice and water voles; • The site generally is valuable at the <i>District</i> level for birds generally; • Sandleford Park is valuable at the <i>Local</i> level for amphibians and reptiles; • Given the lack of information and the range of habitats found on this site it is difficult to precisely assess the value of Sandleford Park for invertebrates, but broadly it is considered that the site is valuable at the <i>District</i> level; • The site generally is of <i>Local to District</i> value for its flora given the presence of botanically richer areas to the south and east of Sandleford Park.
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Further considerations	<p>Summary of further considerations</p> <ul style="list-style-type: none"> • The elevated arable areas on this site are the least sensitive to change; • Changes to the hydrological regime of this site and the surrounding areas should be considered at an early stage in any development proposals; • The ecology of the landscape should be considered and protected as far as possible in the proposal design; • The sensitive wetland areas of the site should be protected as far as possible , including the River Enborne and floodplain, and central wet grassland area; • The collection of ancient woodlands should be protected as far as possible on this site; • The retention of all existing semi-natural habitats is the best opportunity for animal and plant species, including protected species, to be sustained on this site into the future; • Further biodiversity information will be required to ensure effective mitigation measures are put in place and that important species are protected and monitored; • Biodiversity matters should be taken into account at every stage in any development proposals and due diligence applied to protected species and habitats: • Close liaison and consultation will be necessary with relevant nature conservation agencies and organisations at every stage.
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1.0 INTRODUCTION

White Young Green Environmental (WYGE) was commissioned by the Sandleford Farm Owners for the Sandleford Park Partnership to undertake an ecological scoping/extended Phase 1 habitat survey of the Sandleford Park area south of Newbury, in West Berkshire (Ordnance Survey Grid Reference of a central point on the site SU 46910,64395 (446910,164395)).

The aims of this survey were to:

- To survey the ecological interests of this site and to make an assessment of the nature conservation value of the area;
- To recommend further considerations and survey work as required;
- To report on the findings from the above.

1.1 Site Description

Sandleford Park lies near Newbury in the Unitary Authority area of West Berkshire (see Figure 1. for the location and the site boundary and Figure 2. for general area). The survey area lies centrally between Newtown Road (A339) to the east, Monks Lane in the north and the Andover Road (A343) to the west. The River Enborne forms the southern boundary to the site.

The site is mainly in agricultural use and also contains several ancient woodland areas, which are dispersed throughout the area. The site has a fairly complex topography, but generally slopes downwards from north to south towards the River Enborne. It also contains a central valley which runs from the north-western corner of the site towards the river at the site's southern boundary. 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.

Further to the west is housing development, which is set around a series of residential streets, which link with Andover Road (A343). Elsewhere there are a number of comparatively new development uses close to the site boundary. To the north, sandwiched between the site and Monks Lane is Newbury Rugby Club, and to the north and east of the site is Newbury College, which gains access from a roundabout on Monks Lane.

There are no major road access points into the site, but an east-west public footpath traverses the site and links with Andover Road (A343) to the west and Newtown Road (A339) to the east. Another track (private) runs north-south from Newbury College, as far as the River Enborne.

1.2 Report Conditions

For a detailed review of the extent and general limitations of this report attention is drawn to the report conditions in Appendix A.

Figure 1. Site location and boundary

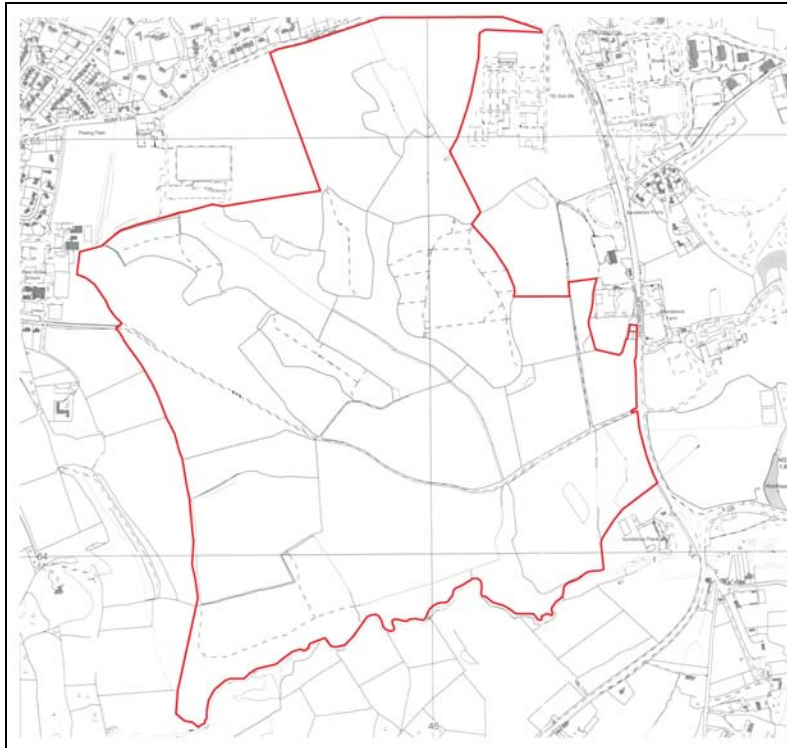
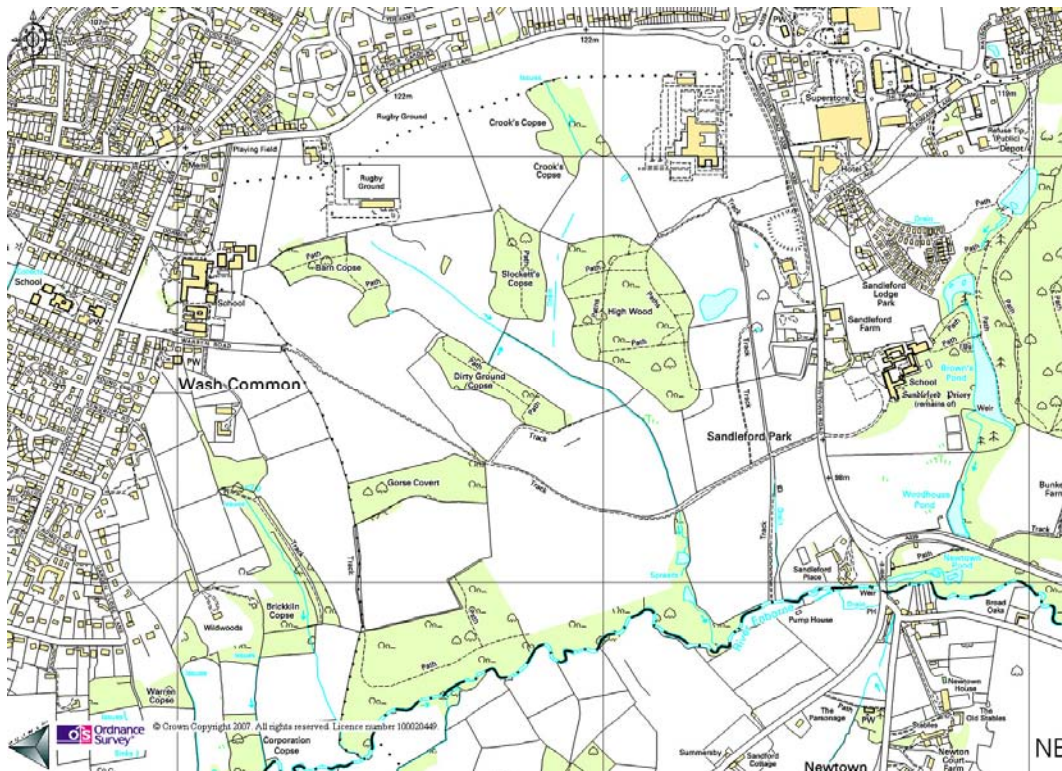


Figure 2. The area of Sandleford Park



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2.0 METHODOLOGY

The survey methodology comprised:

- A desk top review of existing information from readily available (web based) sources;
- Site-specific biodiversity information gained from consultation with Local Record Centres and other organisations;
- An ecological field survey of the site.

The site survey was undertaken by WYGE Principal Ecologist Adrian Hutchings and Consultant Ecologist Sabrina Bremner on 30th June 2008. The extent of survey is shown in Drawing No. A048365/PH1 (see Appendix F).

2.1 Desk Top Review

A review of readily available ecological information and other relevant environmental databases was undertaken for the site and general environs. This provided the overall ecological context for the site and surrounding areas and potential basis for the habitat and protected species surveys. The main sources of information consulted in this study were:

- Natural England 'Nature on the Map' website;
- The Multi Agency Geographic Information for the Countryside (MAGIC) website;

2.2 Consultation

Site and species specific information was sourced through direct consultation with the Thames Valley Environmental Records Centre (TVERC) and the Hampshire Biodiversity Information Centre (HBIC). These organisations collate and manage biological records from local wildlife recording groups and individuals within the West Berkshire and Hampshire areas. Time constraints prevented further consultation with individual wildlife groups.

The response from TVERC and HBIC is presented in Appendix C and a summary is provided in Section 3.2 below.

2.3 Scoping Survey

Field survey methodology followed standard approaches as follows:

2.3.1 Habitats

Habitat types were classified using the standard Phase 1 methodology (JNCC, 2003) and target notes were prepared describing any notable features identified during the survey. Wherever possible UK BAP priority habitats (see below) and important ecological features, which hold potential to support assemblages of species, were identified.

2.3.2 Protected and Notable Species

The field survey also set out to establish the likelihood of protected and notable species being present. This involved directly identifying species and/or features, including signs, potential refugia, breeding sites and foraging areas. The principle taxon groups surveyed were:

- Mammals, including bats (*Chiroptera*) and badgers (*Meles meles*);
- Nesting and feeding birds;
- Reptiles and amphibians, including slow worms (*Anguis fragilis*);
- Invertebrates;
- Other fauna;
- Vascular plants and vegetation types, including National Vegetation Classification (NVC), where possible

2.3.3 Biodiversity Action Plan priority species and habitats

During the course of the desk top review and the field survey effort was made to establish the potential for the site to support priority species and habitats which are listed in the UK Biodiversity Action Plan (UK BAP). Species and habitats listed in the UK BAP are also listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and are material considerations in applications for planning permission. The list of UKBAP priority species and habitats has recently been revised (2007) and is now more extensive and comprehensive.

2.4 Survey and consultation constraints

This scoping survey was undertaken at an appropriate time of the year to investigate general ecological issues at the Sandleford Park site. The site supports several recognised ancient woodlands, as such the survey timing was at the end of the most appropriate period to investigate the pre-vernal and spring flora. However it is considered that evidence of most of the relevant species would still be found at the end of June enabling an assessment of the floral interests. It is important to also note that the daytime survey was inappropriate to directly observe nocturnal and crepuscular (dawn and dusk activity) species, especially bats, but recommendations for follow up survey work are made where necessary. Given these constraints the surveyors have a high level of confidence in the findings and evaluation of the nature conservation interests of this site.

Although the consultation with TVERC and HBIC provided the most recent records held within these organisations, it is recognised that further data will be held by other wildlife recording groups and individuals e.g. the Berkshire Ornithological Society and the Berkshire and South Buckinghamshire Bat Group. Due to time constraints however, it was not possible to obtain these records,

3.0 BASELINE CONDITIONS

3.1 Desktop Review

3.1.1 Designated sites:

According to the Multi Agency Geographic Information for the Countryside (MAGIC) and Natural England 'Nature on the Map' websites, there are a number of statutory designated sites within two kilometres of the investigation area. These are:

West Berkshire

- Greenham & Crookham Commons Site of Special Scientific Interest (SSSI), (280.48 ha in favourable recovering condition);
- Enborne Copse SSSI (11.94 ha unfavourable recovering condition);
- River Kennet SSSI (111.55ha in unfavourable no change condition);
- Thatcham Reedbeds SSSI (67.32ha in favourable condition);
- Redhill Wood SSSI (29.06ha unfavourable no change condition);
- Kennett Valley Alderwoods SSSI (57.5ha favourable condition);
- Thatcham Reedbeds Local Nature Reserve (LNR), (14ha)

West Berkshire/Hampshire

- North Wessex Downs Area of Outstanding Natural Beauty, (AONB)

Hampshire

- Herbert Plantation LNR (25.58ha)

Details of these designated sites are given in Appendices B.

There are also several areas of Registered Common Land in the vicinity of Sandleford Park, including Greenham and Crookham Commons and Newtown Common to the south (see Figure 3 Appendix B).

3.1.2 Habitat classifications:

Ancient Woodland and Grassland Inventories –

Some of the habitats on the Sandleford Park site have also been identified and classified under several other categories. Figure 4 (Appendix B) gives the position of woodlands which are recognized under the **Ancient Woodland Inventory (AWI)** and grasslands which are listed under the **Grasslands Inventory (GI)**. Both categories are derived from a set of nature conservation criteria which are nationally recognized and designated by Natural England. These designations reflect the nature conservation value of these habitat types. Figure 5 (Appendix B) shows the detailed location of AWI woodlands on the site.

Woodlands which are classified under the **National Inventory of Woodland and Trees** are also shown on Figures 4 and 5 (see Appendix B). These areas are recognised by the Forestry Commission as being a broad productive forest type rather than woodlands of high nature conservation value.

Land management schemes:

There are no land management or agri-environment schemes currently active on the Sandleford Park site, but a field to the south in Hampshire is in the Environmental Stewardship (Agri-environment) Entry and Higher Level Scheme (see Figure 6 Appendix B). No further details are available for this site.

Information on the River Enborne which forms the southern boundary to Sandleford Park:

The Hampshire Biodiversity Action Plan (Water and Biodiversity Topic Plan, 2003) states that:

“.....The Enborne is a tributary of the Thames rising from springs along the northern escarpment of the Hampshire Downs to the south of Newbury. As these spring fed streams flow northwards they cross the Tertiary sands and clays of the Thames Basin. A rich diversity of wildlife habitats occur within this catchment.....The catchment of this river is characterised by its abundance of species rich wet meadows and ancient riverine woodland. A total of 19 SINC's have been identified for their wet meadows, wet heath and marshy grassland habitats within the catchment and a further 32 wet riverine and spring fed ancient woodlands have been identified as SINC's. The River Enborne is also of high nature conservation value in its own right with well preserved riverine structure and function as it meanders through often dense riverine woodland.....”

The River Enborne is regularly monitored by the Environment Agency to assess its biological quality. It is currently classified as Grade B (good) at the nearest monitoring site downstream of Sandleford Park (Bishop's Green) (see Appendix B for details). The Environment Agency report that the ecological value of the River Enborne at this point, is slightly less than that expected for a totally unpolluted river.

3.1.3 Miscellaneous classifications and information on Sandleford Park:

The Greenham Common area has been identified as an **Important Bird Area** by Birdlife International and the area formerly known as Sandleford Park Priory now an independent school is a **Registered Park and Garden** site (Sandleford Park Priory Grade II) (see Figure 7). The former reflects the importance of the Greenham Common area generally as a bird habitat.

The **English Nature Invertebrate Site Register** notes that the nearby Greenham Common (within one kilometre of Sandleford Park) includes nationally scarce invertebrate species such as bog-bush cricket (*Metrioptera brachyptera*), silver-studded blue (*Plebeius argus*) and purple emperor (*Apatura iris*), together with local species including grizzled skipper (*Pyrgus malvae*), white admiral (*Limenitis camilla*), silver-washed fritillary (*Argynnis paphia*) - a Species of Conservation Concern and grayling (*Hipparchia* sp.).

Sandleford Park sits on the western end of the **Greenham and Crookham Plateau Conservation Target Area** in Berkshire (see Appendix B for details). Conservation Target Areas are wide landscape areas that are the most important for nature conservation within the County. Once identified, these areas become a focus for targeted conservation work. CTAs are devised subjectively through consultation with specialist ecologists and natural historians in the County and reflect the presence

and/or collections of protected statutory and non-statutory sites and locations of particular species richness.

A large tract of land to the east of Sandleford Park has been identified by the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT) as the subject of a “Living Landscapes Project” and is known as the “**West Berkshire Living Landscape**”. The western boundary of this project area is the Newtown Road (A339) and encompasses Greenham and Crookham Commons and land towards the River Kennet to the north (approx. 10 square miles in total). This project aims to restore the landscape for the benefit of both wildlife and people and relies on the participation of landowners to achieve its aims. West Berkshire Council, a major landowner in the project area, has recently signed an agreement with BBOWT to work together to protect and enhance this landscape for wildlife.

The Sandleford Park site is found within the **Thames Basin Heath Joint Character Area** (JCA) (a Defra classification devised from the former English Nature Natural Areas and the Countryside Councils Landscape Character Areas classifications). This JCA is described as;

“... an area of often unenclosed remnant heathland, mixed woodland and coniferous forestry. The landform is dominated by flat or gently sloping plateaux cut by broad river valleys. There are small pockets of enclosed farmland and grazed floodplain. There has been a significant impact from mineral extraction on the areas underlain by sands and gravels...”

3.2 Consultation with Local Records Centres

Records obtained from the consultees provide an ecological context for the site and a supplementary source of biodiversity information. Records can also provide an indication of the potential of a site to support a species, especially if favourable habitat conditions are found there.

3.2.1 Designations

The TVERC response reflects the findings of the above desk-based review and provides details of the non-statutory Local Wildlife Sites (Wildlife Heritage Sites - WHS) in the Sandleford Park area north of the River Enborne. Information on these sites is not readily available from other sources. A number of WHS are located on the site (seven in total.) and in the immediate surrounds (two in total.) (see Figure 9 Appendix C), these are:

Within the site boundary:

- High Wood complex – Barn Copse WHS
- High Wood complex – Gorse Covert WHS
- High Wood complex – Crook’s Copse WHS
- High Wood complex – High Wood WHS
- High Wood complex – Dirty Ground Copse WHS
- High Wood complex – Slockett’s Copse WHS
- High Wood complex – Waterleaze Copse WHS

Immediately outside the site boundary:

- Brick Kiln Copse WHS
- Corporation Copse WHS

Details and information on these sites is given in Appendix C. Botanical surveys have been undertaken recently (2006) on the WHS outside the boundary of the site by TVERC, but the WHS within the site have not been surveyed since 1985.

The HBIC response has also provided details on the non-statutory wildlife sites within two kilometres of Sandleford Park, on the Hampshire side of the River Enborne. In Hampshire these sites are referred to as Sites of Importance to Nature Conservation (SINCs) and are the equivalent of WHS in West Berkshire. SINCs are designated with similar criteria to the Berkshire WHS (see Appendix D). A large number of SINCs are located within two kilometres of the Sandleford Park site on the Hampshire side (see Appendix C for details), but several are found in the immediate vicinity. These are:

- Falkland Farm Meadow East SINC
- Oakleaze Farm Meadow SINC
- Oakleaze Farm Meadow SINC
- Wood Fen, Oakleaze Farm SINC
- Alder Field Fen SINC
- Enborne Meadow SINC

Botanical surveys have been undertaken on some of these SINCs and records have been incorporated into the lists provided in Appendix C.

The criteria by which these sites have been designated are given in Appendix D. It should be noted that the criteria are currently under review in Berkshire, but the designation of these sites will not be affected.

3.2.2 Phase 1 and UKBAP priority Habitats:

TVERC have digitally mapped all land parcels and UKBAP priority habitats in the County of Berkshire including the Sandleford Park area. The map for this site and the surrounding area is given in Figure 9 (Appendix C). This habitat map was devised by aerial photo interpretation (API) and by the collation of information from existing survey reports, some areas have been 'ground truthed' to verify the API.

The map shows this site to hold the following UKBAP priority habitat types:

- Rivers;
- Lowland mixed deciduous woodland;
- Ponds;
- Eutrophic standing water

3.2.3 Species records:

The descriptions for the WHS found on Sandleford Park list the botanical species and describe the vegetation communities found within the specific WHS boundary (see Appendix C).

In addition, TVERC have provided a list of protected and notable species recorded within the WHS on the Sandleford Park site and the neighbouring area.

The Sandleford Park species recorded include the following notable species:

Common name	Scientific name	Date of record	Grid reference	National status	Location
<i>A lichen</i>	<i>Pertusaria pustulata</i>	1988	SU4664	IUCN (1994) vulnerable ¹	Sandleford Park
Bluebell	<i>Hyacinthoides non-scripta</i>	1984 - 2004	SU452636	W&CA 1981 Schedule 8 species ²	All WHS woodlands on site
Freshwater crayfish	<i>Austropotamobius pallipes</i>	1980	SU476639	W&CA 1981 Schedule 5 species ³ IUCN vulnerable and W	River Enborne
Woodcock	<i>Scolopax rusticola</i>	1985	SU470646	Amber list ⁴	High wood complex
Green woodpecker	<i>Picus viridis</i>	1985 and 2004	SU4522636	Amber list	High Wood complex and Corporation Wood

¹ IUCN (1994) vulnerable: VULNERABLE (VU) A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future, as defined by any of the [criteria A to E](#).

² W&CA 1981 Schedule 8 species The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in [Schedule 8](#), and prohibits the unauthorised intentional uprooting of such plants.

³ W&CA 1981 Schedule 5 species The Act makes it an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed in [Schedule 5](#), and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.

⁴ Amber list Birds of Conservation Concern: Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.

Species recorded from Greenham Common and other locations immediately surrounding the Sandleford Park site include the following notable species:

Common name	Scientific name	Date of record	Grid reference	National status	Location
Bog bush cricket	<i>Metrioptera brachyptera</i>	Pre 1996	SU4864	UKBAP priority species ⁵	Greenham Common
Wall (butterfly)	<i>Lasiommata megera</i>	1984 - 2004	SU452636	UKBAP priority species	Greenham Common
Small heath	<i>Coenonympha pamphilus</i>	1988 - 1995	SU4864	UKBAP priority species	Greenham Common and gullies
Poplar lutestring (moth)	<i>Tetthea or</i>	2004	SU453647	UKBAP priority species	Newbury and Wash Common
Palmate newt	<i>Lissotriton helveticus</i>	2004	SU480549	W&CA 1981 Schedule 5, parts 5A and b species	Rivar near Newbury
Common toad	<i>Bufo bufo</i>	2004	SU480549	W&CA 1981 Schedule 5, parts 5A and b species	Rivar near Newbury
Common frog	<i>Rana temporaria</i>	2001	SU463662	W&CA 1981 Schedule 5, parts 5A and b species	Rivar near Newbury
Common lizard	<i>Zootoca (Lacerta) vivipara</i>	2004	SU480549	W&CA 1981 Schedule 5, parts 5A and b species	Rivar near Newbury
Slow worm	<i>Anguis fragilis</i>	2004	SU480549	W&CA 1981 Schedule 5, parts 1, 5A and b species	Rivar near Newbury
Grass snake	<i>Natrix natrix</i>	2004	SU480549	W&CA 1981 Schedule 5, parts 1, 5A and b species	Rivar near Newbury
Song thrush	<i>Turdus Philomelos</i>	2000	SU456656	UKBAP priority species and Red list ⁶	Various locations in Newbury

⁵ UK BAP Priority Species; Twenty-six species of bird are identified as priority species in the UK Biodiversity Action Plan (UK BAP), each the subject of a dedicated action plan which seeks to reverse their declines and protect vulnerable populations.

⁶ Red-list Birds of Conservation Concern species are those that are Globally Threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

HBIC have provided records for a large range of species from the land and designated wildlife sites to the south of Sandleford Park on the Hampshire side (see Appendix C). These records show that the open grasslands and woodlands are notable for a moth (*Lepidoptera*) species in particular and birds. A number of notable vascular plants are also recorded from the woodlands and grasslands. It is probable, given the proximity of these sites to Sandleford Park, that some of these species will also be found in similar habitats found on this site.

Tree Preservation Orders (TPOs):

There are currently no individual or Group TPOs on the Sandleford Park site (Stuart Souden, Countryside and Environment Dept., West Berkshire Council, pers. comm.)

4.0 DESCRIPTION OF SITE ECOLOGY

4.1 Detailed Description of Site

4.1.1 Geology, soils and topography

Sandleford Park sits on the sandy Bagshot Beds Formation and London Clay deposits characteristically found in the London Basin area. The elevated plateau sections of the site are an extension of the gravel and sand deposits of the Quaternary and Tertiary geological strata of the Greenham and Crookham areas to the east. These gently slope down to the London Clays and alluvial deposits of the River Enborne valley and the small tributaries emerging from the gravel-clay interface in the central area of the site.

The gravels form a well-drained substrate over much of the site on which acidic to neutral impoverished soils have developed under woodland. In the open field areas these soils are gradually becoming podsolised and/or are thinly spread over gravel deposits. The soils which have developed in these areas are generally acidic to acid-neutral pH and generally nutrient poor.

In the lower lying areas the soils which have developed over the London Clays are brown-earths, but are gleyed in places due to the high water table along the River Enborne valley or because of the springs emerging from the gravel-clay junction. The River Enborne has deposited alluvial substrate along the valley and here fertile alluvial soils have developed in juxtaposition to the predominantly acidic, nutrient poor formation in the adjacent areas of the site.

Ground water, which seasonally rises and falls within the terrace gravels and in the Bagshot Beds, is perched over the London Clay and gives rise to seepage points and springs on valley sides. The spring lines found in the centre of the site have formed a narrow and flat valley where drainage is poor and the water table is permanently high. In several areas in the upper valley springs and waterlogging have led to the development of a mire formation. Along with the River Enborne system, hydrologically this is the most sensitive area on the site.

4.1.2 Habitats and vegetation communities

A map of the Phase 1 habitat survey is given in Drawing No. A048365/PH1 which includes *Target notes* of notable ecological features on the site (refer to Appendix F).

The following Phase 1 habitat types were present within the survey area:

- Woodland – broadleaved, semi-natural (A.1.1.1)
- Woodland – mixed, plantation (A1.3.2)
- Scrub – dense/continuous (A2.1)
- Scrub – scattered (A2.2)
- Acid grassland – unimproved (B1.1)
- Acid grassland – semi-improved (B1.2)
- Improved grassland (B4)
- Marshy grassland (B5)
- Mire/flush and spring/basic flush (E2.2)
- Tall herb and fern/other, tall ruderal (C3.1)
- Cultivated/disturbed land/arable (J1)
- Boundaries – intact hedge, species-poor (J2.1.2)
- Boundaries – defunct hedge, species-poor (J2.2.2)
- Open water/standing water, eutrophic (G1.1)
- Running water, eutrophic (G2.1)

The habitats surveyed on site have affinities towards the following UKBAP priority habitat types:

- Rivers;
- Eutrophic standing waters;
- Arable field margins;
- Hedgerows;
- Wet woodland;
- Lowland mixed deciduous woodland;
- Purple moor grass and rush pasture;
- Lowland acidic grassland.

For description purposes the Sandleford Park site can be categorised into a number of broad habitat areas and these are discussed below:

- Woodlands and notable trees;
- Unimproved and semi-improved grasslands;
- Hedgerows, banks and tracks;
- Running and standing waters;
- Arable land;

Woodlands and notable trees (the names of these woodlands are adopted from the WHS information):

There are seven main woodland blocks on the Sandleford Park site. These form a network of broadleaved woodland habitats in close proximity to each other and largely connected by hedgerows and wide grassy tracks and banks. The central core of woodlands is set in a confined valley system and within a mosaic of wet grassland and semi-improved acidic grassland.

All woodlands are recognised as “Ancient” (listed under the national Ancient Woodland Inventory) and all appear on the 1877 Ordnance Survey First Edition Map.

Waterleaze Copse bordering the River Enborne has reduced in size considerably since 1977 and Gorse Covert, as its name suggests, was largely open scrub at that stage. Generally the other woodlands have not changed in shape and size since the early maps of the site.

The woodlands are currently managed for game purposes and several have large pheasant release pens within them (High Wood and Waterleaze Copse in particular) and feeding stations scattered throughout. No visible evidence of silvicultural practices were found during the survey apart from clearance for game shooting rides and the tidying of fallen trees.

Waterleaze Copse (13.6 ha in total):

This woodland has two elements:

- An elevated dry acidic oak woodland;
- A strip of wet woodland bordering the River Enborne.

The dry elevated woodland areas (approx. 10 ha) have affinities towards the National Vegetation Classification (NVC) type W10e *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland: *Acer pseudoplatanus-Oxalis acetosella* subcommunity. Gorse Covert and parts of High Wood are covered by this category. The woodlands are well-drained and typically acidic to neutral with relatively sparse ground flora. The flora is enriched in the damper areas adjacent to the wet woodland and streams. Bracken tends to dominant edge and more open areas of the woodland and nettles have colonised the more fertile edge bordering the arable fields.

The trees are typically mature with some fine specimens of oak (*Quercus robur*), beech (*Fagus sylvatica*), horse chestnut (*Aesculus hippocastanum*) and silver birch (*Betula pendula*), but sycamore (*Acer pseudoplatanus*) has colonised extensively and is locally dominant. The latter species is found in seedling, sapling, semi-mature and mature forms and indicates a long period of colonisation. The trend is towards the domination of this species. The shrub component is relatively sparse, but in places is dominated by dense hazel (*Corylus avellana*), holly (*Ilex aquifolium*) and elder *Sambucus nigra*, the latter predominant in the disturbed areas near the pheasant release pen.

The wet woodland area (approx. 3.6 ha) is found in a narrow strip of Waterleaze Copse bordering the River Enborne and is dominated by alder (*Alnus glutinosa*) of varying ages. The woodland floor is typically washed over by winter floods. The community here has affinities towards the NVC type W6a *Alnus glutinosa-Urtica dioica* woodland typical subcommunity. This wet woodland grades to the dry acidic woodland above the floodplain in places, but generally the boundary between the two woodland types is pronounced. There are approximately 11 AWI present.

A characteristic valley side terrace step, which is steep in places, signifies the transition from dry to wet areas and this includes a woodland boundary bank. The floodplain appears to be more extensive on the southern side of the River. Several small tributaries and springs cut through the valley side terrace, the dominant one flowing from the central valley of the site in the River. There are several base rich flushes flowing directly into the river from the valley terrace and to the east a culverted ditch has formed an open ruderal dominated patch.

The lower lying woodland complex in the centre of the site comprises the High Wood complex, i.e. High Wood, Slockett's Copse, Crook's Copse, Barn Copse and Dirty Ground Copse, and part of Waterleaze Copse (as described above). Most of these woodlands are situated on the London Clay-Bagshot Bed interface and appear to be humid and damp grading to drier elevated margins above.

The High Wood complex:

This complex of woodlands comprises six separate sites in the central area of Sandleford Park. All have similar communities present and are typically well drained, acidic oak-bracken-wood sorrel woodland types (affinities with the W10e sub community NVC type). Brief information on each is given below:

High Wood (8.9ha) – a large ancient woodland situated centrally within the site. The woodland holds the largest pheasant release pen found on the site, but generally this appears not to have had a major impact on the woodland. Generally the woodland is structurally diverse and naturally developing with no significant evidence of recent forestry management activity.

The canopy is continuous with some mature specimens of oak, sweet chestnut, silver birch and sycamore. Similar to most woodlands at Sandleford Park this one is being rapidly colonised by sycamore which dominates large areas of the woodland creating a dense and shaded understorey. The shrub layer is also dense in parts and dominated by holly, but generally it is characteristically sparse with hazel on the edges and elder within the pheasant release pen. The ground flora is also typically sparse and acidic, but in the wet flushes and open areas the flora is more diverse. It is predicted that the pre-vernal flora will be interesting and require more detailed survey at an appropriate time.

Slockett's Copse (2.6ha) – similar to High Wood, this is also a characteristically acidic oak-hazel woodland, but separated from the latter by a narrow wet grassland valley and stream/spring line. This area is also shot over and managed for game purposes, but no pheasant release pen is evident. Springs and base-rich flushes also emerge from the hillside and enrich the ground flora accordingly. There also occasional mature specimens of ash in this woodland.

Crook's Copse (2.3ha) – the northern-most and smallest woodland in the complex, but nonetheless one of the most interesting. The stream which flows into the valley between High Wood and Slockett's Copse originates in Crook's Copse and gathers in a small incised channel within the woodland. The woodland as a result is humid and damp with numerous base-rich, wet flushes emanating from the hillside. The woodland is also structurally diverse with mature oak and ash with substantial sycamore natural regeneration and the shrub layer is dominated by holly and hazel with blackthorn (*Prunus spinosa*) and hawthorn (*Crataegus monogyna*) on the margins. The ground flora is not exceptional, but in the wetter areas comprises species such as opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), primrose (*Primula* sp.), creeping jenny (*Lysimachia nummularia*), bluebell (*Hyacinthoides non-scripta*), and several fern species (Pteridophyta).

Dirty Ground Copse (2.5ha) – similar to the other woodlands in this complex this area is also acidic, but humid with base-rich flushes and spring lines

Gorse Covert (2.9ha) – a dry, well-drained woodland which appears as a thicket in the early Ordnance Survey maps, rather than a mature woodland feature. It has developed since this time however, into a mature woodland characteristic of the

acidic ground with large areas dominated by bracken (*Pteridium aquilinum*) with gorse (*Ulex europaeus*) on the edges. The woodland supports mature oaks specimens as well as ash (*Fraxinus excelsior*), sycamore and silver birch with occasional rowan (*Sorbus aucuparia*). The ground flora was particularly dry at the time of survey, but appeared to hold a typical sparse acidic flora including foxglove (*Digitalis purpurea*), bluebell, wood sage (*Teucrium scorodonia*) and honeysuckle (*Lonicera periclymenum*).

These woodlands fulfil the criteria for the definition of the UKBAP priority habitat type *Lowland Mixed Deciduous Woodland (as they are over 0.25ha and support characteristic plant communities)*.

Notable trees (see Photos 8 and 9 Appendix E):

There are several notable trees found on the Sandleford Park site and these are probably remnants of the former parkland which covered much of this area. Many are found within existing woodland blocks but some are located outside these areas along the grass verges and tracks. There appears to be an assemblage of large specimen oaks (all exceeding 3.5-4.0m girths) in the south eastern section of the site and all hold potential to support roosting bats and a possible diverse lichen flora. The position of these trees is noted in Drawing No. A048365/PH1.

Unimproved and semi-improved grasslands:

Many of the grasslands on this site have been agriculturally improved and degraded, but small areas of unimproved acidic grassland and a more extensive area of wet marshy grassland still remain. These are found predominantly in the central area of the site and surrounded by woodlands. A few fields in the eastern part of the site are cut for hay, but appear to be improved to semi-improved in character (see Photos 5 and 7, Appendix E).

Acidic grasslands are found in the well-drained elevated areas of Sandleford Park, many are now semi-improved to improved in character but small areas of unimproved grassland are found adjacent to the woodland, particularly High Wood, Dirty Ground and Slockett's Copse. The grassland vegetation present has broad affinities towards the NVC type U1 *Festuca ovina-Agrostis capillaris-Rumex acetosella* grasslands, but is generally modified and degraded from intensive grazing. Collectively the unimproved grassland areas will meet the criteria for defining the Lowland Acidic Grassland UKBAP priority habitat type, but generally they exist as small scattered patches across the site.

In contrast, the wet grasslands are found together encompassing several fields separated by hedgerows and streams. These comprise a large area in the centre of the site. The meadows straddle the main stream flowing north-south towards the River Enborne and are encircled by WHS/ancient woodland. Together the woodland and wet grassland complex forms an important natural asset for this site (see Photos 12-14, Appendix E).

The wet grassland vegetation has affinities towards the rush pasture NVC type MG10a *Holcus lanatus-Juncus effusus* rush-pasture typical subcommunity and is very wet and mire-like in places (see Photo 12, Appendix E). Where springs and base-rich flushes emerge into the valley bottom the mires reach their greatest extent and are found upslope away from the stream and valley bottom area. The community is dominated by rushes, but a range of wet grassland species are also present, including ragged robin (*Lychnis flos-cuculi*), marsh foxtail (*Alopecurus geniculatus*),

plicate sweet grass (*Glyceria notata*), jointed rush (*Juncus articulatus*) and wavy bittercress (*Cardamine flexuosa*). This community is characteristic of semi-improved grasslands with remnant unimproved patches.

The wet grassland areas on this site do not directly conform with the UKBAP priority habitat type definitions, but are most closely related to *Fens* in wet mesotrophic grasslands.

Hedgerows, banks and tracks:

There is an extensive network of hedgerows, banks and tracks across the Sandleford Park site (these are shown on Drawing No. A048365/PH1). Many of the hedgerows are species-poor and discontinuous, but nevertheless form important corridors connecting woodlands and other habitats over the site. Some hedgerows in contrast are extensive with mature trees and integral grassy banks and form important habitats in their own right. The grass banks and hedgerows bordering the two main tracks which run north south (in the eastern area of the site) and east west (across the middle of the site) are the most noteworthy (see Photos 4 and 5, Appendix E).

Running and standing waters:

The section of the River Enborne which flows through Sandleford Park is characteristic of this naturally developing and varied structure water body (see Photos 10 and 11, Appendix E). It is bordered on each bank by riparian wet woodland (alder carr) which ranges in width from a few metres to a broad belt of some 20 – 30m each side. The wet woodland grades to elevated areas supporting damp to dry acidic woodland. The stream is shaded for much of its length through the survey area and as such the emergent and aquatic vegetation communities appear to be sparse.

The hydrological regime of this river is typically varied with winter flooding and summer low flows. This regime is reflected in the structural and geomorphological variation of the river being rich in a range of riverine features, including point bars, riffles, glides, pools and meanders bends. At several points high earth-cliff banks have developed and appear to support kingfisher (*Alcedo atthis*) and water vole (*Arvicola terrestris*) burrows (at the summer flow water level), although it is unknown whether these are still extant. To the south extensive wet meadows are apparent and some of these appear to be unimproved and botanically diverse.

Within Waterleaze Copse there are two ponds which are on line with the stream flowing from the north to the River Enborne. Both are heavily silted, but support emergent and some aquatic vegetation and surrounding wetland and alder carr. Much of the margins are heavily shaded by willow scrub and the mature tree canopy of the surrounding woodland. Shooting hides are evident at both ponds. A further small pond is found to the north of the site near Crook's Copse and this is also heavily shaded and degraded. The large reservoir in the adjacent Newbury College grounds offers a habitat for waterbirds and aquatic invertebrates.

Arable land;

Large areas of this site are in arable production and the fields under this land use are generally of limited ecological interest (see Photos 1 and 2, Appendix E). Many of the margins to these fields however are less intensively managed and hold some potential to support characteristic plants of disturbed ground and arable areas (see Photo 3, Appendix E). There are also several fields which have been put aside for

the purpose as game cover crops. Further surveys are recommended at a more appropriate time of year to investigate this potential interest area.

4.1.3 The potential of the area to support protected and notable species

Mammals:

Bats

No direct or indirect evidence of roosting or foraging bats was observed during the site survey, but this was to be expected due to the timing of the visit and the extent of the site.

The woodlands and mature trees across the site generally have high potential as bats roosting habitat and equally high potential as foraging and commuting grounds. The network of linear habitats which connect mature broadleaved woodlands and trees with other habitats provide important commuting corridors across the site and between the arable fields. Several invertebrate-rich feeding areas are apparent on the site, including the central wet grasslands and High Wood complex, the River Enborne and riparian woodlands and the reservoir near Newbury College.

The arable fields and improved grassland areas have Low Potential as bat foraging areas.

Badgers

A badger sett is located in the north west corner of High Wood on sloping ground near the boundary. Three active entrances were found, but more detailed survey will be required to ascertain the full extent of this population. The Game Keeper on site mentioned that this was the only known sett on Sandleford Park and indeed no others were observed during this survey.

The improved and semi-improved grasslands surrounding the woodlands, especially in the northern area of the site, provide Moderate Potential as foraging ground for badgers. The adjoining playing fields and Rugby Club land beyond the site boundary also offer further foraging potential.

Dormouse

No evidence of dormouse (*Muscardinus avellanarius*) was found on the Sandleford Park site. However, the interconnectivity of the woodland habitats by intact hedgerows, particularly in the northern area, and the derelict hazel understorey in some of the woodlands does provide favourable conditions for this species. It is considered that the following dormouse interest applies to woodlands on the site:

Woodland name	Dormouse potential	Comments
High Wood	Moderate - High	Large extent and diverse structure, well connected by intact hedgerows
Crook's Copse	Moderate	Diverse structure, well connected, small size

Barn Copse	Moderate	Diverse structure and well connected with other woodlands
Slockett's Copse	Moderate - High	Close to High Wood and well connected to Crook's Copse
Dirty Ground Copse	Low - Moderate	Poor structure, but connected to Barn Copse via hedgerows
Waterleaze Copse	Moderate - High	Large extent and diverse structure, hazel is found throughout the wood, derelict and extensive in places
Gorse Covert	Low	Poor structure and lack of hazel understorey

Further survey would set out to locate and map the distribution of dormice over the site.

Water vole

Probable water vole burrows were located along this section of the River Enborne, these will need to be investigated further to confirm their presence on this site. The River and riparian habitats are favourable for this species and the potential of the site to support them is Moderate to High.

Other mammals

Roe (*Capreolus capreolus*) and muntjac (*Muntiacus reevesi*) deer were observed during the survey within Waterleaze Copse and High Wood. Two brown hares (*Lepus europaeus*) were located on the wet grassland in the centre of the site.

Generally the potential of the site to support these mammals and species such as: weasel (*Mustela nivalis*), stoat (*Mustela erminea*), bank vole (*Clethrionomys glareolus*), wood mouse (*Apodemus sylvaticus*) and yellow-necked mouse (*Apodemus flavicollis*) is High.

Birds

The site supports extensive areas of habitat favourable to both tree and ground nesting birds. A number of species were recorded during the survey, including all three species of woodpecker (family Picidae), skylark (*Alauda arvensis*), buzzard (*Buteo buteo*) and kestrel (*Falco tinnunculus*). Grey partridge (*Perdix perdix*) are known to breed nearby (Gamekeeper pers. comm.).

The most important areas for breeding birds are the wet grasslands and High Wood complex in the centre of the site and Waterleaze Copse. Along the River Enborne kingfisher burrows were observed in the earth banks in Waterleaze Copse. However, it is considered that all woodlands, hedgerows and grassy banks around the site have moderate to high potential as breeding bird habitat.

Reptiles and amphibians:

No reptiles were observed during the survey, but the elevated grassland areas of the site hold moderate to high potential for this taxon group. The northern south-sloping sections of the site based on the improved –semi-improved acidic grasslands hold the greatest potential and where they grade into the wet grasslands in the centre of the site the habitat reaches its most favourable condition for reptiles.

Similarly, no amphibians were observed during the survey but the site does hold moderate to high potential for this group, particularly in the dry acidic-wet grassland areas of the central part of the site. Here the habitat is favourable for both grass snake (*Natrix natrix*) and adder (*Vipera berus*). Two ponds exist in Waterleaze Copse and a single pond in the north of the site. These are shaded and silted and have low potential as smooth/ palmate newt (*Triturus* sp.) and/or great crested newt (*Triturus cristatus*) habitat.

Invertebrates

Sandleford Park supports a wide range of habitats which will be utilised by an equally large range of invertebrate groups. The following is a broad assessment of the potential of the site for selected invertebrate groups.

Invertebrate interest group	Potential of habitats on Sandleford Park	Comments
Grasshopper and Crickets (Orthoptera)	High	Grassy banks and acidic semi-improved grasslands
Dragonflies and damselflies (Odonata)	Low to moderate	The wet grassland area, streams and ponds in Waterleaze wood
Lepidoptera (Butterflies and moths)	Moderate	Woodland species and common grassland species
Hymenoptera (bees, ants and wasps)	Moderate	Exposed bare ground areas in acidic grasslands
Hoverflies (Diptera, Syrphidae)	Moderate	Woodlands and acidic grasslands
Flies (Diptera generally)	Moderate - High	The range of habitats on the site will be favourable for this wide-ranging group
Beetles (Coleoptera)	High	Woodlands
Crustacea (Freshwater crayfish)	Low	The native crayfish has been recorded from the River Enborne in the past, but it is doubtful now whether it is still present in this stream.
Mollusca (Snails and slugs)	Low to moderate	Due to the unfavourable geology for this group, but the ancient woodlands may hold moderate potential for snails
Deadwood invertebrates generally	High	All woodlands hold a high percentage of deadwood habitat in various forms, inc. standing and fallen deadwood, deadwood on live trees etc
Aquatic macro-invertebrates	Moderate - High	River Enborne and streams/ wet grassland in the central area

Vascular plants

The woodlands hold the main vascular plant interest on this site, in particular the flora and vegetation communities associated with ancient woodlands (as noted above). The wet grassland areas in the central part of the site also support a characteristic flora which is relatively diverse. No individual notable plant species were located during the survey, but the site holds moderate potential to support these species.

Non-vascular plants

The site supports a number of humid and damp environments which are favourable for mosses and liverworts (Bryophytes), and ferns. The damp, base-rich flush areas of the woodlands, in particular within Waterleaze Copse, High Wood and Crook's Copse appear to hold moderate to high potential in this respect. Similarly, the veteran tree component of the site, in particular the mature oaks in the south east of the area, have moderate to high potential to support notable lichens.

4.1.4 Summary of Ecological Interest

In summary the main ecological interest at Sandleford Park as assessed through the site survey is considered to be (not in order of preference):

- The topographic diversity of the site, including elevated plateaux, central valley system, river terraces, spring lines and base-rich flushes and the River Enborne floodplain;
- The complex of ancient woodlands across the site and the associated ancient woodland flora, but most importantly the central core of woodlands which are in close proximity to one another;
- The continuous network of woodlands, hedgerows and grassy banks/tracks across the site;
- The River Enborne – a naturally developing river system;
- The riparian wet woodland strips (alder carr) bordering the River Enborne;
- The mature tree component, in particular the assemblage of large oaks in the south east corner of the site;
- The wet grassland system in the central valley which is encircled by ancient woodlands;
- The moderate to high potential for the site and habitats therein to support a range of taxonomic groups, including bats, badgers, nesting birds, reptiles, selected groups of invertebrates including grasshoppers and crickets, beetles, aquatic macro-invertebrates and deadwood invertebrates, lichens and characteristic ancient woodland vascular plants.

5.0 NATURE CONSERVATION EVALUATION

5.1 Introduction to evaluation methodology

The following section considers the intrinsic value of the habitats and the protected species most likely to be present. In assessing importance of a feature, habitat or species a range of guidelines have been referred to including:

- The UK BAP (from www.ukbap.org.uk);
- A Nature Conservation Review (Ratcliffe. 1977);
- Guidelines for Ecological Impact Assessment in the United Kingdom (IEEM, 2006).

Six principle criteria are discussed in relation to habitat and species value (after Ratcliffe, 1977), these are:

- Size or extent;
- Diversity;
- Rarity;
- Naturalness;
- Typicalness;
- Position in an ecological/geographical unit.

In accordance with the IEEM guidance noted above, the value or potential value of an ecological resource or feature is determined within a defined geographical context. The following frame of reference is used in this report:

- International;
- UK;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- local or Parish; and
- within zone of influence only (which might be the project site or a larger area).

5.2 Evaluation of habitats

Woodlands and notable trees:

The woodlands at Sandleford Park comprise approximately 25.8% of the total area (32.8ha) and are the dominant habitat on the site. Several woodlands are particularly large, e.g. High Wood and Waterleaze Copse 8.9 and 13.6 ha respectively, but it is their proximity and connectivity, particularly in the central area which renders these woodlands valuable in nature conservation terms.

All the woodlands on the site are listed on the Ancient Woodland Inventory and support elements of a characteristic ancient flora. The dry acidic woodlands are typically species-poor, but nonetheless representative of their type. The botanical diversity of these woods is enhanced in the wetter areas where springs and base-rich

flushes emerge and in this respect are of similar status to the Greenham gully woodlands to the found to the east of Sandleford Park. The range of habitats found at this site is poor in relation to the bordering Greenham and Crookham Common SSSI and the northern and southern wooded gullies of that site are more extensive and diverse than the spring lines and wet flush areas found at Sandleford Park. The narrow wet woodland-alder carr strip alongside the River Enborne is however worthy of particular note and meets the definition for the UKBAP priority habitat type *Wet Woodland*.

The woodlands have been modified to some extent for game management purposes and are rapidly being colonised by sycamore, but they do retain a significant element of their original ecological character and ancient woodland plant communities. The ancient woodlands represent the most natural areas on the site alongside the River Enborne. The shape and size of these woodlands for example has changed little since the first edition Ordnance Survey maps were produced and it is assumed for a considerable period prior to this.

As woodland habitats *per se* none of the woodlands are particularly rare features in Berkshire, a County which has a very high percentage cover of ancient woodlands. The woodlands do meet the definition of the UKBAP priority habitat type *Lowland Mixed Deciduous Woodland* and all are recognised at a County level as Wildlife Heritage Sites (WHS). In this respect it is judged that all the woodlands on the site still fulfil the requirements as WHS under the following criteria (see Appendix D):

1. **Woodland**
 - (a) *Ancient semi-natural woodlands*
6. **Corridors, habitat mosaics and habitat adjacent to statutory sites or Wildlife Heritage Sites**
 - (c) *Habitat adjacent to existing statutory sites or WHS which is important to the nature conservation interest of the site as well as acting as a buffer area to the surrounding area.*

Generally it is considered that that the woodlands at Sandleford Park are valuable at the **County** level.

There are a number of notable trees on the Sandleford Park site. These are veteran trees which are probably relicts of the former parkland landscape around Sandleford Park. Several of these specimens are in excess of 300 years of age and as such provide valuable wildlife habitats and are important landscape features. The rare lichen *Pertusaria pustulata* has been recorded on Sandleford Park and its primary habitat is mature trees. Veteran trees are relatively uncommon in the UK today and in West Berkshire generally, therefore these trees are considered to be valuable at the **District** level.

Grasslands:

The complex of semi-improved acidic and wet grassland in the central area of the site comprises a relatively large area at Sandleford Park (together these habitats make up approximately 44.2ha or 35% of the total area of the site). However it is the position of these grasslands in relation to the main High Wood woodlands complex which renders them ecologically interesting and valuable in nature conservation terms.

Many of the grasslands across the site have been agriculturally improved and modified, but small areas of lowland acidic grassland can be found and the wet grassland in the central valley has unimproved and semi-improved elements. Both habitat types are

typical and widespread in Berkshire and in the Region generally however, but again it is their proximity to other habitats nearby and the mosaic of grassland types which bolsters the value of the grasslands within the central area.

Collectively the unimproved patches of acidic grassland would meet the definition of the UKBAP priority habitat type *Lowland Acidic Grassland*, but as they are scattered in a semi-improved and improved grassland mosaic their value is diminished. It is considered however, that the wet grasslands meet the requirements for the definition of the UKBAP priority habitat type *Rush Pasture* and in combination with the surrounding woodlands would meet the criteria for WHS designation under the following:

2. **Neutral/Acid/Calcareous Grassland**
 - (b) *Semi-improved grasslands which retain a significant element of unimproved grassland.*
5. **Species**
 - (c) *Sites which may be important for invertebrates (e.g. sites supporting deadwood, ephemeral ponds, marshy ground etc.).*
7. **Corridors, habitat mosaics and habitat adjacent to statutory sites or Wildlife Heritage Sites**
 - (d) *Habitat adjacent to existing statutory sites or WHS which is important to the nature conservation interest of the site as well as acting as a buffer area to the surrounding area.*

It is considered that the central grasslands complex is valuable at the **Local to District** level. The improved grassland areas are considered to be valuable **within the zone of influence only**

Hedgerows, grass banks and tracks:

Many of the hedgerows are species-poor, but some are well established and ancient in origin. Their primary value lies in providing linear corridor features and by connecting woodlands and other habitats across the site - this particularly important in the arable production areas.

In combination with grassy banks and tracks traversing the site, the hedgerows provide a notable habitat type in their own right. The two wide tracks traversing the site are particularly interesting providing warm, south-facing grassy banks with integral hedgerows. These features especially are considered to be valuable at the **Local** level.

Water bodies:

The River Enborne represents the most natural feature on the Sandleford Park site. It is naturally developing and retains much of its original form and structure being unmodified by man made structures and bank works. The riparian zone is also unmodified and buffered by wet woodland and dry acidic woodland in the elevated areas to the north and low lying meadows to the south. The River retains high water and biological quality (as reported and monitored by the Environment Agency) and supports characteristic riverine wildlife.

This section of the River is considered to be valuable at a **District to County** level.

There are other water bodies on the Sandleford Park site, including the central stream which drains the wet grasslands complex, the two ponds in Waterleaze Copse, a single small pond in the north of the site and the numerous springs and base-rich flush points.

The ponds in Waterleaze Copse are regarded as being valuable at the **Local** level, but collectively and given the complex hydrological regime of the central area providing a sub catchment for the River Enborne the waterbodies generally are considered to be of **District to County** level value.

Arable land:

Much of the Sandleford Park farmland landscape has been significantly modified and approximately half the total area is managed intensively for agricultural production. The arable land encompasses approximately 65.4ha or 51.4% of the total area of the site and forms the background matrix in which many of the other habitats are located. The arable areas of Sandleford Park have relatively low ecological value in relation to the habitat types noted above.

The main ecological interest is found at the margins of the arable farmland, in the surrounding linear habitats, woodlands, grasslands of the central valley and the streams. There is some potential for arable plants to establish, particularly in and around the game cover crop sites, but no records exist for this fragile plant group and further work is required to establish whether Sandleford Park is an important area in this respect.

It is therefore difficult to judge the value of the site for rare arable plants, but generally the arable areas are considered to be valuable ***within the zone of influence*** only in nature conservation terms.

Landscape ecology and general summary of habitat evaluation:

Sandleford Park is a large site extending to approximately 127ha of countryside and comprising a range of land uses and habitat types. The geological and topographical diversity of this site has led to the development of a range of habitats and associated plant and animal communities. There is an apparent ecological gradient from dry elevated areas in the north and west to the wet lower lying areas in the central valley and south bordering the River Enborne.

The drier elevated areas have been managed intensively for agricultural production, whilst the lower lying areas have been grazed and semi-natural habitats have been retained for game management purposes. Apart from the central valley the land uses and habitats across the site are well defined by boundary fences and hedgerows, but the wet grassland system of the central valley comprises a mosaic of wet and dry grasslands grading to woodland edge and streamside. The central area of the site and the River Enborne floodplain, because of the complex hydrological conditions, are ecologically sensitive.

The primary habitats across the site are well connected and linked by linear features, including hedgerows, tracks, grassy banks and streams. The landscape ecology of this site is therefore important and the retention of the network of habitats across the site (in this case primarily for game management purposes) has led to the protection of characteristic plant and animal communities over a long period of time.

The surrounding landscape has influenced the wildlife of Sandleford Park and will continue to do so in the future. Greenham and Crookham Common SSSI and adjacent wet and dry acidic woodlands, the Rivers Enborne and Kennet valleys and the diverse landscape to the south and of the North Wessex Downs AONB are all in close proximity to this site. In this respect the area generally has also been recognised by

several nature conservation initiatives in West Berkshire, e.g. The Conservation Target Area Project and the West Berkshire Living landscape Project.

The interaction between the surrounding landscape and Sandleford Park, especially for the more mobile animal groups, takes place continually, but the large urban area of Newbury and Wash Common to the north and west respectively and the main A339 road to the east constitute major checks to the migration and colonisation of species. The site is isolated, but the River Enborne and the grasslands and woodlands to the south and south west provide important links with the surrounding open countryside. The presence of a large number of local wildlife sites (SINCs) immediately to the south in Hampshire is significant in this respect.

In terms of the influence of Sandleford Park on the surrounding landscape and in particular the interaction of the species and habitats on this site with those adjacent to it, the site generally is considered to be valuable at the **District** Level. The connectivity of habitats internally within the site and with the surrounding area via the southern boundary and to the south west is a significant feature of this site.

5.3 Evaluation of species relevant to this site

Bats

No bats or signs of bats were recorded during the survey and in the records provided for this site and the surrounding land. The lack of records however, is not proof of absence of this taxon group and the site does support favourable habitat for bats. There are no buildings situated on the site, but there are residential houses close by and housing estates to the north and west – all will be utilised by this animal group. The site supports a number of mature trees with moderate to high bat roosting potential and a complex of woodlands all in close proximity offering a range of bat roosting sites.

The linear habitats traversing the site, e.g. hedgerows and grassy tracks etc provide foraging and commuting corridors for bats and these enhance the value of this site for this taxon group.

In general Sandleford Park is considered to be valuable at the **District** level for bats.

Badgers

Badgers are known to inhabit at least one of the woodlands on Sandleford Park and the geology and habitats are generally favourable for this species both in terms of foraging ground and sett excavation and development. Badgers have also been recorded close by at Newtown Common.

Sandleford Park is considered to be of **Local** value as a general habitat for badgers.

Other mammals

The site does hold moderate to high potential for dormouse and water voles within the woodlands and the River Enborne respectively, evidence of the latter was found along the riparian zone of the River, but there is no signs were observed during survey for dormouse. As such Sandleford Park is considered to be valuable at the **Local to District** level for these species.

Birds

The site holds favourable habitat for a range of woodland and open-ground bird species and indeed a number of bird records are known for the site directly and for the land immediately to the south in Hampshire. Notable species recorded which are relevant to the habitats found on this site include kingfisher, nightjar (*Caprimulgus europaeus*), hobby (*Falco subbuteo*), brambling (*Fringilla montifringilla*) and song thrush (*Turdus philomelos*). The woodland and linear habitats are primarily important as nesting areas, whilst the wet grasslands and open agricultural ground is valuable as feeding areas, particularly for wading and over-wintering bird species.

As such the site generally is considered to be valuable at the **District** level for this taxon group.

Amphibians and Reptiles

A number of amphibian and reptile species have been recorded close to this site, including adder, grass snake and slow worm (*Anguis fragilis*), and the habitats supported at Sandleford Park are considered to be favourable for these species. The land to the south and east of this site however, is considered to be of greater value to this taxon group and as such Sandleford Park is judged to be valuable at the **Local** level for amphibians and reptiles.

Invertebrates

The range of broad and macro-habitat types found at Sandleford Park suggests that this site could be important for invertebrates generally. The ancient woodlands, wet grasslands and stream habitats are the most notable for this broad taxon group and the potential of these areas for selected invertebrate groups is given in Section 4.1.3. Given the lack of information and the range of habitats found on this site it is difficult to precisely assess the value of Sandleford Park for invertebrates, but broadly it is considered that the site is valuable at the **District** level.

Vascular and Non Vascular Plants

The woodlands on this site support a characteristic ancient woodland flora, which is typical of well-drained, acidic habitats and that of wetter woodland areas. It is considered that the ancient woodland vascular plant flora is valuable at the **Local** level given the extent of similar habitats across West Berkshire generally, but the non vascular plant community could be of greater value given the presence of seepage and base-rich wet flush areas within these woodlands. Given the lack of information on this group it is difficult to evaluate the importance of these woodlands for non-vascular plants.

Much of the remaining area of the site is relatively impoverished in botanical terms, given the extent of intensively managed agricultural land, but the wet grassland-acidic grassland mosaic in the central area is more diverse but generally semi-improved in character. These areas are considered to be of **Local** value given the presence of botanically richer areas to the south and east of Sandleford Park.

There is potential in the arable areas of the site to support a characteristic arable margin flora, but no information is available for this plant group and as such it is difficult to assess the value of these areas.

5.4 Summary of evaluation

The main ecological value of this site is summarised below.

- The woodlands at Sandleford Park are valuable at the **County** level;
- Veteran trees on this site are considered to be valuable at the **District** level;
- The central grasslands complex is valuable at the **Local to District** level;
- The improved grassland areas are valuable **within the zone of influence only**;
- The grassy banks/tracks and hedgerows are considered to be valuable at the **Local** level;
- The section of the River Enborne along the southern boundary is considered to be valuable at a **District to County** level;
- The ponds in Waterleaze Copse are valuable at the **Local** level, but collectively and given the complex hydrological regime of the central area providing a sub catchment for the River Enborne the waterbodies generally are of **District to County** level value;
- The arable areas are valuable **within the zone of influence only**;
- The site generally is valuable at the **District** Level, in terms of the influence of Sandleford Park on the surrounding landscape and in particular the interaction of the species and habitats on this site with those surrounding it;
- The site is valuable at the **District** level for bats;
- The site is of **Local** value as a general habitat for badgers;
- The site is valuable at the **Local to District** level for dormouse and water voles;
- The site generally is valuable at the **District** level for birds generally;
- Sandleford Park is valuable at the **Local** level for amphibians and reptiles;
- Given the lack of information and the range of habitats found on this site it is difficult to precisely assess the value of Sandleford Park for invertebrates, but broadly it is considered that the site is valuable at the **District** level;
- The site generally is of **Local to District** value for its flora given the presence of botanically richer areas to the south and east of Sandleford Park.

6.0 RELEVANT GOVERNMENTAL POLICY AND SPECIES LEGISLATIVE CONSIDERATIONS

6.1 European Legislation

The Conservation (Natural Habitats &c) Regulations 1994 (known as the Habitats Regulations) makes it an offence to deliberately kill, capture, or disturb a European protected species, or to damage or destroy the breeding site or resting place of such an animal. European protected species include the great crested newt, sand lizard, smooth snake and all species of bats. In order to carry out any activities relating to development that may result in any of the offences above, it is necessary to obtain a licence from the Natural England (Formerly issued by the Department for Environment, Food and Rural Affairs). In order for the licence to be granted the following conditions must be satisfied:

- The proposal must be necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- There is no satisfactory alternative;
- The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

6.2 Government Policy

The Government sets out its objectives for conserving and enhancing biodiversity in Planning Policy Statement 9; Biodiversity and Geological Conservation (PPS9, August 2005) which succeeds PPG9: Nature Conservation (1994). This is the main source of Government Guidance on Nature Conservation and considers the integration of nature conservation policies and land use planning.

The Government's objectives for planning are:

- ***To promote sustainable development*** by ensuring that biodiversity is conserved and enhanced as an integral part of economic, social and environmental development, so that policies and decisions about the development and use of land integrate biodiversity with other considerations;
- ***To conserve, enhance and restore the diversity of England's wildlife and geology*** by sustaining, and where possible improving, the quality and extent of natural habitat and geological and geomorphological sites; the natural physical processes on which they depend; and the populations of naturally occurring species which they support;

- ***To contribute to rural renewal and urban renaissance by:***

- *enhancing biodiversity in green spaces and among developments so that they are used by wildlife and valued by people, recognising that healthy functional ecosystems can contribute to a better quality of life and a sense of well-being; and*

- *ensuring that developments take account of the role and value of biodiversity in supporting economic diversification and contributing to a high quality environment.*

6.3 UK Species protection

The site has potential to support protected and notable species and as such the following aspects of wildlife legislation should be noted:

Bats

All British bat species and their roosts are fully protected under Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended) and are also included in Schedule 2 of the Conservation (Natural Habitats &c.), Regulations 1994. Further enforcement has been provided by the Countryside and Rights of Way Act 2000, which has made species offences arrestable, increases the time limits for some prosecutions and increases penalties.

Taken together, the Act and Regulations make it illegal to:

- intentionally or deliberately kill, injure or capture (or take) bats;
- deliberately disturb bats (whether in a roost or not);
- recklessly disturb roosting bats or obstruct access to their roosts;
- damage or destroy bat roosts;
- possess or transport a bat or any part of a bat, unless acquired legally;
- sell (or offer for sale) or exchange bats, or parts of bats.

This legislation applies to all life stages.

In summary, based on the above legislation, it is an obligation on those who seek to effect changes to buildings, structures, caves or trees where bats are present or thought to be present to seek specialist advice, and to ensure that appropriate systems are in place to avoid damage to bat roosts or the habitat where bats are present. Any work that will cause disturbance to a bat or bat roost shall require a specific licence from Natural England. This body will review licence applications in consultation with the Local Planning Authority and may impose conditions or refuse the granting of a licence.

Badgers and other mammals

Badgers are protected in Britain by the Protection of Badgers Act 1992. The purpose of this Act is to protect the animals from deliberate cruelty and from the incidental effects of lawful activities which could cause them harm. Under this legislation it is an offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
- interfere with a sett by damaging or destroying it;
- obstruct access to, or any entrance of, a badger sett;
- disturb a badger when it is occupying a sett.

The 1992 Act provides for licences to be issued for certain activities which would otherwise be prohibited. NE is the authority responsible for issuing licences under the Act for the purpose of development.

Dormouse

Dormice are granted legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and the Conservation (Natural Habitats &c.), Regulations 1994. This legislation protects dormice and their places of shelter or protection.

This legislation makes it an offence to:

- intentionally or deliberately kill, injure or capture dormice;
- deliberately disturb dormice (while it is occupying a structure or place which it uses for that purpose);
- damage or destroy dormouse breeding sites or resting places;
- possess or transport a dormouse or any part of a dormouse, unless acquired legally;
- sell, barter or exchange dormice or parts of dormice.

Water vole

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. This protection has recently been extended (6th April 2008), so the water vole is now fully protected under Section 9. Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;
- possess or control a live or dead water vole, or any part of a water vole;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place;
- sell, offer for sale or advertise for live or dead.

Birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended), Part 1. It is therefore an offence to intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take or destroy the egg of any wild bird;
- (Intentionally or recklessly) disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

The presence of breeding birds should be considered a constraint to development if vegetation clearance is undertaken during the bird breeding season (March - August). If presence of breeding birds is confirmed then the development timetable will have to be revised to take account of this and delay vegetation clearance.

Reptiles

All British reptiles receive protection under the Wildlife and Countryside Act 1981 (as amended). The four more common species of reptile; the common lizard, the grass snake, the slow worm and the adder receive protection from Section 9(1) and all of Section 9(5) of the Wildlife and Countryside Act, 1981 (as amended), which makes it an offence to intentionally kill or injure an animal, sold or traded in any way.

It is therefore a criminal offence to undertake major works on site that may result in the death or injury of a native reptile species where these species are known to be present.

The two rare species of British reptile, the smooth snake and the sand lizard are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended) and under Annex IV of the Conservation of Natural Habitats and of Wild Fauna and Flora Directive, 1992 ('the Habitats Directive') as a European protected species. Furthermore, the Countryside and Rights of Way Act, 2000 (Schedule 12, paragraph 5) has amended Section 9(4) of the 1981 Act to include the term 'reckless'. Consequently, it is an offence to intentionally kill, injure or take a smooth snake(s) and sand lizard as well as intentionally or recklessly damage, destruct or obstruct the access to the place of shelter or disturb the animal while it is occupying it. These species are therefore fully protected under Section 9 of the 1981 Act and under Regulation 39 of the Conservation (Natural Habitats etc) Regulations, 1994 that transposes the Habitats Directive into UK law.

Amphibians

The four commoner species of amphibian are protected by Section 9(5) of the Wildlife and Countryside Act 1981. This means that the protection for wild animals extends only as far as prohibiting sale and transporting or advertising for sale. This is intended to allow regulation of any trade in these species. Consequently catching them, or keeping them as pets, or even killing them, is not prohibited (subject to controls relating to animal welfare). The amphibian species covered only by Section 9(5) are:

- Smooth or common newt (*Lissotriton vulgaris* formerly *Triturus vulgaris*);
- Palmate newt (*Lissotriton helveticus* - formerly *Triturus helveticus*);
- Common frog (*Rana temporaria*);
- Common toad (*Bufo bufo*).

Invertebrates

A small number of invertebrate species in the UK are listed under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and as such may be protected under one, some or all of the following parts:

- intentional killing, injuring, taking;

- possession or control (live or dead animal, part or derivative);
- damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection;
- disturbance of animal occupying such a structure or place;
- selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative):
- advertising for buying or selling live or dead animal, part or derivative.

Many invertebrates are listed as priority species in the UK Biodiversity Action Plan (UKBAP). Species listed in the UK BAP are also listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and are material considerations in applications for planning permission. The list of UKBAP priority species has recently been revised (2007) and is now more extensive and comprehensive.

Vascular and Non Vascular Plants

Similar to invertebrates, a small number of plant species in the UK are listed under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and as such may be protected under one, some or all of the following parts:

- intentional killing, injuring, taking;
- possession or control (live or dead animal, part or derivative);
- damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection;
- disturbance of animal occupying such a structure or place;
- selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative):
- advertising for buying or selling live or dead animal, part or derivative.

7.0 FURTHER CONSIDERATIONS

It is recommended that the following considerations are taken into account when investigating the potential of Sandleford Park for development purposes.

Arable farmland

Much of the farmland on this site is degraded and modified in biodiversity terms. Small areas at the margins of the intensively managed fields will support biodiversity interest especially where these are adjacent to semi-natural habitats. Most of the arable areas are located in the well drained and elevated locations within the site and as such relatively less sensitive than the lower lying wetland areas and adjacent woodlands.

Development activities based on these areas within the site will affect the general hydrological regime at Sandleford Park and therefore a major consideration should be to minimise the impact on adjacent wetlands and waterbodies. The development of a Sustainable Drainage System (SUDS) will be required to ensure that run-off from hard paving and roofing will not increase the risk of flooding, as well as causing sudden rises in water levels and flow rates in the River Enborne and smaller streams within the site. Equally, contaminants from surface water run-off such as oil, organic matter and toxic metals can result in poor water quality in rivers and groundwater, affecting biodiversity, amenity value and potential water abstraction. The River Enborne is recognised as a stream with good to high water quality and as such is particularly sensitive to this form of contamination. Consideration will therefore need to be given to managing the changes in runoff and general hydrology during the construction and implementation phases.

Landscape ecology

Many of the semi-natural habitats within the site are valuable individually, for example the ancient woodland and wet grassland areas. But collectively they assume greater ecology interest and given their proximity provide connectivity and linkage across the site generally, but particularly from north to south. This aspect of the landscape ecology of the site will be important for a range of species, ensuring their continued existence on the site and ability to migrate and colonise new habitats. The site is bordered to the north, west and north east by urban development, but the semi-natural habitats along the southern, south west and south east boundaries remain intact and provide important links with the landscape beyond.

Consideration should be given to retaining as much of the internal network of habitats as possible and ensure “permeable” boundaries between any development proposals and the surrounding landscape.

Wetland areas and waterbodies

The wetland areas of this site are probably the most sensitive in ecological terms. These are generally fragile areas which will be directly or indirectly affected by any development proposal. The River Enborne and its floodplain are of primary importance and there will be a requirement to ensure an adequate buffer zone between any proposals and the floodplain of the river. The floodplain on the Sandleford Park side is particularly narrow and supports the UKBAP wet woodland

habitat type. As such this area is likely to be influenced directly by any adjacent works.

A further consideration is the protection of the central wet grassland area and adjacent habitats. This area receives water from the surroundings via springs and seepage points as well as from the water table below and is encircled by ancient woodland. Collectively the habitats found here comprise the most sensitive area on the site and consideration should be given to their protection and/or minimising the impact of any development activities both during and post construction.

Ancient woodlands

The collection of recognised ancient woodlands and Wildlife Heritage Sites at Sandleford Park site is an important ecological feature and asset. Any change to these areas should be avoided as far as possible in the proposals for this site.

Species protection and further ecological survey requirements

The retention of existing notable habitats and the habitat network across the site (as noted above) can provide the best opportunity for animal and plant species to be sustained on this site into the future. Further information will be needed however to investigate the requirements of species and to ensure that appropriate mitigation measures are taken. In addition, baseline ecological information will be required for monitoring purposes during and post construction phases and this will certainly be a requirement for all European Protected Species affected by the proposals, e.g. bats.

Depending on the development proposals and the manner in which they would impact upon existing habitats it is likely that survey information will be required for the following taxon groups:

- Mammals, inc. bats (esp. veteran trees and woodlands), dormouse (hedgerows and woodlands), badger (woodland) and water vole (River Enborne);
- Birds, in particular ground nesting birds (grassy banks and arable margins) wetland waders (central wetland area);
- Invertebrate survey of the wet grassland area;
- Amphibians and reptiles in the dry acidic grassland areas and central wetlands;
- Vascular plant survey of the arable margins;
- Macro-invertebrate survey in the River Enborne to set up a base line of information for monitoring purposes;
- Vascular plant survey in selected ancient woodlands (during Spring to investigate the pre-vernal flora).

The timing of these surveys will be important and details of the requirements for each species group in this respect is given in Appendix H.

Due diligence and the development design stage and beyond

It is important that biodiversity considerations are taken into account at an early stage in the design of any development proposals for this site and due diligence is afforded to all biodiversity matters. There are a number of opportunities which a development proposal can provide to ensure the protection and enhancement of wildlife on a site, including habitat creation and enhancement, Eco-Homes and sustainability initiatives, forging community and volunteering links.

Effective working partnerships should also be established with the key nature conservation agencies and organisations, for example, Natural England, the Environment Agency, West Berkshire Council, Hampshire County Council and BBOWT, to ensure that a comprehensive consultation process is followed at every stage and that specific biodiversity requirements are taken into account.

7.1 Summary of further considerations

- The elevated arable areas on this site are the least sensitive to change;
- Changes to the hydrological regime of this site and the surrounding areas should be considered at an early stage in any development proposals;
- The ecology of the landscape should be considered and protected as far as possible in the proposal design;
- The sensitive wetland areas of the site should be protected as far as possible, including the River Enborne and floodplain, and central wet grassland area;
- The collection of ancient woodlands should be protected as far as possible on this site;
- The retention of all existing semi-natural habitats is the best opportunity for animal and plant species, including protected species, to be sustained on this site into the future;
- Further biodiversity information will be required to ensure effective mitigation measures are put in place and that important species are protected and monitored;
- Biodiversity matters should be taken into account at every stage in any development proposals and due diligence applied to protected species and habitats;
- Close liaison and consultation will be necessary with relevant nature conservation agencies and organisations at every stage.

8.0 DOCUMENTS CONSULTED

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APPENDICES

APPENDIX A – REPORT CONDITIONS

APPENDIX B – RESULTS OF THE DESK- BASED INVESTIGATION

APPENDIX C – RESPONSE FROM TVERC AND HBIC LOCAL RECORDS CENTRES

**APPENDIX D – THE CRITERIA USED FOR IDENTIFYING WHS IN BERKSHIRE AND
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APPENDIX E – PHOTOGRAPHS

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APPENDIX A

Report Conditions

WYG ENVIRONMENTAL

C1 - REPORT CONDITIONS

Sandleford Park – ecological scoping study

This report is produced solely for the benefit of the Sandleford Park Partnership and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors

August 2008
WYG Environment Planning Transport Ltd

APPENDIX B

Results of the desk based investigation

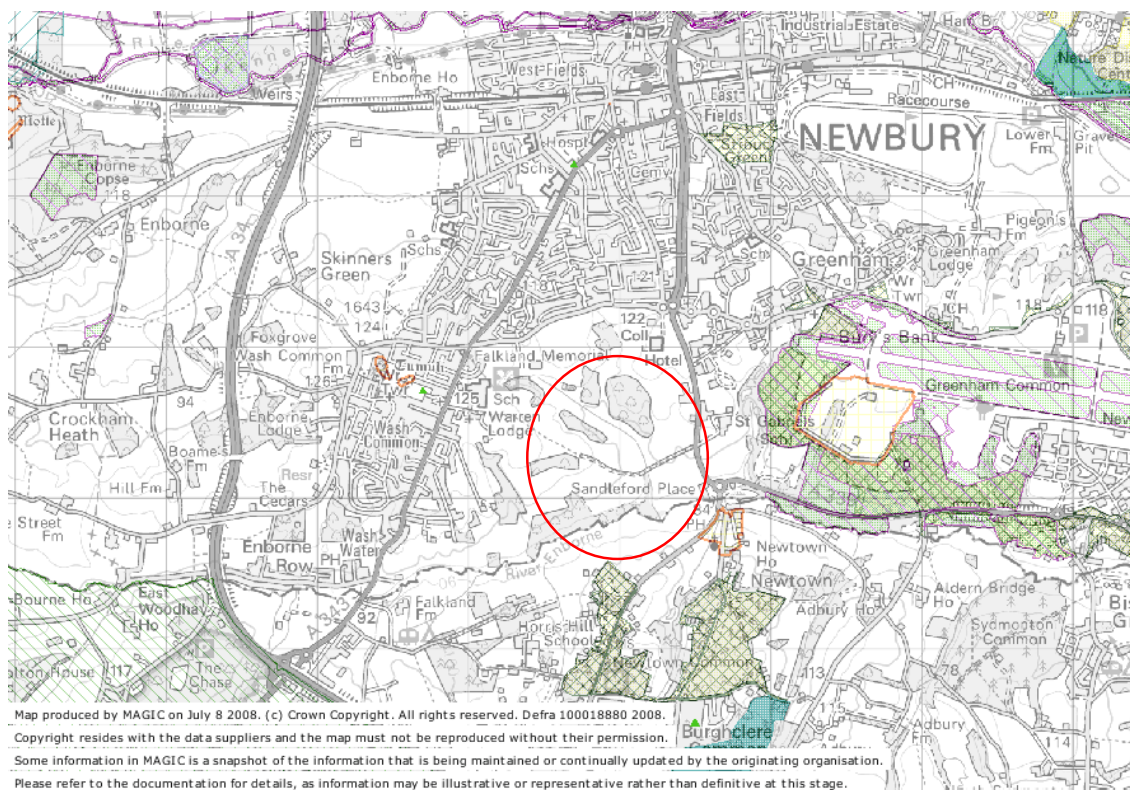


Figure 3. Statutory sites within 2km of Sandford Park (source MAGIC website)

Sites of Special Scientific Interest (mauve boundary line)

Registered Common Land (green cross-hatched)

Local Nature Reserve (blue shading)

North Wessex Downs AONB (green single hatched) (south east corner)

**Information/citations on Sites of Special Scientific Interest (SSSIs)
(source Nature on the Map, Natural England website)****SITE NAME:** GREENHAM AND CROOKHAM COMMONS**Status:** Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981**Local Planning Authorities:** Newbury District Council, Berkshire County Council**National Grid Reference:** SU490645 SU523643**Ordnance Survey Sheet 1:50,000:** 174**1:10,000:** SU46 NE/SE, SU56 SW/NW**Date Notified (Under 1981 Act):** 1985**Date of Last Revision:** 16 March 1994**Area:** 278.61 ha 688.45 ac**Other information:** This site includes the former Greenham Common SSSI.**Description and Reasons for Notification**

This site comprises of an extensive complex of heathland, grassland, gorse scrub, broad leaved woodland and alder-lined gullies. Much of the heathland and grassland has been maintained by regular mowing within the perimeter of the Greenham Common airbase while the woodland and scrub, predominantly on areas outside the airbase perimeter, has developed with little intervention. The site also includes one large ancient coppice woodland, Peckmoor Copse. The heathland and acid grassland at this site make up the single largest tract of these habitats in Berkshire.

Greenham and Crookham Commons occur on a long ridge between the Rivers Enborne and Kennet. The ridge consists of Eocene deposits of acid, sandy clays of the Bagshot Beds overlain by plateau gravels, and seated on heavy impermeable clays of the London Clay. Consequently the soils are a complicated pattern of variable deposits in which free draining soils dominate, but with clay pockets producing extensive seepage zones and springs. These springs give rise to streams creating the small, flushed and waterlogged valleys of alder woodland.

The heathland is characterised by a mixture of ling *Calluna vulgaris*, bell heather *Erica cinerea* and dwarf gorse *Ulex minor*, with, in some areas, an abundance of heath grass *Danthonia decumbens* and spring sedge *Carex caryophyllaea*, a community with a restricted distribution in England. Occasional patches of bare soil support an open acid grassland community with early hair-grass *Aira praecox*, squirrel-tail fescue *Vulpia bromoides* and hair moss *Polytrichum* spp. In some areas mouse-ear-hawkweed *Pilosella officinarum* is particularly abundant. Lichens are a conspicuous feature of the open patches, chiefly *Cladonia* spp., including the nationally scarce *C. cariosa*. Dwarf cudweed *Filago minima*, heath cudweed *Gnaphalium sylvaticum*, bird's-foot *Ornithopus perpusillus*, and annual knawel *Scleranthus annuus* are frequent within this mosaic together with the nationally scarce fine-leaved sandwort *Minuartia hybrida* and upright chickweed *Moenchia erecta*.

On damper areas the soil is colonised by many locally rare mosses and liverworts including swards of *Archidium alternifolium* and frequent *Lophozia excisa* and *L. bicrenata*. Also present is the nationally scarce liverwort *Riccia subbifurca*, the only known site in Berkshire for this small plant. In hollows where water accumulates a flush-type community has developed with sharp flowered rush *Juncus acutiflorus*, carnation sedge *Carex panicea* lesser spearwort *Ranunculus flammula* and mosses including *Climacium dendroides*.

A calcareous influence further increases the diversity, with such plants as wild carrot *Daucus carota*, dwarf thistle *Cirsium acaule*, purging flax *Linum catharticum*, pyramidal orchid *Anacamptis pyramidalis*, burnet saxifrage *Pimpinella saxifrage* and the mosses *Trichostomum* and *Encalypta streptocarpa* growing alongside more typically acid-loving plants.

The neutral grassland in the airbase includes locally uncommon plants such as green-winged orchid *Orchis morio*, great burnet *Sanguisorba officinalis*, hare's-foot clover *Trifolium arvense* and meadow saxifrage *Saxifraga granulata*.

On the southern slopes of the Common, on the terraces of gravels and sands, most of the former heathland is now overgrown with silver birch *Betula pendula*, pedunculate oak *Quercus robur* and bracken, *Pteridium aquilinum*. This secondary woodland ground flora includes the moss *Leucobryum glaucum*, pale sedge *Carex pallescens*, green-ribbed sedge *C. binervis* and bilberry *Vaccinium myrtillus*.

The ancient woodland is dominated by ash *Fraxinus excelsior*, alder *Alnus glutinosa*, and hazel *Corylus avellana* with occasional hornbeam *Carpinus betulus* and aspen *Populus tremula*. The ground flora includes hard shield-fern *Polystichum aculeatum*, Lily of the valley *Convallaria majalis*, Solomon's seal *Polygonatum multiflorum*, a species largely confined to central southern Britain, and large bitter-cress *Cardamine amara* which is on the south-western edge of its range.

A rich and varied flora characteristic of both base-rich soils and more acid conditions is typical of the alder gullywoodlands. Broad buckler fern *Dryopteris dilatata* and male fern *Dryopteris filix-mas* are abundant, and scaly male fern *Dryopteris affinis* and lady fern *Athyrium filix-femina* are frequent. Other species present include marsh violet *Viola palustris*, alternate-leaved golden saxifrage *Chrysosplenium alternifolium*, thin-spiked wood sedge *Carex strigosa*, smooth-stalked sedge *C. laevigata*, wood club-rush *Scirpus sylvaticus* and wood horsetail *Equisetum sylvaticum*, all of which are uncommon in central England.

The two commons are rich in a wide range of invertebrates. Butterflies recorded include the purple emperor *Apatura iris*, white admiral *Ladoga camilla* and silver-washed fritillary *Argynnis paphia* from the woodland and the silver studded blue *Plebejus argus*, grayling *Hipparchia semele* and brown argus *Aricia agestis* from the heathland and grassland. The bog bush cricket *Metrioptera brachyptera* occurs on the heathland areas. Breeding birds recorded include woodcock, nightjar, barn owl and nightingale in the woods and scrub, as well as a number of ground nesting birds in the more open habitats. Adder *Vipera berus*, grass snake *Natrix natrix*, slow worm *Anguis fragilis* and common lizard *Lacerta vivipara* are found on Greenham and Crookham Commons, as are the common frog *Rana temporaria* and toad *Bufo bufo*. All three British species of newt also occur; palmate, smooth and the great crested newt *Triturus helveticus*, *T. vulgaris* and *T. cristatus*.

SITE NAME: ENBORNE COPSE

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

Local Planning Authorities: Berkshire County Council, Newbury District Council

National Grid Reference: SU433661

Ordnance Survey Sheet 1:50,000: 174 **1:10,000:** SU46 NW

Date Notified (Under 1981 Act): 1985

Date of Last Revision:

Area: 11.9 ha 29.4 ac

Description and Reasons for Notification

This site consists of a semi-natural broad leaved woodland characterised by the abundance of small-leaved lime, a tree species which in Britain is confined to ancient woodlands, and is very rare in Berkshire.

Enborne Copse is situated prominently on the London Clays, and has a small exposure of the Bagshot Beds at the southern end. A shallow, north-flowing stream, into which feed a spring and several damp flushes, has eroded a small valley through the clay and into the underlying Reading Beds along the western edge. Weather has produced rather acid and often poorly-drained stagnogley soils in gentle to moderate slopes.

The copse is an ancient woodland surrounded by a medieval bank and ditch system. Although the current woodland boundary is almost identical to that shown on Rocque's map of Berkshire in 1791, the majority of the site has been converted to coniferous plantation, and only the western parcel (corresponding to the area notified) retains its semi-natural broad-leaved structure.

The site is an example of acid pedunculate oak-lime woodland, a stand-type with a localised distribution nationally. Smallleaved lime *Tilia cordata* is the overwhelmingly dominant species, and occurs largely as maiden trees approximately 80 years old, partly promoted from coppice. West of the stream most of the wood has been cleared, leaving scattered lime trees including some giant coppice stools of considerable antiquity. The only other stand types represented include a small area of acid pedunculate oak-hazel-ash woodland in the valley, and some scrubby alder-birch-willow bordering the stream. In Enborne Copse small-leaved lime is notable in occurring throughout the wood up to and along, but not beyond, the ancient woodland boundary as demarcated by the medieval bank. It is a site where lime is regenerating well; the production of viable seed in this species is dependent upon high temperatures during pollination, and in many parts of Britain it rarely, if ever, produces fertile seed. In Berkshire wild small-leaved lime has been recorded from only two other sites, both within two kilometres of Enborne Copse, which is the only substantial stand.

Other tree species occurring within the canopy include pedunculate oak *Quercus robur* and downy birch *Betula pubescens*. There is a limited understorey, which includes coppiced lime and hazel *Corylus avellana* together with occasional guelder rose *Viburnum opulus*, rowan *Sorbus aucuparia*, elder *Sambucus nigra*, alder buckthorn *Frangula alnus* and crab apple *Malus sylvestris*. Heavy shading from the dense foliage has resulted in a sparse ground flora, with extensive areas of bare ground. Twenty three species of plant normally confined to ancient woodlands have been recorded. These include a large stand of lily of the valley *Convallaria majalis*, an uncommon species in Berkshire, together with primrose *Primula vulgaris*, Solomon's seal *Polygonatum multiflorum* and wood spurge *Euphorbia amygdaloides*.

SITE NAME: RIVER KENNET

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

Local Planning Authorities: Berkshire County Council, Wiltshire County Council, Newbury District Council, Kennet District Council

National Grid Reference: SU203692 to SU572667

Ordnance Survey Sheet 1:50,000: 174 **1:10,000:** SU26 NW, SU27 SW, SU27 SE, SU37 SW, SU36NW, SU36 NE, SU47 NW, SU46 NE, SU56 NW, SU56 NE

Date Notified (Under 1981 Act): 1 November 1995 **Date of Last Revision:**

Area: 112.72 ha

Other information: The River Lambourn, which is a tributary of the River Kennet, is also an SSSI. There are two existing SSSIs along the River Kennet: Freemans Marsh and Chilton Foliat Meadows. The site boundary is the bank top or, where this is indistinct, the first break of slope.

Description and Reasons for Notification

The River Kennet has a catchment dominated by chalk with the majority of the river bed being lined by gravels. The Kennet below Newbury traverses Tertiary sands and gravels, London Clay and silt, thus showing a downstream transition from the chalk to a lowland clay river. As well as having a long history of being managed as a chalk stream predominantly for trout, the Kennet has been further modified by the construction of the Kennet and Avon Canal. In some places the canal joins with the river to form a single channel. There are also many carriers and channels formerly associated with water meadow systems. The river flows through substantial undisturbed areas of marshy grassland, wet woodland and reed beds.

The flora of the River Kennet is species-rich and diverse, having the highest average number of species per site surveyed of any other lowland river in Britain. The Kennet shows a clear downstream succession in plant communities reflecting variations in geology and flow rate as well as the influence of the canal. The flora is considered to be intermediate in character between the classic chalk rivers of the south and the oolitic rivers to the north. Stream water-crowfoot *Ranunculus pencillatus*, starwort *Callitriche obtusangula* and watercress *Nasturtium officinale* dominate the upper half of the river where shallow water and gravel are typical. In the slower, deeper water found downstream a much wider range of species occurs. This includes four species of pondweed (*Potamogeton* spp.) and horned pondweed *Zannichelliapalustris*. Other plants occurring here include spiked water-milfoil *Myriophyllum spicatum*, yellow water-lily *Nuphar lutea*, common club-rush *Scirpus lacustris* and bur-reed species *Sparganium*. Below Newbury there is a larger volume of water and less chalk influence and river water-crowfoot *Ranunculus fluitans* occurs for the first time. River waterdropwort *Oenanthe fluviatilis*, a nationally scarce species of larger chalk streams, has been recorded from the mid to lower Kennet.

Aquatic invertebrates are abundant and the Kennet is especially noted for its large hatches of mayflies (Ephemeroptera), including *Ecdyonorus insignis* and *Ephemerella notata* which have a very local distribution. These are associated with moderately flowing water in calcareous areas. Also worthy of mention are the beautiful and banded demoiselle damselflies, *Calopteryx virgo* and *C. splendens* respectively. The nationally scarce crane fly *Molophilus niger* (the larvae of which live in vegetated stream and riverside) has been recorded from the Kennet. The caddis fly *Ylodes conspersus*, also ranked as nationally scarce, has also been found along the river.

The Kennet supports good populations of kingfisher, grey wagtail, mute swan and little grebe, as well as sedge and reed warblers. Common sandpiper and redshank frequently use this river on passage.

The Kennet has a varied and mixed fishery including healthy, self-sustaining populations of wild brown trout, grayling, perch, chub, dace, roach, pike, gudgeon and bullhead.

Site name: Thatcham Reed Beds SSSI

District: West Berkshire Council

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

Local Planning Authority: West Berkshire Council

National Grid reference: SU507665

Area: 66.9 (ha) 165.3 (ac)

Ordnance Survey sheet: 1:50,000: 174 1:10,000: SU56NW, SU46NE

Date Notified (Under 1949 Act): 1974

Date notified (under 1981 Act): 1983

DATE OF LAST REVISION: 10 OCTOBER 2002

Reasons for notification:

Thatcham Reed Beds is important nationally for its extensive reedbed, species rich alder woodland and fen habitats. The latter supports Desmoulin's whorl snail, which is of national and European importance. A large assemblage of breeding birds including nationally rare species such as Cetti's warbler is also associated with the reedbed, fen and open water habitats found at Thatcham Reed Beds.

The relevant National Vegetation Classification communities are: *Phragmites australis* swamp (NVC S4), *Phragmites australis* - *Eupatorium cannabinum* fen (NVC S25), *Carex riparia* swamp (NVC S6), *Carex acutiformis* swamp (NVC S7), *Phragmites australis* - *Urtica dioica* fen (NVC S26), and *Alnus glutinosa* woodland (NVC W5).

General description:

Thatcham Reed Beds supports large populations of the nationally rare and declining Desmoulin's whorl snail *Vertigo moulinsiana*. This species is listed in the British Red Data Book and is scheduled on Annex II of the European Habitats Directive. It is confined to calcareous river valleys, fens and lake margins. It is rare throughout Europe and the British Isles support a large proportion of the European population. Thatcham Reed Beds is a nationally important site for this species.

There is an extensive area (12.7 hectares) of reed *Phragmites australis* beds on waterlogged peaty soils, a UK Biodiversity Action Plan priority habitat, which forms one of the largest inland reed bed complexes in southern England, equivalent to 3.3% of the total area of reedbed in the southern counties. There are no reed beds of comparable size in the Kennet valley or elsewhere in Berkshire, the largest being Woolhampton Reedbed (4 hectares).

The site has extensive areas of Desmoulin's whorl snail's favoured habitat, which is dominated by lesser pond sedge *Carex acutiformis*, and reed sweet-grass *Glyceria maxima*. The vegetation also includes a range of tall wetland plants such as common valerian *Valeriana officinalis*, hemlock water dropwort *Oenanthe crocata*, skullcap *Scutellaria galericulata*, marsh woundwort *Stachys palustris*, water mint *Mentha aquatica* and marsh bedstraw *Galium palustre*. Of particular note is the occurrence of common meadow-rue *Thalictrum flavum*, which is scarce in Berkshire.

Alder *Alnus glutinosa* woodland is also well represented on the site. Such floodplain woodland is rare throughout Europe and is a priority for conservation purposes.

The reed beds, sedge-dominated fen and open water areas are of special interest for birds as they support large breeding populations of reed warbler *Acrocephalus scirpaceus*, sedge warbler *A. schoenobaenus* and Cetti's warbler *Cettia cetti*. The water rail *Rallus aquaticus* is also a regular breeding species. The reeds provide a valuable refuge for migrants in spring and autumn and are also an important winter habitat for many species including large populations of wren *Troglodytes troglodytes* and uncommon visitors such as bearded tit *Panurus biarmicus* and bittern *Botaurus stellaris*.

The site also includes willow *Salix* scrub, an area of open water resulting from gravel extraction, and a short section of the Kennet and Avon Canal.

The site is of county importance for its entomological interest, with several notable species of moths including the scarce burnished brass *Diachrysia chryson*, butterbur *Hydraecia petastitus*, dentated pug *anticollix sparsata* and obscure wainscot *Mythimna straminea*. A number of rare flies, Diptera, also occur including the crane fly *Limonia ornata* and the hoverfly *Stratiomys potamida*.

Other information:

The SSSI forms part of Kennet and Lambourn Floodplain candidate Special Area of Conservation designated for important populations of Desmoulin's whorl snail. The site lies within the London Basin Natural Area.

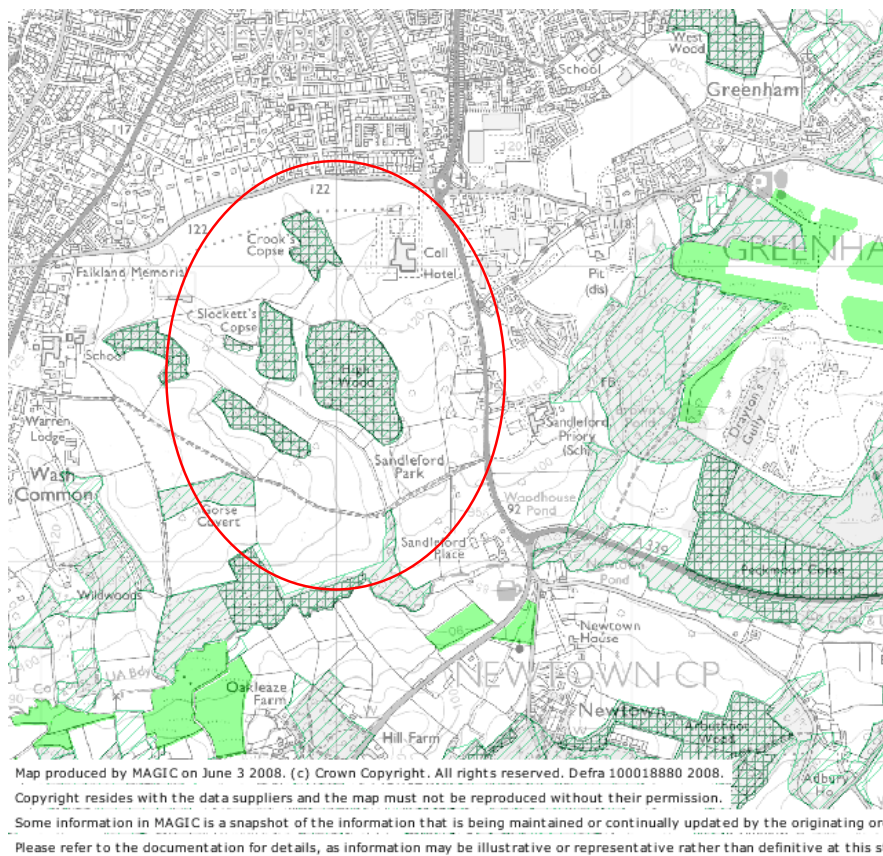


Figure 4. Habitat Inventory types (source MAGIC website)

Ancient Woodland Inventory (AWI) (dark green cross-hatched):

Ancient woodland is land that has had a continuous woodland cover since at least 1600 AD and may be ancient semi-natural woodland (ASNW), which retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally, or plantation on ancient woodland sites (PAWS) where the original tree cover has been felled and replaced by planting, often with conifers, and usually over the last century.

Grassland Inventory (light green shading):

Grassland Inventory (Natural England) Lowland Grassland sites from Natural England's Inventory. The Inventory has been produced with the aim of making lowland grassland data available for conservation management schemes in the wider countryside. This level of information allows an assessment to be made of the conservation value of a site.

National Inventory of Woodland and Trees (England) (green single line hatch): Digital Woodland Map showing woodland by broad interpreted forest types.

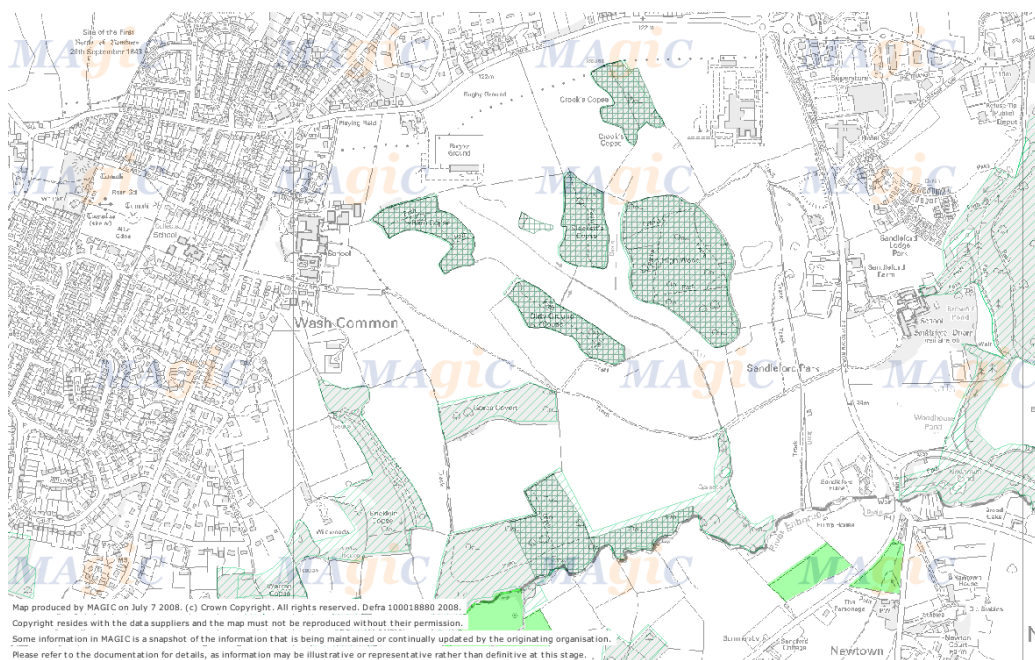


Figure 5. Detail of Ancient Woodland Inventory (AWI) areas on the Sandleford Park site (dark green cross-hatched) (source MAGIC website)

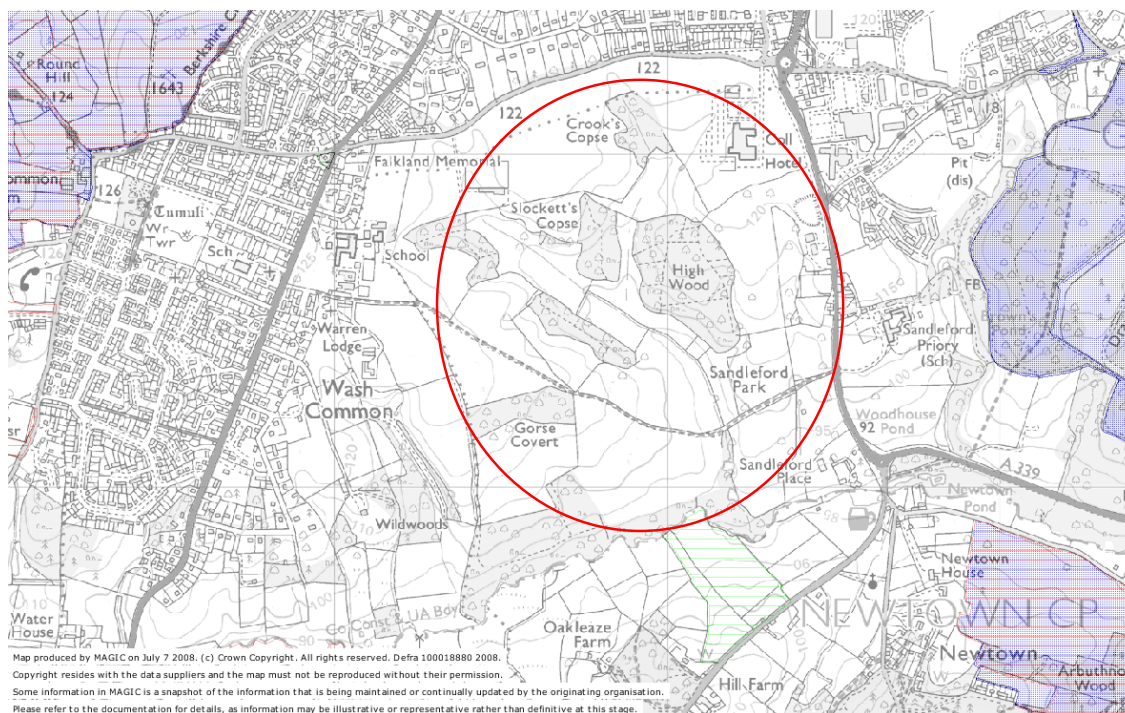


Figure 6. Land management schemes (source MAGIC website)

Entry Level Stewardship Scheme/Countryside Stewardship Scheme (blue and orange hatched)
Entry Level and Higher Level Stewardship Scheme (green single line hatched)

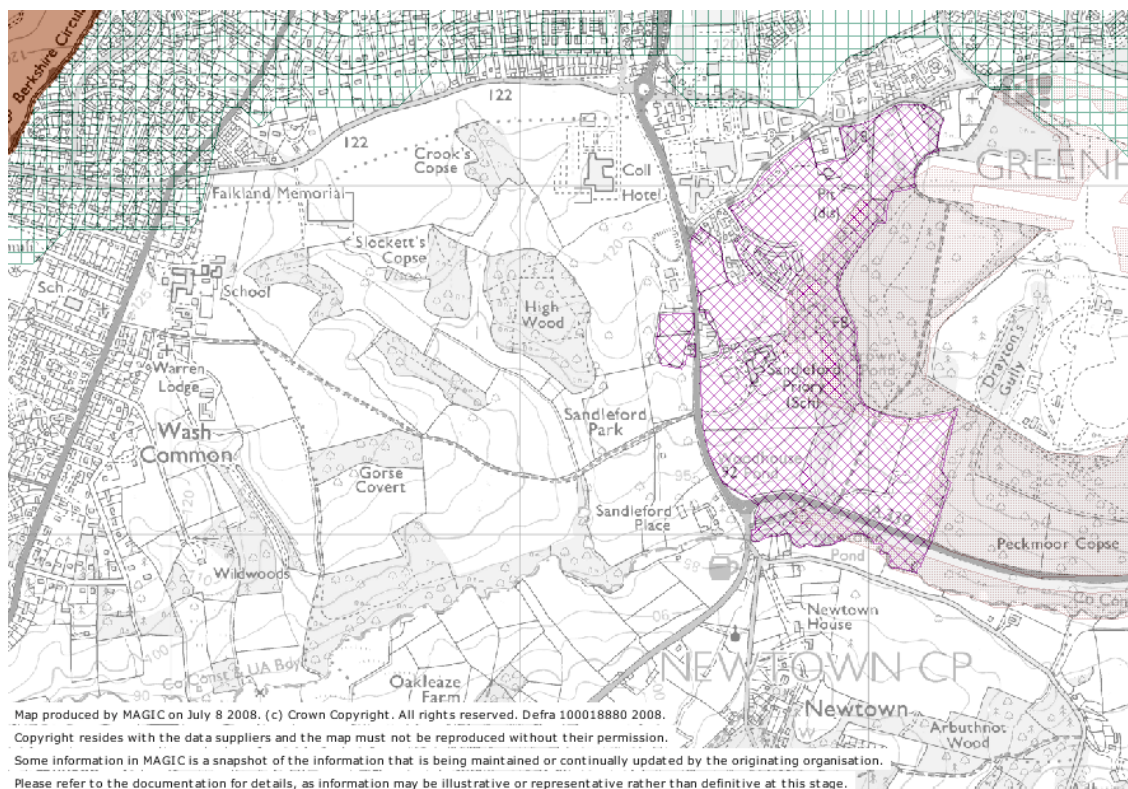


Figure 7. Other designations (source MAGIC website):

Important Bird Areas (brown shaded area):

The most important sites for birds are known as Important Bird Areas (IBAs). The IBA Programme of BirdLife International is a worldwide initiative aimed at identifying and protecting a network of sites, critical for the conservation of the world's birds. These sites were selected on the basis of the bird numbers and species complements they hold. IBAs are particularly important for species that congregate in large numbers, such as wintering and passage waterbirds and breeding seabirds. Many sites have also been identified for species of global, and European/EU conservation concern.

Catchment Sensitive Farming area (CSF)(green cross-hatched):

This dataset indicates river catchment areas identified as priorities for the CSF scheme and ranked by a risk-based method. These catchments have been produced as a joint English Nature/ Environment Agency agreed set. The catchment boundary linework and names are intended as indicative rather than definitive.

Registered Parks and Gardens - Sandleford Park Priory Grade II (pink cross-hatched):

The Register of Parks and Gardens of Special Historic Interest in England, has existed since the 1980s and now contains over 1500 sites. The Register serves to ensure that the features and qualities which make these landscapes of national importance can be safeguarded. Each site is graded into three bands to give added guidance on their significance; grade I have international importance; grade II* are considered to be of exceptional historic interest and grade II are of national importance. Inclusion of a historic park or garden on the Register in itself does not bring additional statutory controls, local authorities are required by central government to make provision for the protection of the historic environment in their policies and their allocation of resources)

Historic battlefield (dark brown shaded)

River Enborne Environment Agency Biological Monitoring Assessment 2006
(source EA Website)

River quality (biology)

Site details:

River name	ENBORNE					
River stretch	Bishops Green STW - Baughurst Brook					
Year	2006					
Upstream grid ref.	X:450200, Y:163500					
Downstream grid ref.	X:455740, Y:163250					
Length	7.9					

Sampling results:

	Observed	Expected	Observed/Expected	Probability grade %	Season code	Grade
NTAXA	28.00	31.50	.89	84		a
ASPT	5.75	5.77	1.00	53		b
Overall					5	b

Definitions

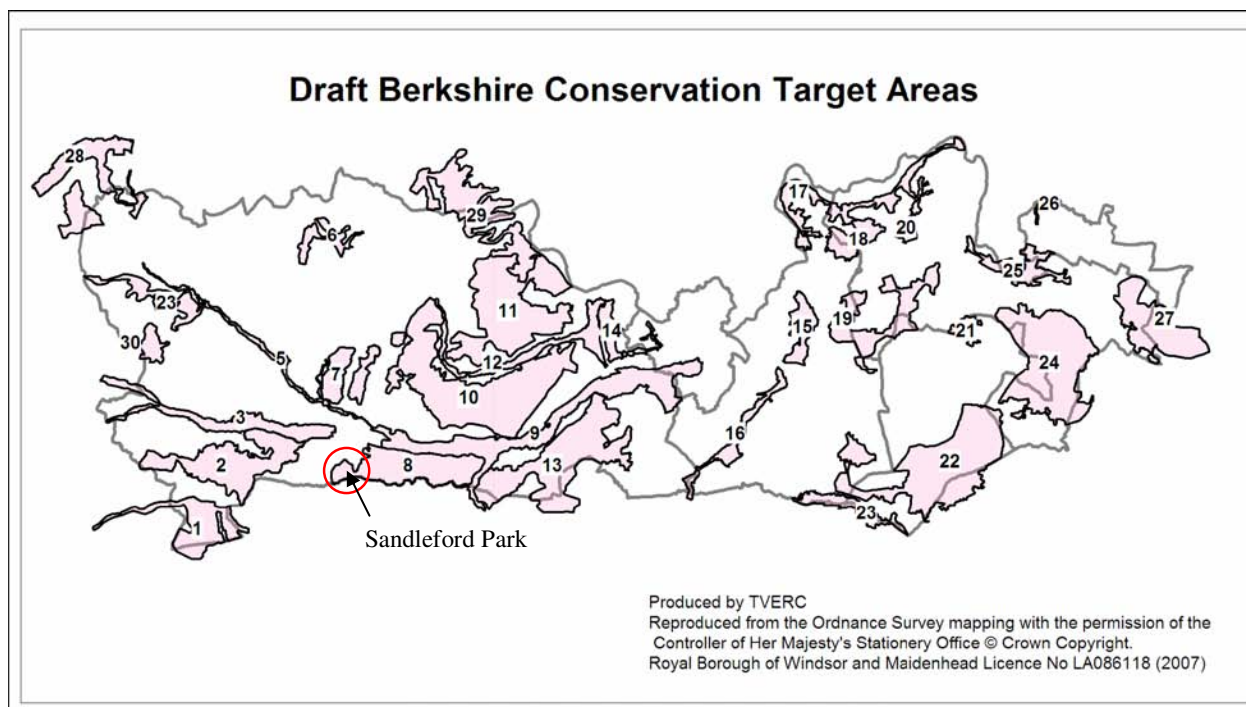
The Environment Agency compares the macro-invertebrates (small animals that can be seen with the naked eye) in the sample with the range of species we would expect to find in the river if it was not polluted and assign a grade. We take into account natural changes that happen such as geology and flow.

Biology	
Classification	Description
A - very good	Biology similar to that expected for an unpolluted river
B - good	Biology is a little short of an unpolluted river
C - fairly good	Biology worse than expected for unpolluted river
D - fair	A range of pollution tolerant species present
E - poor	Biology restricted to pollution tolerant species
F - bad	Biology limited to a small number of species very tolerant of pollution

Berkshire's Proposed Conservation Target Areas (CTA)

Source: Thames Valley Environmental Records Centre Newsletter Issue 7 – Winter 2007 p 4 – 5
Berkshire Conservation Target Areas Graham Hawker

Conservation Target Areas are wide landscape areas that are the most important for nature conservation within the County. Once identified, these areas become a focus for targeted conservation work. Once the target areas are established, key people are identified to take forward the work needed in the area. The long term aim is to restore landscapes through the management, restoration and re-creation of typical habitats and to link, buffer and restore the best sites within the landscape.



- 1 Walbury and Inkpen Hill
- 2 Hampstead Marshall to Inkpen: Park, Woods and Common
- 3 Kennet Valley West
- 5 Lambourn Valley
- 6 Downs Woodlands North
- 7 Snelsmore Common and Woodlands

8 Greenham and Crookham Plateau

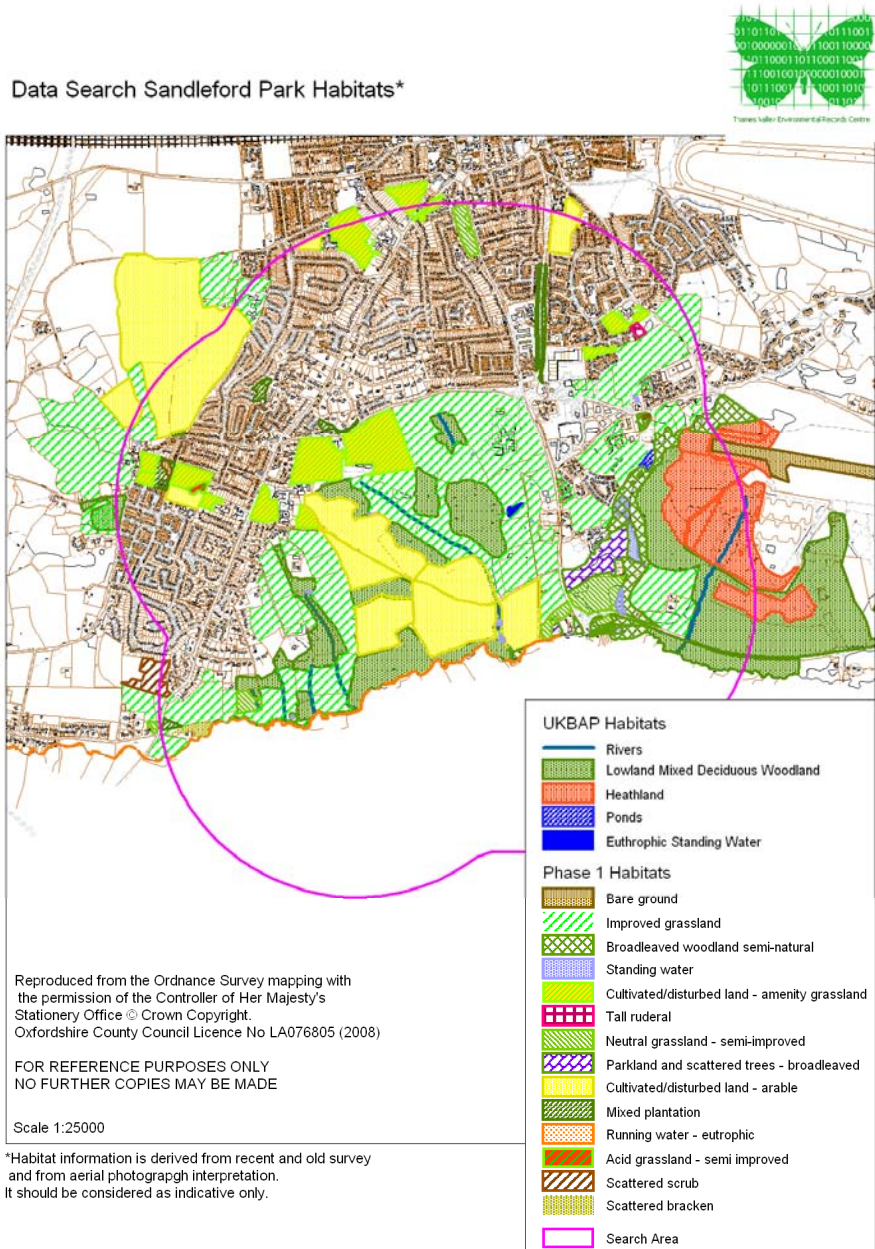
- 9 Kennet Valley East
- 10 Bucklebury Plateau
- 11 Yattendon and Basildon Woodlands
- 12 Lower Pang Valley and Sulham Stream
- 13 Burghfield to Tadley Plateau
- 14 West Reading Woodlands and LNRs
- 15 Loddon Valley Gravel Pits
- 16 Loddon Valley South
- 17 Chilterns Escarpment
- 18 Ashley and Bowsey Hills
- 19 Watham Woodlands and Parklands
- 20 Maidenhead Thicket and Commons
- 21 Chawridge Valley
- 22 Thames Basin Heaths
- 23 Blackwater Valley
- 23 South Lambourn Downs

- 24 Windsor Great Park and Woodlands including Silwood Park
- 25 Bray to Eton Pits and Meadows
- 26 Haymill Valley
- 27 Colne Valley Gravel Pits and Reservoirs
- 28 Berkshire Downs Escarpment
- 29 Blewbury to Streatley Downs
- 30 Downs Woodlands South

APPENDIX C

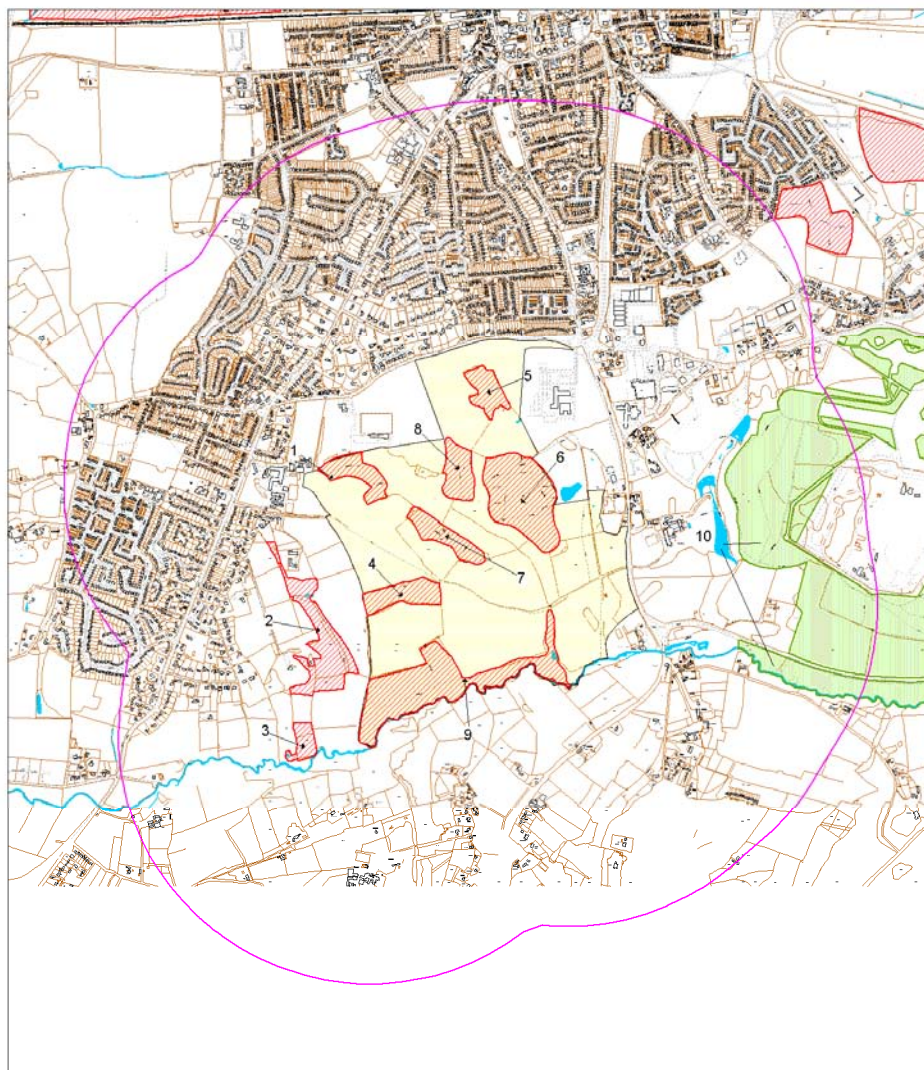
The response from TVERC and HBIC Local Records Centres

Figure 8. UKBAP priority habitats and Phase 1 habitats mapped by TVERC



Information on Designated Sites in West Berkshire (north of the River Enborne)

Data Search Sandleford Park. Designated Sites Berkshire



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- Sites of Special Scientific Interest
- Wildlife Heritage Sites
- Search Area
- Sandleford Park (approximate)

Scale 1:20000

Figure 9. Designated sites at Sandford Park, including Wildlife Heritage Sites (WHS)

Key to Designated Sites



Number on Map	Site code	Site name	Type of Site
1	SU46S02	High Wood Complex - Barn Copse	WHS
2	SU46S01	Brick Kiln Copse	WHS
3	SU46R01	Corporation Copse	WHS
4	SU46S02	High Wood Complex - Gorse Covert	WHS
5	SU46S02	High Wood Complex - Crook's Copse	WHS
6	SU46S02	High Wood Complex - High Wood	WHS
7	SU46S02	High Wood Complex - Dirty Ground Copse	WHS
8	SU46S02	High Wood Complex - Slockett's Copse	WHS
9	SU46R02	Waterleaze Copse	WHS
10	SU46X01	Greenham and Crookham Commons SSSI	SSSI

SSSI = Site of Special Scientific Interest (Statutory)

SPA = Special Protection Area

SAC = Special Area of Conservation

CWS = County Wildlife Site (Non-Statutory, Oxfordshire)

WHS = Wildlife Heritage Site (Non-Statutory, Berkshire)

RIGS = Regionally Important Geological Site

NNR = National Nature Reserve

LNR = Local Nature Reserve

BBOWT = Buck, Berks & Oxon Wildlife Trust Reserve

SLINC = Site for local interest in nature Conservation (Oxford City)

WC = Wildlife Corridor (Oxford City)

Please see our Designated Sites Guidance document for further information concerning the different types of wildlife site.

Information on Wildlife Heritage Sites WHS in Berkshire**Site Name: High Wood Complex**

Site Code: SU46S02

Grid Reference: SU468647

Area (ha): 18.83

No date provided

SITE DESCRIPTION

This site is a group of five woods all of which are largely semi-natural ancient woodland. Crook's Copse is oak woodland with extensive sycamore invasion. There is an area of wet alder woodland along a stream. Slockett's Copse is also oak woodland with some birch and much sycamore some of which has been coppiced. Barn Copse is similar with sycamore invaded oak woodland and some wet alder woodland. High Wood is dominated by oak and birch with sycamore present in places, some sweet chestnut coppice and some conifer plantation. There is a wet flush near the southern edge with alder buckthorn. There are no details for Dirty Ground Copse.

Hazel coppice is abundant in the understorey of all the woods and bluebells are often dominant on the ground. Other species typical of long established woodland recorded here are moschatel and opposite-leaved golden saxifrage (in Crook's Copse), wood sorrel, wood anemone, Solomon's-seal, primrose and pignut.

Site Name: Waterleaze Copse

Site Code: SU46R02

Grid Reference: SU468639

Local Authority: West Berkshire

Area (ha): 12.18

Last Survey Date: 28/5/1985

Site Description

This site is an area of semi-natural woodland with the central area included as ancient woodland on the Ancient Woodland Inventory. The site has wet alder woodland adjacent to the River Enbourne and extending northwards along a stream in the east. These areas also have ash, sycamore, downy birch and crack willow. The eastern area has some oak, beech and hornbeam. The drier parts of the site are largely acidic oak woodland with birch and sycamore. The understorey is dense holly, rowan and hazel and the ground flora is dominated by bracken and creeping soft-grass with honeysuckle, wood sorrel and wood sage. The eastern areas are less acidic and there is some ash and sycamore dominated woodland with hornbeam. Species associated with long established woodland that have been recorded here include moschatel, bearded couch, which is very abundant in places, ramsons, wood anemone, pignut, yellow pimpernel, Solomon's-seal, barren strawberry and primrose.

NAME: Brickkiln Copse WHS**GRID REF:** SU4623 6408**UNITARY AUTHORITY:** West Berkshire Council**SITE CODE:** SU46S01**TOTAL SIZE OF AREA (Ha):** 6.2 ha**DATE OF SURVEYS:**

Date	04/09/1984	29/06/2004	2/07/2004		
Name of surveyor	Mr M. Beaton and Ms S. Westwood	Sarah Gorman	Sarah Gorman and Adrian Hutchings		
Notes	Botanical	WHS re-survey 2004	WHS re-survey 2004		

SITE OVERVIEW/ABSTRACT

A broadleaved copse lying to the south of Newbury with an area of wet woodland and a stream running south. The main canopy species varies with dry acidic areas with oak, silver birch and rowan and a field layer of creeping soft grass, bracken and foxglove. Other areas have hornbeam and beech in the canopy with hazel. Further south the copse becomes wet where alder is present with some wetland species including small stands of lesser pond sedge and wood-club rush. The wet woodland areas have affinities to both W7 and W5 NVC communities. Twenty-three ancient woodland indicators have been recorded at the copse, including bluebell, primrose, hard fern, yellow pimpernel and opposite-leaved golden-saxifrage. A fence surrounds the site and splits the copse into the different ownership boundaries.

PRIORITY UK BAP HABITAT(S): Lowland mixed deciduous woodland and wet woodland**PROTECTED SPECIES:** Bluebell (Schedule 8)**PRIORITY UK BAP SPECIES RECORDED:** None recorded**RED DATA BOOK (RDB) SPECIES RECORDED:** None recorded**NATIONALLY SCARCE (NSC) SPECIES RECORDED:** None recorded**BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:**

Red List Species: None recorded

Amber List Species: None recorded

TYPICAL SPECIES OF THE HABITAT TYPE (S)

- Over the years a total of 23 ancient woodland indicator species have previously been recorded (bluebell, common solomon's seal, remote sedge, hard fern, yellow pimpernel, hornbeam, alder buckthorn, opposite-leaved golden-saxifrage, primrose, holly, black currant, crab apple, moschatel, pendulous sedge, narrow buckler fern, giant fescue, creeping soft grass, three nerved sandwort, aspen, wood club-rush, wood sedge, wood speedwell and wood meadow-grass).
- Species typical of wetland habitats include: bugle, bittersweet, water mint, soft rush, lesser pond-sedge, large bird's foot-trefoil, hemlock water-dropwort, meadowsweet, marsh bedstraw, reed canary-grass and common fleabane.

CURRENT/PAST MANAGEMENT REGIME:

Current management	Tick	Current condition	Tick
Management enhances overall ecological interest	√	Good ecological condition	√
Management maintains overall ecological interest		Satisfactory ecological condition	
Potential for management to improve ecological interest		Potential for improvement of ecological condition	

- To enhance the biodiversity of the site the Japanese knotweed should be controlled.

OTHER ISSUES

In the 2004 survey only part of the woodland was accessed.

DATE CITATION MODIFIED

Date modified	9/11/2004				
Name	Sarah Gorman, TVERC				

NAME: Corporation Copse WHS

GRID REF: SU4646 6358

UNITARY AUTHORITY: West Berkshire Council

SITE CODE: SU46R01

TOTAL SIZE OF AREA (Ha): 0.8 ha

DATE OF SURVEYS:

Date	4 th Sept 1984	28 th May 2004			
Name of surveyor	Mr M. Beaton & Ms S. Westwood	Sarah Gorman			
Notes	Botanical	WHS re-survey 2004			

SITE OVERVIEW/ABSTRACT

This small, open copse lies to the south of Newbury and is within the close vicinity of several other small copses, of which, one is marked on the Ancient Woodland Inventory as Ancient and Semi-natural woodland. A defunct wire fence surrounds the copse with a ditch and shallow stream to the east and west, and the River Enborne forms part of the southern boundary. The canopy is open with relatively young silver birch with oak and an understorey of hazel. The field layer appears acidic with creeping soft-grass, bluebell and wood sorrel. Towards the south, alder is present with moschatel, remote sedge and primrose. A riparian strip along the southern channel includes opposite-leaved golden-saxifrage, common valerian and meadowsweet. The surrounding land use consists of wet grassland, of which, one field appears to be species rich.

PRIORITY UK BAP HABITAT(S):PROTECTED SPECIES

Bluebell Schedule 8 (2004)

PRIORITY UK BAP SPECIES RECORDED: None recorded

RED DATA BOOK (RDB) SPECIES RECORDED: None recorded

NATIONALLY SCARCE (NSC) SPECIES RECORDED: None recorded

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species: None

Amber List Species: Green woodpecker (2004)

TYPICAL SPECIES OF THE HABITAT TYPE(S)

- Seventeen ancient woodland indicators have been recorded at the site (bluebell, holly, remote sedge, yellow pimpernel, pignut, crab apple, yellow archangel, wood speedwell, primrose, ramsons, wood sedge, opposite-leaved golden-saxifrage, narrow buckler fern, giant fescue, wood melick, creeping soft-grass and three-nerved sandwort).
- Species typical of wetland habitats include: bugle, common valerian, ragged robin (northern section), jointed rush (northern section), cuckooflower (northern section), water mint, soft rush, hemlock water-dropwort, meadowsweet, marsh bedstraw, reed canary-grass, and common fleabane.

CURRENT/PAST MANAGEMENT REGIME:

4 CURRENT MANAGEMENT	Tick	Current condition	Tick
Management enhances overall ecological interest		Good ecological condition	
Management maintains overall ecological interest		Satisfactory ecological condition	√
Potential for management to improve ecological interest		Potential for improvement of ecological condition	

- At the time of the survey, no apparent management of the copse.
- To enhance the biodiversity of the site, the areas along the channel should be retained and no fertilisers or herbicides should be added to the wet grassland.

OTHER ISSUES

DATE CITATION MODIFIED

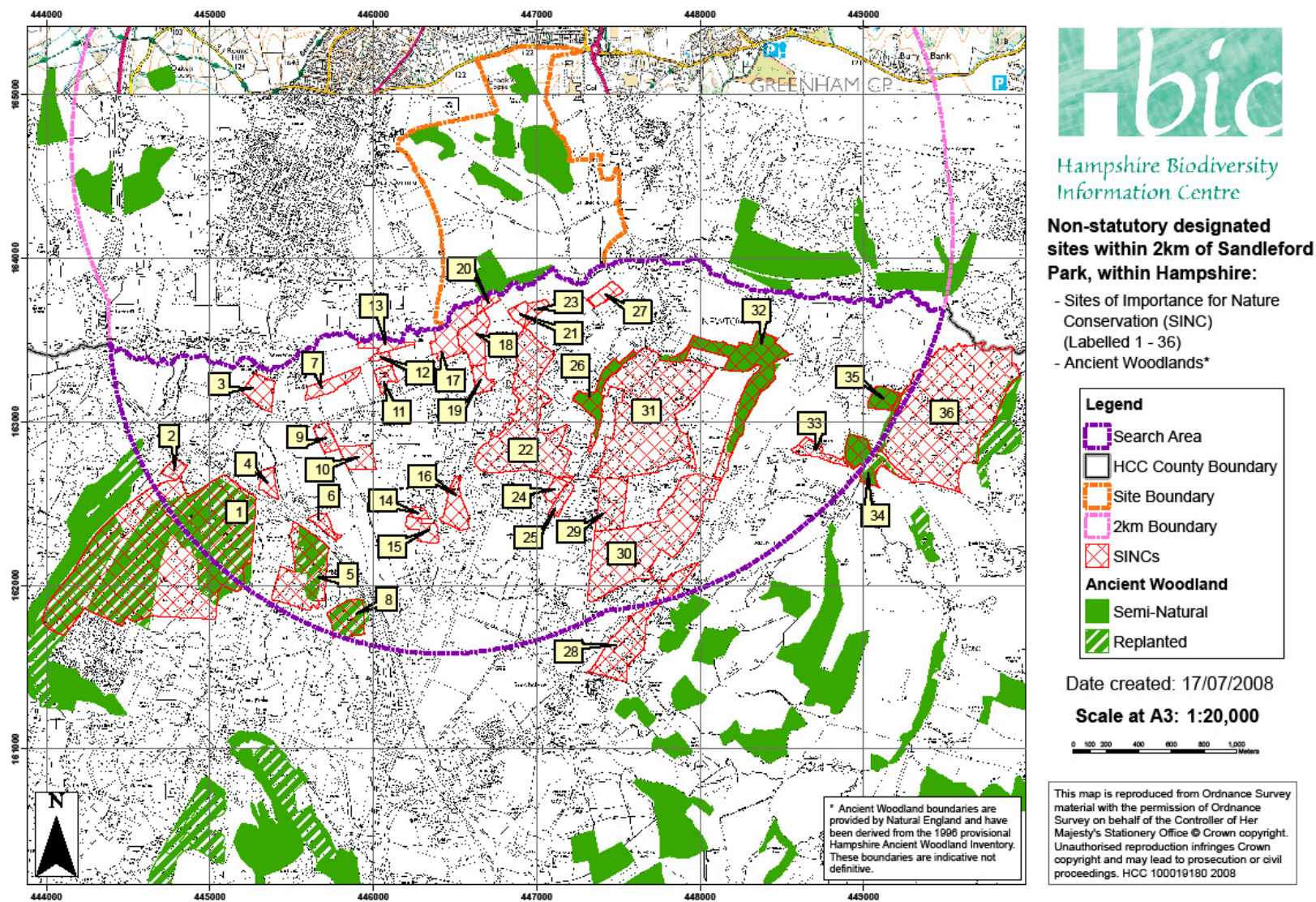
Date modified	29 th October 2004				
Name	Sarah Gorman, TVERC				

Information on Sites of Importance to Nature Conservation (SINCs) in Hampshire

Details of Sites of Importance for Nature Conservation (SINCs) within the search area:

Map Label	Central Site Grid Ref.	SINC Name	SINC Criteria	Species supported that meets Section 6 SINC Selection Criteria
1	SU44706200	Great Pen Wood	1B	
2	SU44756271	Bypass Meadow	2D/5B/6A	Yellow bartsia (Parentucellia viscosa)
3	SU45306320	Wash Water Field	2A/5B	
4	SU45406260	Wash Water Railway Field	2A	
5	SU45606210	Hitchens Copse & Clearing	1A/1B/1C	
6	SU45706240	Little Hitchens Copse	1A	
7	SU45706320	Falkland Farm Meadow 2	2B/5B	
8	SU45806180	Balls Copse	1B	
9	SU45806280	Falkland Farm Meadow 1	2A/5B	
10	SU45906280	Falkland Farm Meadow 3	2A	
11	SU46106320	Large Copse	1A	
12	SU46106340	Large Copse Meadow	2D	
13	SU46106350	Falkland Farm Meadow 5	2A/5B	
14	SU46286243	Glebe Place Meadow	2A/5B	
15	SU46306235	Fordfields Meadows	2B/5B	
16	SU46406240	Deadmoor Lane Meadow, Newton Common	2A	
17	SU46406350	Falkland Farm Meadow East	2B/5B	
18	SU46606350	Oakleaze Farm Meadow 1	2A/5B	
19	SU46656325	Oakridge, Newton Common	2A	
20	SU46706370	Oakleaze Farm Meadow 2	2B/5B	
21	SU46896365	Wood Fen, Oakleaze Farm	2B/5B	
22	SU46906300	Newton Common (West)	3A/3Bi/1D	
23	SU46996369	Alder Field Fen	2B/5B	
24	SU47106260	Sheepwash Farm Meadow 1	2B/5B	
25	SU47146250	Sheepwash Farm Meadow 2	2B	
26	SU47306310	Newtown Grange	1A/1C/1D	
27	SU47406380	Enborne Meadow	2A/5B	
28	SU47506160	Earlstone Common	1D/3A/3Bi	
29	SU47506250	Burghclere Common	3A/3B(i)	

30	SU47606220	Herbert Plantation	1A/1B	
31	SU47706300	Newtown Common (East)	3A/3Bi/1D	
32	SU48406340	Arbuthnot Wood & Crambow Gully	1A/1C	
33	SU48606280	Rosemoor Copse	1A/1C	
34	SU49005280	Burntcroft Copse	1A/1B/1C	
35	SU49206310	Lillismoor Copse	1A/1B/1C	
36	SU49506300	Sydmonton Common & Lower Burnoak Copse	1A/3Bi	



List of protected and notable species records from TVERC (Berkshire side of the River

Legally Protected & Notable/Rare Species Records										Sandleford Park 1 km Search Area			
Common Name	Scientific Name	Abundance	Sex/ Stage	Date	Grid Ref	Master Site	Sub-Site/ Locality	IUCN Red List Status	UK Legislation	European Legislation	UKBAP and NERC Act 2006	Notable Invertebrates	BOCC Status
a lichen	<i>Perisaria pustulata</i>			1988	SU4664	Sandleford Park		IUCN (1994) - Vulnerable					
Bluebell	<i>Hyacinthoides non-scripta</i>	Locally Frequent		29-Jun-04	SU46246391	Brick Kiln Copse			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bluebell	<i>Hyacinthoides non-scripta</i>			04-Sep-84	SU462636	Corporation Copse			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bluebell	<i>Hyacinthoides non-scripta</i>	Frequent		28-May-04	SU462636	Corporation Copse			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bluebell	<i>Hyacinthoides non-scripta</i>			04-Sep-84	SU463640	Brick Kiln Copse			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bluebell	<i>Hyacinthoides non-scripta</i>			28-Jun-85	SU468639	Waterleaze Copse			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bluebell	<i>Hyacinthoides non-scripta</i>			16-May-85	SU470546	High Wood Complex, Greenham			W&C Act 1981, Schedule 8, Section 13 Part 2				
Bog Bush Cricket	<i>Melipotera brachyptera</i>			Pre 1996	SU4864							Notable	
Wall	<i>Lasiommata megera</i>	Present		16-May-88	SU455644						Priority Sp.		
Small Heath	<i>Coenonympha pamphilus</i>	Present		1988	SU4764						Priority Sp.		
Small Heath	<i>Coenonympha pamphilus</i>	1		31-May-95	SU482647	Greenham Common airfield and gullies	Woodland W. end of Greenham Common				Priority Sp.		
Small Heath	<i>Coenonympha pamphilus</i>	Present		07-Jul-88	SU4864						Priority Sp.		
Small Heath	<i>Coenonympha pamphilus</i>	Present		21-Jun-88	SU4864						Priority Sp.		
Small Heath	<i>Coenonympha pamphilus</i>	1		31-May-95	SU482647	Greenham Common					Priority Sp.		
Poplar Lutestring	<i>Tetrea or</i>	1		15-Jun-04	SU453647	Newbury Wash Common						No	
Freshwater Crayfish	<i>Austropotamobius palipes</i>			27-Aug-80	SU476639	River Entome	A34 bridge, Newbury	IUCN (1994) - Vulnerable	Schedule 5, parts 1, 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Palmarie Newt	<i>Triturus helveticus</i>	1	Immature	30-Aug-04	SU480649	Rivar, nr Newbury			Schedule 5, parts 5(a) and (b) (W&C Act 1981)				
Common Toad	<i>Bufo bufo</i>	10	Adult	01-Sep-04	SU480649	Rivar, nr Newbury			Schedule 5, parts 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Common Frog	<i>Rana temporaria</i>	13	adult	28-May-01	SU463662	Fifth Rd, Newbury			Schedule 5, parts 5(a) and (b) (W&C Act 1981)				
Common Lizard	<i>Lacerta vivipara</i>	6	Juvenile	23-Aug-04	SU478649	Rivar, nr Newbury			Schedule 5, parts 1, 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Slow-Worm	<i>Anguis fragilis</i>	40	dead	01-Sep-04	SU478649	Rivar, nr Newbury			Schedule 5, parts 1, 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Grass Snake	<i>Natrix natrix</i>	3	dead	23-Aug-04	SU478649	Rivar, nr Newbury			Schedule 5, parts 1, 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Adder	<i>Vipera berus</i>	3	dead	23-Aug-04	SU478649	Rivar, nr Newbury			Schedule 5, parts 1, 5(a) and (b) (W&C Act 1981)		Priority Sp.		
Woodcock	<i>Scolopax rusticola</i>			16-May-85	SU470546	High Wood Complex, Greenham							Amber List
Green Woodpecker	<i>Picus viridis</i>	1		28-Jun-04	SU462636	Corporation Copse							Amber List
Green Woodpecker	<i>Picus viridis</i>			16-May-85	SU470546	High Wood Complex, Greenham							Amber List
			adults, feeding, nest building/gathering materials										
Song Thrush	<i>Turdus philomelos</i>	2		Jun-00	SU4665	Barlemy Road, Newbury					Priority Sp.		Red List
			adult, feeding, singing/mating calls										
Song Thrush	<i>Turdus philomelos</i>	1		25-May-00	SU4666	No. 16					Priority Sp.		Red List
Song Thrush	<i>Turdus philomelos</i>	1	adult	25-Apr-00	SU466656	The Brambles, Andover Rd, Newbury					Priority Sp.		Red List
			adult, feeding, singing/mating calls, in flight										
Song Thrush	<i>Turdus philomelos</i>	1		May-01	SU469659	Newbury					Priority Sp.		Red List
Song Thrush	<i>Turdus philomelos</i>	1	adult, feeding	May-00	SU472658	Abbey Close, Newbury					Priority Sp.		Red List

Prepared by TVERC

16/06/2008

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Enborne)

List of protected and notable species records from HBIC (Hampshire side of the River Enborne)

Protected and Notable Species Records

Search Area: **Records within 2km of Sandleford Park which occur in Hampshire**
 Date: **18/07/2008**

HBIC has an extensive database of habitat and higher plant data for the County. In addition, we hold copies of datasets belonging to partner organisations. Through data exchange agreements with these organisations HBIC is provided with regular database updates and can supply species information on their behalf. HBIC currently holds copies of the following datasets:

- Botanical Society of the British Isles' (BSBI) vascular plant database for Hampshire
- Butterfly Conservation's butterfly and moth database for Hampshire
- Hampshire Ornithological Society (HOS) bird records (from 1990 to present)
- Data administered by the Hampshire Wildlife Trust (HWT) on behalf of the species recording groups below:
 - Hampshire Amphibian and Reptile Group (HARG)
 - Hampshire Invertebrate Network (HNIC)
 - Hampshire Mammal Group (HMG) (excluding records for bats and badgers)

The following are protected and notable species records from the above datasets within the search area:

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records
Amphibians & Reptiles							
<i>Bufo bufo</i>	Common Toad	UKBAP NERC_s41	SU490637	Burclere Newbury	2000	2000	1
Birds							
<i>Alcedo atthis</i>	Kingfisher	EU_Bird_1 RSPB_Amber WCA_s1p1	SU4463 SU4763	Wash Water Common Farm Newtown Arbuthnot Wood	2000 1999	2000 1999	1 1

WHITE YOUNG GREEN ENVIRONMENTAL

<i>Caprimulgus europaeus</i>	Nightjar	Sensitive EU_Bird_1 RSPB_Red UKBAP HBAP NERC_s41 CI	SU46K SU46R	Sensitive Sensitive	2004 2004	2004 2004	1 1
<i>Falco subbuteo</i>	Hobby	Sensitive HBAP WCA_s1p1 CI	SU46Q	Sensitive	2006	2006	1
<i>Falco tinnunculus</i>	Kestrel	RSPB_Amber	SU453623	Great Pen Wood	2000	2000	1
<i>Fringilla montifringilla</i>	Brambling	WCA_s1p1	SU4962	Sydmonton Common	2006	2006	1
<i>Loxia curvirostra</i>	Crossbill	CS	SU4962	Sydmonton Common	2005	2005	1
<i>Milvus milvus</i>	Red Kite	Sensitive EU_Bird_1 RSPB_Amber HBAP WCA_s1p1 NR	SU46Q SU46W	Sensitive Sensitive	2006 2006	2006 2006	1 1
<i>Motacilla cinerea</i>	Grey Wagtail	RSPB_Amber	SU4463 SU4962	Wash Water Common Farm Sydmonton Common	2000 2006	2000 2006	1 1
<i>Muscicapa striata</i>	Spotted Flycatcher	RSPB_Red UKBAP HBAP NERC_s41	SU4763	Newtown Arbuthnot Wood	1999	1999	1
<i>Parus montanus</i>	Willow Tit	RSPB_Red UKBAP NERC_s41	SU4663	Newtown Common	2000	2000	1
<i>Parus palustris</i>	Marsh Tit	RSPB_Red UKBAP	SU4663 SU4962	Newtown Common Sydmonton Common	2000 2006	2000 2006	1 2

WHITE YOUNG GREEN ENVIRONMENTAL

Higher plants (Flowering Plants)							
<i>Bromopsis benekenii</i>	Lesser Hairy-brome	NS	SU46656325	Oakridge, Newtown Common	2000	2000	1 *
<i>Buxus sempervirens</i>	Box	IUCN (2001) - DD NR NR	SU46K	Highclere Estate / Pound Street Area	1992	1992	1
<i>Camelina sativa</i>	Gold-of-pleasure	NS	SU47606220	Herbert Plantation	2004	2004	1 *
<i>Carex hostiana</i>	Tawny Sedge	nHS	SU47406380	Enborne Meadow	2001	2001	1 *
<i>Carex pulcaris</i>	Flea Sedge	nHS	SU45906280	Falkland Farm Meadow 3	1984	1986	2
<i>Clinopodium acinos</i>	Basil Thyme	IUCN (2001) - VU UKBAP NERC_s41 NR	SU448628	Enborne Row, S Of	1982	1982	1
<i>Convallaria majalis</i>	Lily of The Valley	CS	SU473627	Newtown Common	1999	1999	1
<i>Crepis biennis</i>	Rough Hawk's-Beard	CR	SU46656325	Oakridge, Newtown Common	2000	2000	1 *
<i>Epipactis palustris</i>	Marsh Helleborine	CS	SU46656325	Oakridge, Newtown Common	2000	2000	1 *
<i>Equisetum sylvaticum</i>	Wood Horsetail	CS	SU448628	Enborne Row, S Of	1982	1982	1
			SU46R	Newtown Area, Burghclere	1961	1988	2
			SU47306310	Newtown Grange	1990	1990	1 *
			SU474633	Newtown Common	1999	1999	1
<i>Galeopsis angustifolia</i>	Red Hemp-nettle	IUCN (2001) - CR NS UKBAP HBAP NERC_s41 NR	SU46Q	Burghclere Area	1974	1980	3
<i>Genista anglica</i>	Petty Whin	IUCN (2001) - NT nHS	SU46906300	Newtown Common (west)	1985	1986	2 *
			SU46L	Great Pen Wood Area (hants)	1984	1984	1
			SU47506250	Burghclere Common Chs	1985	1985	1 *
<i>Gentianella campestris</i>	Field Gentian	IUCN (2001) - VU UKBAP NERC_s41 NR	SU46K	Highclere Estate / Pound Street Area	2002	2002	1
			SU46K	Su46k	1996	1996	1

WHITE YOUNG GREEN ENVIRONMENTAL

<i>Gnaphalium sylvaticum</i>	Heath Cudweed	IUCN (2001) - EN HBAP NR	SU4563	Water Wash	1989	1989	1
<i>Hyacinthoides non-scripta</i>	Bluebell	WCA_s8 NI	SU45606210	Hitchens Copse	1991	1991	1
			SU45706240	Little Hitchens Copse	1991	1991	1
			SU45806180	Balls Copse	1991	1991	1
			SU46306235	Fordfields Meadows	2001	2001	1
			SU46656325	Oakridge, Newtown Common	2000	2000	1
			SU47506250	Burghclere Common Chs	2000	2000	1
			SU47606220	Herbert Plantation	2004	2004	1
			SU48406340	Arbuthnot Wood And Crambow Gully	1981	1999	2
			SU48606282	Rosemoor Copse	1990	1990	1
			SU49006280	Burntcroft Copse	1990	1990	1
			SU49206310	Lillismoor Copse	1990	1990	1
<i>Impatiens noli-tangere</i>	Touch-me-not Balsam	NS NS	SU46656325	Oakridge, Newtown Common	2000	2000	1 *
<i>Juncus subnodulosus</i>	Blunt-Flowered Rush	CS	SU46606350	Oakleaze Farm Meadow 1	2003	2003	1
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	IUCN (2001) - VU UKBAP NERC_s41 NR	SU44756271	Bypass Meadow	2001	2001	1
<i>Oenanthe pimpinelloides</i>	Corky-Fruited Water-Dropwort	nHR	SU46L	Su46l	1996	1996	1
<i>Parentucellia viscosa</i>	Yellow Bartsia	CS	SU44756271	Bypass Meadow	2001	2001	1
			SU447627	Newbury Se Of, A34 S Side, A343 Old Route,	2001	2001	1
<i>Pedicularis palustris</i>	Marsh Lousewort	CS	SU47406380	Enborne Meadow	1988	1988	1 *
<i>Potentilla anglica</i>	Trailing Tormentil	CS	SU47606220	Herbert Plantation	2004	2004	1
<i>Saxifraga granulata</i>	Meadow Saxifrage	CS	SU46606350	Oakleaze Farm Meadow 1	2000	2000	1 *
<i>Stellaria palustris</i>	Marsh Stitchwort	IUCN (2001) - VU UKBAP NERC_s41 NR	SU46506240	Deadmoor Lane Meadow, Newtown Common	1984	1984	1
			SU4663	Newtown Common, 'oakridge' Meadow	2000	2000	1
			SU46656325	Oakridge, Newtown Common	2000	2000	1
			SU474632	Newtown Common	1999	1999	1
<i>Ulmus minor subsp. angustifolia</i>	Goodyer's elm	HBAP NI	SU46656325	Oakridge, Newtown Common	2000	2000	1 *

WHITE YOUNG GREEN ENVIRONMENTAL

<i>Viola canina</i>	Heath Dog-violet	IUCN (2001) - NT CS	SU47506250	Burghclere Common Chs	1985	1985	1 *
Invertebrates (Lepidoptera)							
<i>Abraxas sylvata</i>	Clouded Magpie	CR	SU4761	1-km Square Su4761	2000	2000	1
<i>Abrostola triplasia</i>	Dark Spectacle	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Achlya flavicornis</i>	Yellow Horned	nHS	SU4662	1-km Square Su4662	2000	2000	1
			SU4761	1-km Square Su4761	2000	2000	1
			SU4762	1-km Square Su4762	2000	2000	1
			SU4762	Newtown Common	1986	1986	1
<i>Acronicta alni</i>	Alder Moth	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Acronicta psi</i>	Grey Dagger	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
			SU4762	Herbert Plantation Lnr	2002	2002	1
<i>Acronicta rumicis</i>	Knot Grass	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Aethalura punctulata</i>	Grey Birch	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Agriopis aurantiaria</i>	Scarce Umber	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Agriopis leucophaearia</i>	Spring Usher	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Agrochola helvola</i>	Flounced Chestnut	UKBAP NERC_s41 nHR	SU4761	1-km Square Su4761	1980	2000	2
<i>Agrochola litura</i>	Brown-spot Pinion	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Agrochola lychnidis</i>	Beaded Chestnut	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Agrotis cinerea</i>	light feathered rustic	HBAP NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Allophytes oxyacanthae</i>	Green-brindled Crescent	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Amphipoea fucosa</i>	Saltern Ear	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Amphipoea oculea</i>	Ear Moth	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Amphipyra tragopoginis</i>	Mouse Moth	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2

WHITE YOUNG GREEN ENVIRONMENTAL

<i>Anarta myrtili</i>	Beautiful Yellow Underwing	nHS	SU4662	1-km Square Su4662	1980	1980	1
			SU4762	1-km Square Su4762	1980	1980	1
<i>Angerona prunaria</i>	Orange Moth	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Apamea anceps</i>	Large Nutmeg	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Apamea remissa</i>	Dusky Brocade	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Apamea subultrix</i>	Reddish Light Arches	CS	SU4761	1-km Square Su4761	1980	2000	2
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Apamea unanims</i>	Small Clouded Brindle	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Aplocera plagiata</i>	Treble-bar	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Apocheima hispidaria</i>	Small Brindled Beauty	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Apoda limacodes</i>	festoon	HBAP NS	SU477618	Burghclere, Little Earstone	1987	1987	1
<i>Aporophyla lutulenta</i>	Deep-brown Dart	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Archana dissoluta</i>	Brown-veined Wainscot	nHR	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1983	1983	1
<i>Archana geminipuncta</i>	Twin-spotted Wainscot	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Archiearis parthenias</i>	Orange Underwing	nHS	SU4662	1-km Square Su4662	2000	2000	1
			SU4662	Newtown	1995	1995	1
<i>Arctia caja</i>	Garden Tiger	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Arenostola phragmitidis</i>	Fen Wainscot	nHR	SU4761	1-km Square Su4761	2000	2000	1
<i>Argynnis paphia</i>	silver-washed fritillary	HBAP CI	SU450622	Great Pen Wood	2007	2007	1
			SU455620	Brown Hill, Highclere	2006	2006	1
			SU455630	Penwood Roadside	1996	1996	1
			SU475622	Herbert Plantation	2007	2007	1
			SU4763	Newtown Commom	1996	1996	1
			SU477623	Herbert Plantation	2007	2007	1

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<i>Atethmia centrugo</i>	Centre-barred Sallow	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Bena bicolorana</i>	Scarce Silver-lines	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Blepharita adusta</i>	Dark Brocade	UKBAP NERC_s41 CR	SU4761	1-km Square Su4761	1980	1980	1
<i>Brachionychna sphinx</i>	Sprawler	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Brachylomia viminalis</i>	Minor Shoulder-knot	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Bupalus piniaria</i>	Bordered White	nHS	SU4462	1-km Square Su4462	2000	2000	1
			SU4761	1-km Square Su4761	2000	2000	1
			SU4762	1-km Square Su4762	2000	2000	1
			SU4762	Newtown Common	1991	1991	1
<i>Caradrina morpheus</i>	Mottled Rustic	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Catarhoe cuculata</i>	Royal Mantle	CS	SU477618	Burghclere, Little Earstone	1989	1989	1
<i>Catocala promissa</i>	Light Crimson Underwing	IUCN (pre 94) - NR UKBAP HBAP NERC_s41 NR	SU4761	1-km Square Su4761	1980	1980	1
<i>Celaena leucostigma</i>	The Crescent	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Cepphis advenaria</i>	Little Thorn	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Cerapteryx graminis</i>	Antler Moth	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Cerastis leucographa</i>	White-marked	NS	SU4761	1-km Square Su4761	1980	2000	2
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Chesias legatella</i>	The Streak	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	2000	2000	1

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<i>Chiasmia clathrata</i>	Latticed Heath	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Chloroclysta citrata</i>	Dark Marbled Carpet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Chortodes pygmina</i>	Small Wainscot	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Coenobia rufa</i>	Small Rufous	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Coleophora orbitella</i>		NS	SU4762	Newtown Common	1988	1988	2
<i>Colostygia multistrigaria</i>	Mottled Grey	CR	SU4662	1-km Square Su4662	2000	2000	1
			SU4662	Newtown	1995	1995	1
			SU4761	1-km Square Su4761	2000	2000	1
<i>Conistra ligula</i>	Dark Chestnut	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Cosmia affinis</i>	Lesser-spotted Pinion	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Cosmia pyralina</i>	Lunar-spotted Pinion	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Cucullia absinthii</i>	Wormwood	NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Cucullia chamomillae</i>	Chamomile Shark	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Cucullia umbratica</i>	Shark	nHS	SU4761	1-km Square Su4761	1980	1980	1
<i>Cyclophora annularia</i>	Mocha	NS	SU477618	Burghclere, Little Earstone	1992	1992	1
<i>Cymatophorima diluta</i>	Oak Lutestring	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1984	1989	6
<i>Deileptenia ribeata</i>	Satin Beauty	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Deltote uncula</i>	Silver Hook	CR	SU4761	1-km Square Su4761	1980	1980	1
<i>Diachrysia chryson</i>	Scarce Burnished Brass	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1983	1983	1
<i>Diarsia rubi</i>	Small Square-spot	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Dichonia aprilina</i>	Merveille du Jour	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Diloba caeruleocephala</i>	Figure Of Eight	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Dypterygia scabriuscula</i>	Bird/Es Wing	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Ecliptopera silaceata</i>	Small Phoenix	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
			SU4762	1-km Square Su4762	2000	2000	1

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			SU4762	Herbert Plantation Lnr	1996	1996	1
<i>Ectropis crepuscularia</i>	Small Engrailed	CR	SU4761	1-km Square Su4761	2000	2000	1
<i>Eilema sororcula</i>	orange footman	HBAP	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earlstone	1986	1986	1
<i>Elaphria venustula</i>	Rosy Marbled	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earlstone	1992	1992	1
<i>Ennomos erosaria</i>	September Thorn	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Ennomos fuscantaria</i>	Dusky Thorn	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Ennomos quercinaria</i>	August Thorn	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Epione repandaria</i>	Bordered Beauty	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eugnorisma glareosa</i>	Autumnal Rustic	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Eulithis mellinata</i>	The Spinach	UKBAP NERC_s41 nHR	SU4761	1-km Square Su4761	2000	2000	1
<i>Eulithis testata</i>	Chevron	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Euphyia unangulata</i>	Sharp-angled Carpet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia abietaria</i>	Cloaked Pug	IUCN (pre 94) - NR CR	SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia assimilata</i>	Currant Pug	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia expallidata</i>	Bleached Pug	NS	SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia indigata</i>	Ochreous Pug	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia inturbata</i>	Maple Pug	CS	SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia irriguata</i>	Marbled Pug	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia lariciata</i>	Larch Pug	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia plumbeolata</i>	Lead-coloured Pug	NS	SU477618	Burghclere, Little Earlstone	1989	1989	1

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<i>Eupithecia pusillata</i>	Juniper Pug	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia simpliciata</i>	Plain Pug	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia subumbrata</i>	Shaded Pug	CS	SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Eupithecia tantillaria</i>	Dwarf Pug	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupithecia venosata</i>	Netted Pug	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Eupoecilia ambiguella</i>		NS	SU4762	Newtown Common	1987	1988	2
<i>Euxoa nigricans</i>	Garden Dart	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Furcula bifida</i>	Poplar Kitten	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Gastropacha quercifolia</i>	Lappet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Gelechia rhombella</i>		CR	SU4762	Newtown Common	1986	1986	1
<i>Glyphipterix forsterella</i>		NS	SU4762	Herbert Plantation Lnr	2001	2001	1
<i>Graphiphora augur</i>	Double Dart	UKBAP NERC_s41 CS	SU4761 SU4761	1-km Square Su4761 Burghclere	1980 1986	2000 1987	2 2
<i>Hadena compta</i>	Varied compta	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Hadena confusa</i>	Marbled Coronet	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Hadena perplexa</i>	Tawny Shears	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Hadena rivularis</i>	Campion	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Heliophobus reticulata</i>	Bordered Gothic	UKBAP HBAP NERC_s41	SU4761	1-km Square Su4761	1980	1980	1
<i>Heliothis virescens</i>	Marbled Clover	IUCN (pre 94) - NR HBAP NR	SU4761	1-km Square Su4761	1980	1980	1
<i>Hemaris fuciformis</i>	broad-bordered bee hawk	HBAP NS	SU4762	1-km Square Su4762	2000	2000	1
<i>Hemistola chrysoprasaria</i>	Small Emerald	UKBAP NERC_s41	SU477618	Burghclere, Little Earlstone	1989	1989	1
<i>Hoplodrina blanda</i>	The Rustic	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Hydraecia micacea</i>	Rosy Rustic	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2

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<i>Hydraecia petasitis</i>	Butterbur	CR	SU4761	1-km Square Su4761	1980	1980	1
<i>Hypena crassalis</i>	Beautiful Snout	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Hypena rostralis</i>	Buttoned snout	HBAP NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Hypomecis roboraria</i>	Great Oak Beauty	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1988	1988	1
<i>Idaea emarginata</i>	Small Scallop	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Idaea straminata</i>	Plain wave	nHS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1984	1990	7
<i>Idaea subsericeata</i>	Satin Wave	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Idaea sylvestraria</i>	Dotted-border Wave	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1985	1985	1
<i>Ipimorpha retusa</i>	Double Kidney	nHS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Ipimorpha subtusa</i>	Olive	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Jodis lactearia</i>	Little Emerald	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Lacanobia contigua</i>	Beautiful Brocade	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1986	1986	1
<i>Lampronia fuscata</i>		NR	SU4762	Newtown Common	1986	2002	5
<i>Lampropteryx otregiata</i>	Devon Carpet	NS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Larentia clavaria</i>	Mallow	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Leucoma salicis</i>	White Satin	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Limenitis camilla</i>	White Admiral	UKBAP NERC_s41	SU475622	Herbert Plantation	2007	2007	1
<i>Lithophane hepatica</i>	Pale Pinion	nHS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earstone	1990	1990	1
<i>Lithophane semibrunnea</i>	Tawny Pinion	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Lithosia quadra</i>	Four-spotted Footman	CR	SU4761	1-km Square Su4761	2000	2000	1
<i>Lobophora halterata</i>	Seraphim	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Lycia hirtaria</i>	Brindled Beauty	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1

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<i>Macaria wauaria</i>	V-moth	UKBAP NERC_s41 CR	SU4761	1-km Square Su4761	2000	2000	1
<i>Malacosoma neustria</i>	The Lackey	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Melanchra persicariae</i>	Dot Moth	UKBAP NERC_s41	SU47606220 SU4761	Herbert Plantation 1-km Square Su4761	2004 1980	2004 2000	1 * 2
<i>Melanchra pisi</i>	Broom Moth	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Mesoleuca albicillata</i>	Beautiful Carpet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Mesoligia literosa</i>	Rosy Minor	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Mythimna albipuncta</i>	White-point	nHS	SU4761	1-km Square Su4761	1980	1980	1
<i>Mythimna comma</i>	Shoulder-striped Wainscot	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Mythimna obsoleta</i>	Obscure Wainscot	CS	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earlstone	2000 1990	2000 1990	1 1
<i>Mythimna pudorina</i>	Striped Wainscot	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Mythimna straminea</i>	Southern Wainscot	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Mythimna turca</i>	Double line	HBAP NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Naenia typica</i>	Gothic	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Noctua orbona</i>	Lunar Yellow Underwing	UKBAP HBAP NERC_s41 NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Nonagria typhae</i>	Bulrush Wainscot	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Odontotia carmelita</i>	Scarce Prominent	NS	SU4761	1-km Square Su4761	2000	2000	1
<i>Operophtera fagata</i>	Northern Winter Moth	CS	SU4761	1-km Square Su4761	2000	2000	1

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<i>Oria musculosa</i>	Brighton Wainscot	UKBAP HBAP NERC_s41 NR	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	1980 1983	2000 1990	2 2
<i>Orthosia gracilis</i>	Powdered Quaker	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2
<i>Orthosia miniosa</i>	Blossom Underwing	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Orthosia opima</i>	Northern Drab	CR	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	1980 1984	2000 1984	2 1
<i>Orthosia populeti</i>	Lead-coloured Drab	CS	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	1980 1990	2000 1990	2 1
<i>Pammene albuginana</i>		NS	SU4762	Newtown Common	1986	1986	1
<i>Pammene germmana</i>		NS	SU4762	Herbert Plantation Lnr	2001	2001	1
<i>Panemeria tenebrata</i>	Small Yellow Underwing	CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Panolis flammea</i>	Pine Beauty	nHS	SU4462 SU4761	1-km Square Su4462 1-km Square Su4761	2000 1980	2000 2000	1 2
<i>Paradarisa consonaria</i>	Square Spot	nHS	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	2000 1990	2000 1990	1 1
<i>Parastichtis suspecta</i>	Suspected	nHS	SU4761 SU4762	1-km Square Su4761 Herbert Plantation Lnr	1980 2002	2000 2002	2 1
<i>Parastichtis ypsilon</i>	Dingy Shears	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Pasiphila chloerata</i>	Sloe Pug	CR	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	2000 1990	2000 1990	1 1
<i>Perconia strigillaria</i>	Grass Wave	NS	SU4662 SU4761 SU4762 SU477618	1-km Square Su4662 1-km Square Su4761 Newtown Common Burghclere, Little Earstone	2000 2000 1988 1990	2000 2000 1988 1990	1 1 1 1
<i>Perizoma affinitata</i>	Rivulet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Perizoma albulata</i>	Grass Rivulet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Perizoma didymata</i>	Twin-spot Carpet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Philereme vetulata</i>	Brown Scallop	nHS	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earstone	2000 1990	2000 1990	1 1
<i>Plagodis pulveraria</i>	Barred Umber	CS	SU4761	1-km Square Su4761	2000	2000	1

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<i>Plemyria rubiginata</i>	Blue-bordered Carpet	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Polia bombycina</i>	Pale Shining Brown	UKBAP HBAP NERC_s41 NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Polia trimaculosa</i>	Silvery Arches	NS	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earlstone	1980 1980	2000 1980	2 1
<i>Polychrysis moneta</i>	Golden Plusia	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Polymixis flavicincta</i>	Large Ranunculus	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Pseudatemelia flavifrontella</i>		CR	SU4762	Herbert Plantation Lnr	2001	2001	1
<i>Pseudoterpna pruinata</i>	Grass Emerald	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Pyrrhia umbra</i>	Bordered Sallow	nHR	SU4761	1-km Square Su4761	1980	1980	1
<i>Rheumaptera cervinalis</i>	Scarce Tissue	CR	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earlstone	2000 1990	2000 1990	1 1
<i>Rheumaptera hastata</i>	Argent and sable	UKBAP HBAP NERC_s41 NS	SU477618	Burghclere, Little Earlstone	1992	1992	2
<i>Rheumaptera undulata</i>	Scallop Shell	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Rhizedra lutosa</i>	Large Wainscot	nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Rhyacia simulans</i>	Dotted Rustic	CR	SU4761 SU477618	1-km Square Su4761 Burghclere, Little Earlstone	2000 1985	2000 1985	1 1
<i>Schrankia costaestrigalis</i>	Pinion-streaked Snout	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Scythris grandipennis</i>		CR	SU4762	Newtown Common	1990	1991	2
<i>Semiaspilates ochrearia</i>	Yellow Belle	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Shargacucullia lychnitis</i>	Striped Lychnis	UKBAP HBAP NERC_s41 NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Sorhagenia janiszewskae</i>		NS	SU4762	Newtown Common	1991	1991	1
<i>Spilosoma lubricipeda</i>	White Ermine	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1

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<i>Spilosoma luteum</i>	Buff Ermine	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Synanthedon spheciformis</i>	White-barred Clearwing	NS	SU4762	Newtown Common	1991	1991	1
<i>Tethea or</i>	Poplar Lutestring	CS	SU4761	1-km Square Su4761	2000	2000	1
			SU477618	Burghclere, Little Earlstone	1990	1990	1
<i>Thera firmata</i>	Pine Carpet	nHS	SU4761	1-km Square Su4761	2000	2000	1
			SU4762	Herbert Plantation Lnr	2000	2002	2
<i>Theria primaria</i>	Early Moth	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Tholera cespitis</i>	Hedge Rustic	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Tholera decimalis</i>	Feathered Gothic	UKBAP NERC_s41 nHS	SU4761	1-km Square Su4761	1980	2000	2
<i>Thumatha senex</i>	Round-winged Muslin	nHS	SU4761	1-km Square Su4761	2000	2000	1
<i>Timandra comae</i>	Blood-vein	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Trichiura crataegi</i>	Pale Eggar	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Tyria jacobaeae</i>	The Cinnabar	UKBAP NERC_s41	SU4563	Water Wash	2003	2003	1
			SU4761	1-km Square Su4761	2000	2000	1
<i>Tyta luctuosa</i>	Four-Spotted Moth	IUCN (pre 94) - VU UKBAP HBAP NERC_s41 NS	SU4761	1-km Square Su4761	1980	1980	1
<i>Watsonalla binaria</i>	Oak Hook-tip	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Xanthia citrigo</i>	Orange Sallow	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Xanthia gilvago</i>	Dusky-lemon Sallow	UKBAP NERC_s41 CR	SU4761	1-km Square Su4761	1980	1980	1
<i>Xanthia ictertia</i>	The Sallow	UKBAP NERC_s41	SU4761	1-km Square Su4761	1980	2000	2

WHITE YOUNG GREEN ENVIRONMENTAL

<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet	UKBAP NERC_s41	SU4761	1-km Square Su4761	2000	2000	1
<i>Xanthorhoe quadrifasiata</i>	Large Twin-spot Carpet	CS	SU4761	1-km Square Su4761	2000	2000	1
<i>Xestia agathina</i>	Heath Rustic	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	1980	1
<i>Xestia baja</i>	Dotted Clay	CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Xestia castanea</i>	Neglected Rustic	UKBAP NERC_s41 CS	SU4761	1-km Square Su4761	1980	2000	2
<i>Xestia ditrapezium</i>	Triple-spotted Clay	CR	SU4761	1-km Square Su4761	1980	2000	2
<i>Xestia rhomboidea</i>	Square-spotted clay	NS	SU4761	1-km Square Su4761	1980	1980	1
Mammals (Terrestrial)							
<i>Meles meles</i>	Badger	PBA	SU46656325	Oakridge, Newtown Common	2000	2000	1 *

* Indicates some of these records are unconfirmed

Confidential records

HBIC holds a small number of records that are to be treated as confidential. Confidentiality can be for a variety of reasons and may relate to a whole site or only to specific species. These records may be disclosed within data enquiries at the discretion of HBIC and in accordance with the Environmental Information Regulations 2004.

Sensitive species

A small number of species are considered as sensitive by the relevant specialist species recording groups and will be indicated as such on all lists. Species may be considered sensitive for a variety of reasons. Location details for these records are not disclosed in accordance with the Environmental Information Regulations 2004 and grid references may be altered to give a less precise position. Contact HBIC if further information is needed on these records.

Common species

The following species are included in the list because they are protected by National or International legislation. However, they are relatively common in Hampshire and are not used in the identification of SINC's which meet Section 6 of the Hampshire SINC criteria:

- *Hyacinthoides non-scripta* (Bluebell)
- *Ruscus aculeatus* (Butcher's Broom)

Records of other relatively common species within Hampshire, such as *Buxus sempervirens* (Box), may not appear in the list because, although the species are protected or notable, their provenance at sites may be unknown.

Further notes

WHITE YOUNG GREEN ENVIRONMENTAL

- The location names, where shown, are the originals given by the recorders and may not match any formal name for the location or other colloquial names by which the location may also be known.
- The grid references, where shown, are the originals given by the recorders and may indicate the specific location of the species, a central grid reference representing a larger survey area, or a grid square.
- Where species have been deemed as 'sensitive' by the relevant specialist species recording group the location name will not be shown and the grid reference may have been altered to give a less precise position.
- Many of the records have been supplied by specialist species recording groups. Whilst every reasonable effort is made to validate information supplied to the Hampshire Biodiversity Information Centre the accuracy or comprehensiveness of this information cannot be guaranteed.
- Records do not necessarily represent evidence of breeding at a site; please contact HBIC if further details are required for any of these records.
- Whilst a species may have been recorded at a site, this does not indicate that the species is still present. Equally, the absence of a species from a site does not signify that it is absent, only that it has not been recorded, that the site has not been surveyed for this species, or that HBIC has not been informed of its presence.

Status codes and abbreviations:

EU_Bird_1	Annex I of the Birds Directive
EU_Bird_21	Annex II/1 of the Birds Directive
EU_Bird_22	Annex II/2 of the Birds Directive
EU_Hab_2	Annex II of the Habitats Directive (priority species)
EU_Hab_2np	Annex II of the Habitats Directive (non-priority species)
EU_Hab_4	Annex IV of the Habitats Directive
EU_Hab_5	Annex V of the Habitats Directive
IUCN_(pre 94)	See IUCN (pre 1994) guidelines
IUCN_(1994)	See IUCN (1994) guidelines
IUCN_(2001)	See IUCN (2001) guidelines
RSPB_Red	Birds of Conservation Concern Red list
RSPB_Amber	Birds of Conservation Concern Amber list
NR	Nationally rare (occurring in 15 or fewer 10km squares in Great Britain)
NS	Nationally scarce (occurring in 16 - 100 10km squares in Great Britain)
NN	Nationally notable (occurring in 16 - 100 10km squares in Great Britain or less than 20 Vice Counties)
UKBAP	UK Biodiversity Action Plan priority species
HBAP	Hampshire Biodiversity Action Plan species
WCA_s1p1	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s91(k)	Schedule 1 Section 9 Part 1 (killing/injuring) of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s91(t)	Schedule 1 Section 9 Part 1 (taking) of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s94a	Schedule 1 Section 9 Part 4a of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s94b	Schedule 1 Section 9 Part 4b of the Wildlife and Countryside Act 1981 (as amended)
WCA_s8	Schedule 8 of the Wildlife and Countryside Act 1981 (as amended)
PBA	Protection of Badgers Act 1992

WHITE YOUNG GREEN ENVIRONMENTAL

EPS	European Protected Species
NERC_s41	Section 74 of the Countryside and Rights of Way Act 2000
NI	National Interest
CR	County Rare
CS	County Scarce
CI	County Interest
nHR	North Hampshire Rare (VC12)
sHR	South Hampshire Rare (VC11)
nHS	North Hampshire Scarce (VC12)
sHS	South Hampshire Scarce (VC11)
FEP_2	Table 2 of the Environmental Stewardship Farm Environment Plan (target species)
FEP_3	Table 3 of the Environmental Stewardship Farm Environment Plan (arable field margin indicator species)

APPENDIX D

Criteria for Identifying WHS in Berkshire and SINC's in Hampshire

Criteria for Identifying Wildlife Heritage Sites in Berkshire (WHS)

(agreed by the Berkshire Nature Conservation Forum on 23 May 2001 and amended on the 21st August 2003).

The criteria set out below define those areas which are considered to be of critical importance for biodiversity within Berkshire. Sites selected against these criteria are effectively irreplaceable and deserve the strongest nature conservation measures. These criteria have been adopted by local authorities in Berkshire, English Nature and BBOWT, the local Wildlife Trust.

Sites qualifying under the criteria, which are not already statutory designated, are referred to as Wildlife Heritage Sites (WHS). Potential sites are considered for selection by a Selection Panel appointed by the Berkshire Nature Conservation Forum. The 'precautionary principle' is followed in WHS selection. Any survey is limited due to factors such as date of survey, time taken to survey and the skills of the surveyor.

These criteria have been produced after consideration of criteria for Wildlife Sites selection in other counties in the South East to ensure a consistency of approach.

Please note that these criteria serve to identify whether sites are of county importance for biodiversity. From April 2001, owners are given the opportunity to comment on new survey reports and whether sites meet the criteria. These comments are considered by the Site Selection Panel in deciding whether a site meets WHS criteria.

Sites which meet WHS criteria can attract grant aid for environmentally sensitive management (e.g. the Countryside Stewardship Scheme). WHS are also a material consideration in the planning system. In this case, owners, occupiers and other parties have a right to object or appeal against WHS status through the normal planning process.

1. Woodland

- (a) Ancient⁷ semi-natural⁸ woodlands.
- (b) Other ancient woodland where there is a significant element of the original semi-natural woodland surviving.
- (c) Other semi-natural woodland/scrub if:
 - (i) they support a rich assemblage of species such as elements of an ancient woodland flora,
 - (ii) they comprise important community types of restricted distribution in the County such as alder/willow woods in the river valleys.
 - (iii) they support at least five 'Veteran Trees'.
- (d) Pasture woodland, parkland and wooded commons, not included in any of the above, but which are of considerable biological and historical interest.

⁷ Ancient – refers to woodlands which have had a continuous woodland cover since at least 1600 AD and have only been cleared for underwood or timber production.

⁸ Semi-natural – modified types of vegetation in which the dominant and constant species are accepted natives to Britain and that locality, and the structure of the community conforms to the range of natural vegetation types.

2. Neutral/Acid/Calcareous Grassland

- (a) Agriculturally unimproved grasslands⁹ which support a characteristic flora and fauna.
- (b) Semi-improved grasslands which retain a significant element of unimproved grassland.
- (c) Grasslands which have become impoverished through lack of management but which retain sufficient elements of relict unimproved grassland to enable recovery.

3. Heathland

- (a) Areas of heathland vegetation; including matrices of dwarf shrub, grassland, valley mires and scrub.
- (b) Areas of heathland which are heavily afforested or have succeeded to mature woodland if:
 - (i) they retain significant remnants of heathland vegetation,
 - (ii) they are contiguous with, or form an integral part of an open area of heathland.

4. Wetland Habitats

- (a) Areas of open freshwater (e.g. lakes, ponds, canals, rivers, streams and ditches) which support a rich assemblage of floating/submerged/emergent plant species, invertebrates, mammals, birds or amphibians.
- (b) Fens, reedbeds, flushes, seepages, springs, wet grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions.

5. Species

- (a) Sites which support a significant population or populations of one or more notable species¹⁰.
- (b) Sites which regularly support a significant population of a species of restricted distribution in the County. This includes sites that may only be used seasonally or for one part of a species life-cycle.
- (c) Sites which support a particularly rich assemblage of species (not necessarily notable).
- (d) Sites supporting at least five Veteran Trees (and potential deadwood invertebrates)
- (e) Sites which may be important for invertebrates (e.g. sites supporting deadwood, ephemeral ponds, marshy ground etc.).

6. Corridors, habitat mosaics and habitat adjacent to statutory sites or Wildlife Heritage Sites

- (a) Corridors of habitat (e.g. green lanes, species-rich hedgerows, rivers, streams, ditches, floodplain) which are important to link existing areas of important wildlife habitat.
- (b) Habitat mosaics which can be of high value to wildlife.
- (d) Habitat adjacent to existing statutory sites or WHS which is important to the nature conservation interest of the site as well as acting as a buffer area to the surrounding area.

7. Urban

In urban areas, sites of lesser nature conservation interest can be important to maintain biodiversity.

8. Geology and Geomorphology

⁹ *Agriculturally unimproved grassland – grassland that is composed of a mixed assemblage of indigenous species in essentially semi-natural communities which has been allowed to develop without the major use of herbicides or inorganic fertilisers.*

¹⁰ *Notable species will include Red Data Book species, Nationally Scarce species (species present in a hundred or fewer 10km squares in the UK), those species covered under Schedules 1, 5 and 8 of the Wildlife & Countryside Act, Annex 1 of the EC Bird Directive 79/409 and Annex IV of the EC Directive 92/43/EEC 'The Habitats Directive', and those covered by the Bern, Bonn and Ramsar Conventions, Priority Species in the UK Biodiversity Action Plan. Notable species also include species which are considered rare in Berkshire, where they occur in significant numbers.*

Sites which have been identified as Regionally Important Geological/ Geomorphological Sites (RIGS) using the following nationally agreed criteria:

- (a) The value of a site for educational purposes in life-long learning
- (b) The value of a site for study by both professional and amateur Earth scientists
- (c) The historical value of the site in terms of important advances in Earth science knowledge, events or human exploitation
- (d) The aesthetic value of a site in the landscape, particularly in relation to promoting public awareness and appreciation of Earth sciences.

Regionally Important Geological/Geomorphological Sites (RIGs) are sites of regional importance excluding SSSIs. RIGS are analogous to biological non-statutory sites. English Nature is promoting the identification of these sites through the establishment of local groups comprising representatives from geographical societies, local authority planning departments, museums services etc.

Criteria for selecting Sites of Importance for Nature Conservation in Hampshire

The criteria below define those sites which are considered to be of particular importance for nature conservation within Hampshire. These sites are in addition to the statutorily designated sites and are referred to as Sites of Importance for Nature Conservation (SINCs).

Woodland

1A Ancient¹ semi-natural² woodlands.

1B Other woodland where there is a significant element of ancient semi-natural woodland surviving.

1C Other semi-natural woodland if;

(ii) they comprise important community types of restricted distribution in the County, such as yew woods and alder swamp woods

1D Pasture woodland and wooded commons, not included in any of the above, which are of considerable biological and historical interest.

¹ *Ancient - refers to woodlands which have developed particular ecological characteristics as a result of their long continuity. Those identified to date which are over 2ha are included on the Hampshire Inventory of Ancient Woodlands (Provisional).*

² *Semi-natural - modified types of vegetation in which the dominant and constant species are accepted natives to Britain and that locality, and the structure of the community conforms to the range of natural vegetation types.*

Neutral/acid/calcareous grassland

2A Agriculturally unimproved grasslands³

2B Semi-improved grasslands which retain a significant element of unimproved grassland.

2D Grasslands which have become impoverished through inappropriate management but which retain sufficient elements of relic unimproved grassland to enable recovery.

³ *Agriculturally unimproved grassland - grassland that is composed of a mixed assemblage of indigenous species in essentially semi-natural communities which has been allowed to develop without the major use of herbicides or inorganic fertilisers.*

Heathland

3A Areas of heathland vegetation; including matrices of dwarf shrub, acid grassland, valley mires and scrub.

3B Areas of heathland which are afforested or have succeeded to woodland if;

(i) **they retain significant remnants of heathland vegetation which would enable their**

Coastal habitats

4A Semi-natural coastal and estuarine habitats, including saltmarsh, intertidal mudflats, sand dunes, shingle,

brackish ponds, grazing marsh and maritime grasslands.

Wetlands

5A Areas of open freshwater (eg. lakes, ponds, canals, rivers, streams and ditches) which support outstanding assemblages of floating/submerged/ emergent plant species, invertebrates, birds or amphibians.

5B Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions.

Species

6A Sites which support one or more notable species⁴.

6B Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle.

6C Sites which support an outstanding assemblage of species.

⁴*Notable species include Red Data Book species, Nationally Scarce species, species covered under Schedules 1,5 and 8 of the Wildlife & Countryside Act 1981, Annex 1 of the EC Bird Directive 79/409 and Annex II & IV of the EC Directive 92/43/EEC 'The Habitats Directive', and those covered by the Bern, Bonn and Ramsar Conventions. Notable species will also include species which are considered 'County Rare' or 'County Scarce'. County Rare = those species recorded in 1% or less tetrads in Hampshire or either of the two vice-counties (11 & 12) separately. County Scarce = 4% or less tetrads.*

Social value

7A Sites of nature conservation interest which occur in areas otherwise deficient in such interest, and/or are known to be of particularly high value to local communities e.g. community wildlife sites.

Sites selected under this criteria will be rigorously confined to those which, if lost, would result in a considerable and demonstrable loss to the local community which would be very difficult/impossible to replace. Because of the widespread distribution of sites of nature conservation interest in Hampshire, and the high threshold used to define critical importance, only a limited number of sites are likely to meet this criteria

Geology and geomorphology

8A Sites which have been designated as Regionally Important Geological/Geomorphological Sites (RIGS)

Regionally Important Geological/Geomorphological Sites are sites of regional importance excluding

SSSIs. RIGS are analogous to biological non-statutory sites.

APPENDIX E

PHOTOGRAPHS



Photo 1. Arable fields in the north western area of the site



Photo 2. Arable fields in the elevated central area view towards the east



Photo 3. Arable margins adjacent to Gorse Copse (view west)



Photo 4. North-south track in the east of the site showing grass banks



Photo 5. Permanent improved and semi-improved grassland in the east of the site



Photo 6. Grass banks adjacent to permanent pasture



Photo 7. Semi-improved, permanent pasture in the eastern area



Photo 8. Veteran tree in the eastern area of the site



Photo 9. Veteran tree in the eastern area of the site



Photo 10. River Enborne at Sandleford Park showing riparian wet woodland



Photo 11. River Enborne at Sandleford Park



Photo 12. Seepage point in the upper valley of the central wet grassland area



Photo 13. Extensive wet grassland/rush pasture in the upper part of the central valley near Slockett's Copse, showing Barn Copse in the distance



Photo 14. Permanent improved grassland and rush pasture in the lower part of the central valley, showing adjacent High Wood Copse and hedgerows along the stream

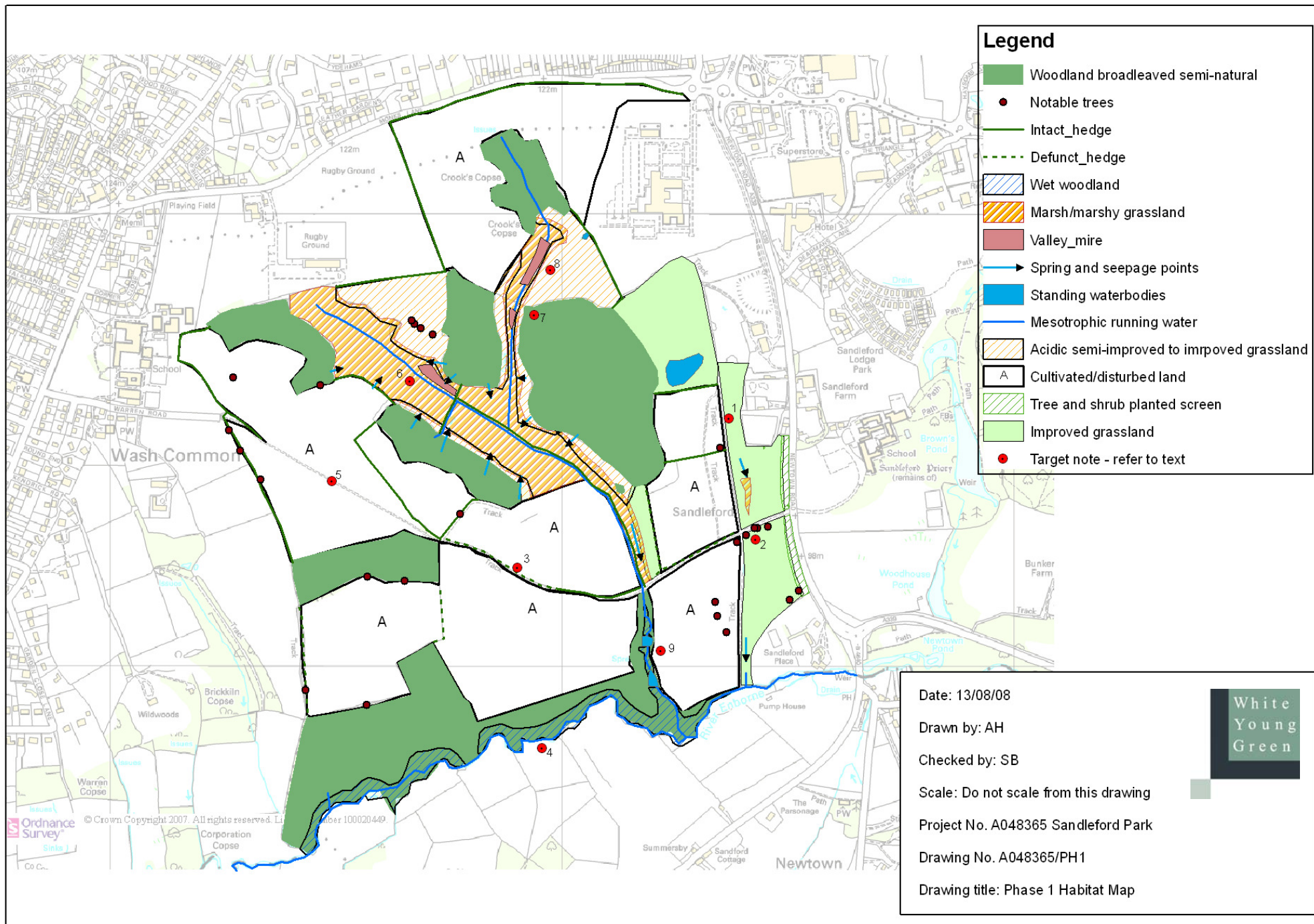
APPENDIX F

DRAWINGS

TARGET NOTES

(refer to drawing no. A048365/ph1 for the locations of these notes marked in red and a number)

1. Grass track and bank traversing north to south, including several veteran oak trees
2. A collection of veteran oak trees and remnants of the original parkland landscape
3. Grass track and bank with sparse hedgerow and trees traversing across the site from east to west
4. River Enborne and riparian wet woodland, dry acidic woodland and wet meadows on southern side
5. Grass track and Right of Way traversing east to west across site
6. Wet grassland/rush pasture mosaic including spring and seepage areas, valley mire and grading to dry acidic grassland above
7. Location of badger sett in High Wood Copse
8. Wet grassland/rush pasture mosaic including spring and seepage areas, valley mire and grading to dry acidic grassland above
9. Waterleaze Copse ponds and wet woodland



APPENDIX G

SPECIES LISTS DERIVED FROM SURVEY 2008

High Wood

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	LD	mature, immature trees and natural regen
<i>Ajuga reptans</i>	Bugle	R	
<i>Arctium minus</i>	lesser burdock	R	edges
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Betula pendula</i>	Birch	O	mature specimens
<i>Castanea sativa</i>	sweet chestnut	O	mature specimens
<i>Cirsium vulgare</i>	thistle	F	
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Deschampsia caespitosa</i>	hair grass	O	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Dryopteris felix-mas</i>	Male fern	O	
<i>Fraxinus excelsior</i>	ash	O	Occasional large specimen
<i>Geranium robertianum</i>	herb Robert	O	
<i>Glechoma hederacea</i>	ground-ivy	O	
<i>Hedera helix</i> ssp. <i>Helix</i>	ivy	O	
<i>Hyacinthoides non-scripta</i>	bluebell	F	AWI
<i>Ilex aquifolium</i>	holly	O	shrubs and seedlings AWI
<i>Juncus effusus</i>	soft rush	O	
<i>Lonicera periclymenum</i>	honeysuckle	O	
<i>Lysimachia nummularia</i>	creeping jenny	La	
<i>Oxalis acetosella</i>	wood sorrel	La	AWI
<i>Persicaria hydropiper</i>	water-pepper	O	
<i>Polygonatum multiflorum</i>	Solomon's seal	R	AWI
<i>Primula vulgaris</i>	primrose	O	AWI
<i>Pteridium aquilinum</i>	Bracken	LF	

<i>Quercus robur</i>	oak	O	mature and semi-mature specimens
<i>Ranunculus repens</i>	creeping buttercup	O	
<i>Rubus fruticosus agg.</i>	bramble	O	
<i>Sambucus nigra</i>	elder	O	
<i>Scrophularia nodosa</i>	figwort	O	
<i>Stellaria holostea.</i>	greater stitchwort	O	
<i>Teucrium scorodonia</i>	Wood sage	O	
<i>Urtica dioica</i>	common nettle	LD	

Waterleaze Copse

Scientific nomenclature	Common name	DAFOR	Comment
Dry Acidic woodland			
<i>Acer pseudoplatanus</i>	sycamore	O	mature, immature trees and natural regen
<i>Allium ursinum</i>	ramsons	O	AWI
<i>Alnus glutinosa</i>	alder	D	
<i>Anthriscus sylvestris</i>	cow parsley	O	
<i>Arctium minus</i>	lesser burdock	O	
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Athyrium felix-femina</i>	lady fern	O	
<i>Betula pubescens</i> X <i>pendula</i>	Birch	O	
<i>Bromopsis ramosa</i>	hairy-brome	O	AWI
<i>Carex remota</i>	remote sedge	R	AWI
<i>Chamerion angustifolium</i>	rosebay willowherb	A	
<i>Circaea lutetiana</i>	enchanter's nightshade	O to LA	
<i>Cirsium sp.</i>	thistle	O	
<i>Claytonia sibirica</i>	pink purslane	R	
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Fagus sylvatica</i>	beech	O	
<i>Festuca gigantea</i>	giant fescue	O	AWI

<i>Filipendula ulmaria</i>	meadowsweet	O	
<i>Fraxinus excelsior</i>	ash	O	
<i>Galium aparine</i>	cleavers	A	
<i>Geranium robertianum</i>	herb Robert	O	
<i>Geum urbanum</i>	wood avens	A	
<i>Glechoma hederacea</i>	ground-ivy	A	
<i>Hedera helix</i> ssp. <i>helix</i>	ivy	O	
<i>Hyacinthoides non-scripta</i>	bluebell	O	AWI
<i>Ilex aquifolium</i>	holly	O	shrubs and seedlings AWI
<i>Impatiens glandulifera</i>	Himalayan or Indian balsam	O	
<i>Lamium</i> sp.	dead-nettle	LA	
<i>Lonicera periclymenum</i>	honeysuckle	O	
<i>Mentha</i> sp.	Mint	O	
<i>Mercurialis perennis</i>	dog's mercury	A	
<i>Myosotis</i> sp.	forget-me-not	A	
<i>Oenanthe crocata</i>	hemlock water-droplet	A	
<i>Oxalis acetosella</i>	wood sorrel	O	AWI
<i>Persicaria hydropiper</i>	water-pepper	O	
<i>Poa nemoralis</i>	meadow-grass	O	AWI
<i>Populus tremula</i>	aspen	R	AWI
<i>Prunus avium</i>	cherry	R	AWI
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	Bracken	LD	
<i>Quercus robur</i>	oak	O	mature and semi-mature specimens
<i>Rorippa nasturtium-aquaticum</i>	water cress	O	
<i>Rumex</i> sp.	dock	O	
<i>Salix cinerea</i>	Grey willow	R	
<i>Sambucus nigra</i>	elder	O	
<i>Silene dioica</i>	red campion	O	
<i>Sorbus aucuparia</i>	Rowan	R	
<i>Stachys sylvatica</i>	hedge woundwort	O	
<i>Stellaria holostea</i>	greater stitchwort	R	
<i>Teucrium scorodonia</i>	wood sage	O	

<i>Ulmus procera</i>	English elm	O	semi mature tree and suckers present in river bank
<i>Urtica dioica</i>	common nettle	D	
Small area of tall ruderal and ditch vegetation			
<i>Dactylis glomerata</i>	cock's-foot	A	in culvert
<i>Elodea canadensis</i>	Pondweed	O	
<i>Festuca gigantea</i>	giant fescue	A	
<i>Galium aparine</i>	cleavers	O	
<i>Holcus lanatus</i>	Yorkshire fog	A	
<i>Impatiens glandulifera</i>	Himalayan or Indian balsam	LA	
<i>Pentaglottis sempervirens</i>	green alkanet	R	
<i>Potamogeton crispus</i>	curled pondweed	LA	
<i>Ranunculus repens</i>	creeping buttercup	A	
<i>Urtica dioica</i>	common nettle	D	
Wet woodland strip			
<i>Acer pseudoplatanus</i>	sycamore	D	seedlings and trees
<i>Aesculus hippocastanum</i>	horse chestnut	R	
<i>Ajuga reptans</i>	bugle	LA	
<i>Allium ursinum</i>	ramsons	O	AWI
<i>Alnus glutinosa</i>	alder	O	
<i>Anthriscus sylvestris</i>	cow parsley	O	
<i>Arctium minus</i>	lesser burdock	R	
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Athyrium filix-femina</i>	lady fern	R	
<i>Brachypodium sylvaticum</i>	false brome	O	
<i>Bromopsis ramosa</i>	hairy-brome	A	AWI
<i>Carex remota</i>	remote sedge	LA	AWI
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Dactylis glomerata</i>	cock's-foot	O	
<i>Digitalis purpurea</i>	foxglove	R	
<i>Fagus sylvatica</i>	beech	O	
<i>Fraxinus excelsior</i>	ash	D	seedlings and trees
<i>Galium aparine</i>	cleavers	O	

<i>Geranium robertianum</i>	herb Robert	A	
<i>Geum urbanum</i>	wood avens	A	
<i>Glechoma hederacea</i>	ground-ivy	O	
<i>Hedera helix</i> ssp. <i>helix</i>	ivy	A	seedlings and trees
<i>Hyacinthoides non-scripta</i>	bluebell	A	AWI
<i>Ilex aquifolium</i>	holly	A	AWI
<i>Lysimachia nemorum</i>	yellow pimpernel	O	AWI
<i>Mercurialis perennis</i>	dog's mercury	R	
<i>Myosotis</i> sp.	forget-me-not	O	
<i>Oxalis acetosella</i>	wood sorrel	O	AWI
<i>Poa nemoralis</i>	meadow- grass	O	AWI
<i>Polygonatum multiflorum</i>	Solomon's seal	R	AWI
<i>Populus tremula</i>	aspen	R	AWI
<i>Primula vulgaris</i>	primrose	P	AWI
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	bracken	A	
<i>Quercus robur</i>	oak	O	
<i>Rumex</i> sp.	dock	O	
<i>Salix cinerea</i>	grey willow	O	
<i>Salix fragilis</i>	crack willow	O	
<i>Sorbus aucuparia</i>	rowan	R	
<i>Stachys sylvatica</i>	hedge woundwort	R	
<i>Stellaria holostea</i> .	stellaria	O	
<i>Teucrium scorodonia</i>	wood sage	R	
<i>Urtica dioica</i>	common nettle	A	
<i>Viola</i> sp.	viola	D	AWI

Gorse covert

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	A	seedlings and trees
<i>Anthriscus sylvestris</i>	cow parsley	O	
<i>Betula pendula</i>	silver birch	O	
<i>Bromopsis ramosa</i>	hairy-brome	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Dactylis glomerata</i>	cock's-foot	A	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Fraxinus excelsior</i>	ash	O	
<i>Galium aparine</i>	cleavers	O	
<i>Glechoma hederacea</i>	ground-ivy	A	
<i>Hedera helix</i> ssp. <i>helix</i>	ivy	A	
<i>Holcus lanatus</i>	Yorkshire fog	A	
<i>Hyacinthoides non-scripta</i>	bluebell	A	
<i>Ilex aquifolium</i>	holly	A	shrubs and seedlings
<i>Lonicera periclymenum</i>	honeysuckle	A	shrubs and seedlings
<i>Poa annua</i>	annual meadow-grass	A	
<i>Prunus padus</i>	bird cherry	R	
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	bracken	D	
<i>Quercus robur</i>	oak	D	
<i>Rubus fruticosus</i> agg.	bramble	O	
<i>Sorbus aucuparia</i>	rowan	O	saplings and seedlings
<i>Stachys sylvatica</i>	hedge woundwort	O	

<i>Teucrium scorodonia</i>	wood sage	O	
<i>Ulex europaeus</i>	gorse	O	
<i>Ulmus procera</i>	English elm	O	
<i>Urtica dioica</i>	common nettle	O	

Dirty Ground Copse

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	LD	mature, immature trees and natural regen
<i>Ajuga reptans</i>	Bugle	O	
<i>Alnus glutinosa</i>	alder	O	
<i>Arctium minus</i>	lesser burdock	R	edges
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Betula pendula</i>	Birch	O	
<i>Betula pubescens</i>	Birch	O	
<i>Cardamine flexuosa</i>	Wavy bittercress	O	
<i>Carex remota</i>	remote sedge	O	AWI
<i>Chrysosplenium alternifolium</i>	opposite leaved saxifrage	R	
<i>Circaea lutetiana</i>	enchanter's nightshade	O	
<i>Cirsium</i> sp.	thistle	F	
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Deschampsia caespitosa</i>	hair grass	O	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Dryopteris felix-mas</i>	Male fern	O	
<i>Fraxinus excelsior</i>	ash	O	
<i>Galium aparine</i>	cleavers	A	
<i>Geranium robertianum</i>	herb Robert	O	
<i>Glechoma hederacea</i>	ground-ivy	O	

<i>Hedera helix</i> ssp. <i>Helix</i>	ivy	O	
<i>Heracleum sphondylium</i>	Hogweed		
<i>Holcus lanatus</i>	yorkshire fog	O	
<i>Holcus miollis</i>	yorkshire fog	O	
<i>Hyacinthoides non-scripta</i>	bluebell	F	AWI
<i>Hypericum humifusum</i>	trailing St John's wort	R	
<i>Ilex aquifolium</i>	holly	O	shrubs and seedlings AWI
<i>Lamium</i> sp.	dead-nettle	LA	
<i>Lonicera periclymenum</i>	honeysuckle	O	
<i>Lysimachia nummularia</i>	creeping jenny	La	
<i>Oxalis acetosella</i>	wood sorrel	La	AWI
<i>Poa nemoralis</i>	meadow-grass	O	AWI
<i>Polygonatum multiflorum</i>	Solomon's seal	R	AWI
<i>Primula vulgaris</i>	primrose	O	AWI
<i>Prunus avium</i>	cherry	R	AWI
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	Bracken	LF	
<i>Quercus robur</i>	oak	O	mature and semi-mature specimens
<i>Rosa canina</i>	Dog rose	O	
<i>Rubus fruticosus</i> agg.	bramble	O	
<i>Rumex</i> sp.	dock	O	
<i>Sambucus nigra</i>	elder	O	
<i>Sanicula europaea</i>	sanicle	O	
<i>Silene dioica</i>	red campion	O	
<i>Sorbus aucuparia</i>	Rowan	O	
<i>Stachys sylvatica</i>	hedge woundwort	O	
<i>Stellaria holostea</i> .	greater stitchwort	O	
<i>Torilis japonica</i>		R	edges

<i>Urtica dioica</i>	common nettle	LD	
<i>Veronica montana</i>	wood speedwell	O	AWI
<i>Viola sp.</i>	Violet	O	AWI

Crook's Copse

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	LD	mature, immature trees and natural regen
<i>Ajuga reptans</i>	Bugle	O	
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Betula pubescens</i>	Birch	O	
<i>Betula pendula</i>	Birch	O	
<i>Carex remota</i>	remote sedge	R	AWI
<i>Chrysosplenium alternifolium</i>	opposite leaved saxifrage	R	
<i>Circaea lutetiana</i>	enchanter's nightshade	O to LA	
<i>Cirsium sp.</i>	thistle	F	
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Deschampsia cespitosa</i>	hair grass	O	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Fraxinus excelsior</i>	ash	O	
<i>Galium aparine</i>	cleavers	A	
<i>Geranium robertianum</i>	herb Robert	O	
<i>Glechoma hederacea</i>	ground-ivy	A	
<i>Hedera helix</i> ssp. <i>helix</i>	ivy	O	
<i>Holcus lanatus</i>	yorkshire fog	O	
<i>Holcus mollis</i>	yorkshire fog	O	

<i>Hyacinthoides non-scripta</i>	bluebell	O	AWI
<i>Hypericum humifusum</i>	trailing St John's wort	R	
<i>Ilex aquifolium</i>	holly	O	shrubs and seedlings AWI
<i>Lamium</i> sp.	dead-nettle	LA	
<i>Lonicera periclymenum</i>	honeysuckle	O	
<i>Lysimachia nummularia</i>	creeping jenny	O	
<i>Oxalis acetosella</i>	wood sorrel	O	AWI
<i>Poa nemoralis</i>	meadow-grass	O	AWI
<i>Polygonatum multiflorum</i>	Solomon's seal	R	AWI
<i>Primula vulgaris</i>	primrose	O	AWI
<i>Prunus avium</i>	cherry	R	AWI
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	Bracken	LD	
<i>Quercus robur</i>	oak	O	mature and semi-mature specimens
<i>Rubus fruticosus</i> agg.	bramble	O	
<i>Rumex</i> sp.	dock	O	
<i>Sanicula europaea</i>	sanicle	O	
<i>Sambucus nigra</i>	elder	O	
<i>Silene dioica</i>	red campion	O	
<i>Stachys sylvatica</i>	hedge woundwort	O	
<i>Stellaria holostea</i> .	greater stitchwort	R	
<i>Veronica montana</i>	wood speedwell	O	
<i>Urtica dioica</i>	common nettle	LD	

Slockett's Copse

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	LD	mature, immature trees and natural regen
<i>Ajuga reptans</i>	Bugle	R	
<i>Arctium minus</i>	lesser burdock	R	edges
<i>Arum maculatum</i>	lords-and-ladies	R	
<i>Betula pendula</i>	Birch	O	mature specimens
<i>Cirsium vulgare.</i>	thistle	F	
<i>Corylus avellana</i>	hazel	O	
<i>Crataegus monogyna</i>	hawthorn	O	
<i>Deschampsia caespitosa</i>	hair grass	O	
<i>Digitalis purpurea</i>	foxglove	O	
<i>Dryopteris felix-mas</i>	Male fern	O	
<i>Fraxinus excelsior</i>	ash	O	Occasional large specimen
<i>Geranium robertianum</i>	herb Robert	O	
<i>Glechoma hederacea</i>	ground-ivy	O	
<i>Hedera helix</i> ssp. <i>Helix</i>	ivy	O	
<i>Hyacinthoides non-scripta</i>	bluebell	F	AWI
<i>Ilex aquifolium</i>	holly	O	shrubs and seedlings AWI
<i>Juncus effusus</i>	soft rush	O	
<i>Lonicera periclymenum</i>	honeysuckle	O	
<i>Lysimachia nummularia</i>	creeping jenny	La	
<i>Oxalis acetosella</i>	wood sorrel	La	AWI
<i>Polygonatum multiflorum</i>	Solomon's seal	R	AWI
<i>Primula vulgaris</i>	primrose	O	AWI
<i>Pteridium aquilinum</i>	Bracken	LF	
<i>Quercus robur</i>	oak	O	mature and semi-mature specimens

<i>Ranunculus repens</i>	creeping buttercup	O	
<i>Rubus fruticosus</i> agg.	bramble	O	
<i>Sambucus nigra</i>	elder	O	
<i>Scrophularia nodosa</i>	figwort	O	
<i>Stellaria holostea.</i>	greater stitchwort	O	
<i>Teucrium scorodonia</i>	Wood sage	O	
<i>Urtica dioica</i>	common nettle	LD	

Barn Copse

Scientific nomenclature	Common name	DAFOR	Comment
<i>Acer pseudoplatanus</i>	sycamore	D	saplings, trees and seedlings
<i>Alliaria petiolata</i>	garlic mustard	A	
<i>Arctium minus</i>	lesser burdock	R	
<i>Betula pendula</i>	silver birch	R	
<i>Bromopsis ramosa</i>	hairy-brome	A	
<i>Circaea lutetiana</i>	enchanter's nightshade	A	
<i>Corylus avellana</i>	hazel	O	
<i>Geranium robertianum</i>	herb Robert	A	
<i>Hedera helix</i> ssp. <i>helix</i>	ivy	A	
<i>Hyacinthoides non-scripta</i>	bluebell	A	
<i>Ilex aquifolium</i>	holly	D	seedlings and shrubs
<i>Melampyrum</i> sp.	cow-wheat	O	
<i>Oxalis acetosella</i>	wood sorrel	O	
<i>Primula vulgaris</i>	primrose	LA	
<i>Prunus spinosa</i>	blackthorn	O	
<i>Pteridium aquilinum</i>	bracken	O	

<i>Quercus petraea</i>	sessile oak	A	
<i>Ribes uva-crispa</i>	gooseberry	R	
<i>Rubus fruticosus</i> agg.	bramble	A	
<i>Salix fragilis</i>	crack-willow	O	
<i>Sorbus aucuparia</i>	rowan	R	
<i>Stachys sylvatica</i>	hedge woundwort	O	
<i>Ulex europaeus</i>	gorse	O	
Grassy verge alongside this woodland:			
<i>Cirsium</i> sp.	thistle	A	
<i>Festuca gigantea</i>	giant fescue	D	
<i>Myosotis</i> sp.	forget-me-not	O	
<i>Pteridium aquilinum</i>	bracken	A	
<i>Urtica dioica</i>	common nettle	A	

Wet grassland area in the central valley

Scientific nomenclature	Common name	DAFOR	Comment
<i>Alopecurus geniculatus</i>	marsh foxtail	O	
<i>Alopecurus pratensis</i>	foxtail	O	
<i>Apium nodiflorum</i>	fool's watercress	O	stream sides
<i>Cardamine flexuosa</i>	wavy bittercress	O	
<i>Carex hirta</i>	hairy sedge	O	
<i>Cynocurus cristatus</i>	crested dog's tail	O	drier areas
<i>Epilobium hirsutum</i>	hairy willowherb	O	
<i>Galium palustre</i>	marsh bedstraw	R	
<i>Glyceria plicata</i>	plicate sweet grass	O	
<i>Holcus lanatus</i>	Yorkshire fog	F	

<i>Juncus articulatus</i>	jointed rush	R	
<i>Juncus effusus</i>	soft rush	LA	
<i>Lolium perenne</i>	Rye grass	LA	
<i>Lotus corniculatus</i>	bird's foot trefoil	O	
<i>Lychnis flos-cuculi</i>	ragged robin	O	
<i>Phleum bertolonii</i>	smaller cat's tail	R	
<i>Ranunculus repens</i>	creeping buttercup	O	
<i>Rorripa nasturtium-aquaticum</i>	watercress	O	spring/base-rich flushes
<i>Rumex acetosella</i>	sheep's sorrel	O	
<i>Stellaria graminea</i>	lesser stitchwort	O	
<i>Trifolium repens</i>	white clover	O	
<i>Urtica dioica</i>	nettles	O	
<i>Veronica beccabunga</i>	brooklime	O	streamsides/mire
<i>Keeled skimmer</i>			
<i>Azure blue</i>			
<i>Beautiful demoiselle</i>			
<i>meadow brown</i>			

Key to DAFOR system

D – Dominant
 A – Abundant
 F – Frequent
 O – Occasional
 R - Rare

APPENDIX H

SURVEY TIMINGS

Table 6.1 *Guidance on the optimal timing for carrying out specialist ecological surveys and mitigation*

This is not definitive and is intended to provide an indication only. The timing of surveys and animal activity will be dependent on factors such as weather conditions. Please consult the *species briefing sheets* for more detailed information, including species distribution.

KEY
Recommended survey time
No surveys
Mitigation conducted at these times
Mitigation works restricted

* Where survey techniques involve the capture, handling or disturbance of *protected species* then only licensed persons can undertake surveys; personal *survey and monitoring* licences are obtained from English Nature, Countryside Council for Wales, Environment and Heritage Service (NI) or Scottish Natural Heritage

** Where mitigation involves the killing, capture, injury and/or disturbance of *protected species* and/or the damage, destruction or obstruction of their *habitats*, a *development licence* must be obtained from the Department for Food and Rural Affairs (England), Scottish Executive's Environment and Rural Affairs Department, Welsh Assembly (Countryside Division) or the Environment and Heritage Service Northern Ireland. Licences will be granted only to persons who have proven competence in dealing with the species concerned. Development licence applications

take approximately 30 days to be processed by government departments. Where mitigation works need to be conducted under licence *before* works begin, licence applications will need to be submitted considerably earlier.

		Licence required?	J	F	M	A	M	J	J	A	S	O	N	D
Habitats / vegetation	Surveys	N	Mosses and lichens. No other detailed plant surveys – Phase 1 surveys only (least suitable time)			Detailed habitat assessment surveys Surveys for higher plants and ferns Mosses and lichens in April, May and September only						Mosses and lichens. No other detailed plant surveys – Phase 1 surveys only (least suitable time)		
	Mitigation	N	Planting and translocation		No mitigation for majority of species							Planting and translocation		
Birds	Surveys	N	Winter birds		Breeding birds / migrant species			Breeding birds		Breeding birds / migrant species			Winter birds	
	Mitigation	N	Clearance works may be conducted at this time, but must stop immediately if any nesting birds are found		No clearance or construction works Bird nesting season					Clearance works may be conducted at this time, but must stop immediately if any nesting birds are found				
Badgers	Surveys	*	All survey methods – best time is in spring and early autumn / winter											
	Mitigation	**	Building of artificial setts No disturbance of existing setts						Stopping up or destruction of existing setts					See Jan to June
Bats	Surveys	*	Inspection of hibernation, tree and building roosts			No surveys	Activity surveys and inspection of building roosts. Emergence counts.					No surveys	Inspection of hibernation, tree and building roosts	
	Mitigation	**	Works on maternity roosts		Works on maternity roosts until mid-May. Works on hibernation roosts from mid-March			Works on hibernation roosts only			Hibernation roosts until November. Maternity roosts from mid-September		Works on maternity roosts only	

¹ Applies in Northern Ireland only

Table 6.1 *Guidance on the optimal timing for carrying out specialist ecological surveys and mitigation (continued)*

		Licence required?	J	F	M	A	M	J	J	A	S	O	N	D
Dormice	Surveys	*	Nut searches (sub-optimum time)		Nest searches (April sub-optimum time)		Cage traps and hair tube surveys to mid-October Nut searches from September (optimum time September to December) Nest searches (optimum time September to March)						Nut searches and nest searches (optimum time)	
	Mitigation	**	No clearance works				Clearance works (sub-optimum time)	No clearance works			Clearance works to early October (optimum time)		No clearance works	
Otters	Surveys	*	Surveys for otters can potentially be conducted all year round, though vegetation cover and weather conditions may limit the times at which surveys can be carried out											
	Mitigation	**	Mitigation can potentially be conducted in any month, but is likely to be restricted where otters are found to be breeding											
Pine martens	Surveys	*	Surveys may be conducted all year round weather permitting Optimum time is spring and summer. Surveys for breeding dens from March to May.											
	Mitigation	**	Works in areas of pine marten habitat and dens		Avoid all works in pine marten habitat								Works in areas of pine marten habitat and dens	
Red squirrels	Surveys	*	Surveys may be conducted all year round weather permitting Optimum time is spring and summer. Surveys for breeding females from December to September.											
	Mitigation	**	Avoid all works in red squirrel habitat									Works should preferably be conducted at this time		Avoid all works in red squirrel habitat
Water voles (n/a in NI)	Surveys	*	Reduced activity	Initial surveys possible	All survey methods can be used during this period, though vegetation cover and weather conditions may limit the times at which surveys can be carried out. (Optimum time: March to June)							Initial surveys possible	Reduced activity	
	Mitigation	N ²	Avoid all works in water vole habitat			Works in water voles habitat possible	Avoid all works in water vole habitat			Works in water vole habitat possible		Avoid all works in water vole habitat		
Sand lizards, smooth snakes (n/a in NI) ¹ and common lizards	Surveys	*	No surveys – reptiles in hibernation		Activity surveys from March to June and in September / October. Surveys are limited by high temperatures during July and August. Peak survey months are April, May and September.							No surveys – reptiles in hibernation		
	Mitigation	**	Scrub clearance		Capture and translocation programmes can only be conducted whilst reptiles are active (March to June and September / October). Trapping is limited by high temperatures during July / August. Scrub clearance							Scrub clearance		

² The extent of legal protection of the water vole is currently under review; it has been proposed to fully protect water voles, as well as their habitats.

Table 6.1 *Guidance on the optimal timing for carrying out specialist ecological surveys and mitigation (continued)*

		Licence required?	J	F	M	A	M	J	J	A	S	O	N	D
Other reptiles	Surveys	N	No surveys – reptiles in hibernation	Activity surveys from March to June and in September / October. Surveys are limited by high temperatures during July and August Peak survey months are April, May and September.									No surveys – reptiles in hibernation	
	Mitigation	N	Scrub clearance	Capture and translocation programmes can only be conducted whilst reptiles are active (March to June and September / October). Trapping is limited by high temperatures during July / August Scrub clearance									Scrub clearance	
Great crested newts (n/a in NI)	Surveys	*	No surveys – newts in hibernation	Pond surveys for adults: mid-March to mid-June. Surveys must include visits undertaken between mid-April and mid-May. Egg surveys April to mid-June. Larvae surveys from mid-May Terrestrial habitat surveys					Larvae surveys to mid-August Terrestrial habitat surveys		Terrestrial habitat surveys		No surveys – newts in hibernation	
	Mitigation	**	No trapping of newts Pond management only	Newt trapping programmes in ponds and on land					Newt trapping on land only					No trapping of newts Pond management only
Natterjack toads	Surveys	*	No surveys - toads in hibernation			Surveys of breeding ponds for adults. Surveys for tadpoles from May onwards. Surveys for adults on land				Surveys for adults on land.		No surveys – toads in hibernation		
	Mitigation	**	Pond management works			Trapping of adults in ponds from April to July. Trapping of adults on land Trapping of tadpoles from May to early September						Pond management works		
White-clawed crayfish	Surveys	*	Reduced activity			Surveys can be undertaken	Avoid surveys (females are releasing young)		Optimum time for surveys				Reduced activity	
	Mitigation	***	Avoid capture programmes (low activity levels may lead to animals being easily missed)			Exclusion of crayfish from construction areas.	Avoid capture programmes		Exclusion of crayfish from construction areas				Avoid capture programmes (low activity levels may lead to animals being easily missed)	
Fish	Surveys	*	For coastal, river and stream-dwelling species, the timing of surveys will depend on the migration pattern of the species concerned Where surveys require information on breeding, the timing of surveys will need to coincide with the breeding period, which may be summer or winter months, depending on the species											
	Mitigation	**	Mitigation for the protection of watercourses is required at all times of year. Mitigation for particular fish species will need to be timed so as to avoid the breeding season. This varies from species to species.											

*** Where mitigation involves the capture of white-clawed crayfish, a mitigation licence must be obtained from English Nature, Countryside Council for Wales, Environment and Heritage Service (NI) or Scottish Natural Heritage. Licences will be granted only to persons who have proven competence in dealing with the species concerned.

APPENDIX I

GLOSSARY OF DESIGNATION TERMS

Definitions and guidance on the various statutory and non-statutory wildlife site designations.

Site designations that protect the UK's natural heritage through statute

Local Nature Reserves (LNRs) (in England, Scotland and Wales)

Under the National Parks and Access to the Countryside Act 1949 LNRs may be declared by local authorities after consultation with the relevant statutory nature conservation agency. LNRs are declared and managed for nature conservation, and provide opportunities for research and education, or simply enjoying and having contact with nature.

National Nature Reserves (NNRs)

NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. In Northern Ireland, Nature Reserves are designated under the Amenities Lands Act (Northern Ireland) 1965.

Ramsar sites

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. The Convention adopts a broad definition of wetland, namely "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

Wetlands "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands".

There are no Ramsar sites in Berkshire or Oxfordshire.

Sites of Special Scientific Interest (SSSI) (England, Scotland and Wales)

The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations. Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

Special Areas of Conservation (SAC) and Sites of Community Importance (SCI)

SACs are designated under the EC Habitats Directive. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). New and/or amended Habitats Sites which have been submitted to the European Commission by Government, but not yet formally adopted by the Commission, are referred to as candidate Special Areas of Conservation (cSACs). Sites which have been adopted by the EC, but not yet formally designated by governments of Member States are known as Sites of Community Importance (SCIs). In the UK, designation of SACs is devolved to the relevant administration within each country.

SACs, together with SPAs, form the Natura 2000 network. SPAs, together with SACs, form the Natura 2000 network.

Special Protection Areas (SPA)

SPAs are classified by the UK Government under the EC Birds Directive. SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles are classified under the Wildlife and Countryside Act 1981. SPAs, together with SACs, form the Natura 2000 network.

Non-statutory natural heritage conservation designations

Local Wildlife Sites

Local authorities for any given area may designate certain areas as being of local conservation interest. The criteria for inclusion, and the level of protection provided, if any, may vary between areas. Most individual counties have a similar scheme, although they do vary. Most Local Wildlife Sites systems involve a panel of ecologists and others in the development of local criteria and the selection of the sites. Panels usually include a local government ecologist, an English Nature representative, the Local Wildlife Trust, the Local Environmental Record Centre and sometimes include a representative of local landowners and local naturalists.

These sites, which may be given various titles such as 'County Wildlife Sites' (CWS), 'Local Wildlife Sites' (LWS), 'Local Nature Conservation Sites' (LNCS), 'Sites of Importance for Nature Conservation' (SINCs), or 'Sites of Nature Conservation Importance' (SNCIs), together with statutory designations, are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined.

In Oxfordshire and Berkshire, the terms *County Wildlife Site* (Oxon), *SLINC* (Oxford City), and *Wildlife Heritage Site* (Berkshire Unitary Authorities) are used.

NGO properties / Nature Reserves

A variety of non-governmental organisations such as the John Muir Trust, Plantlife, the Royal Society for the Protection of Birds, Wildlife Trusts and Woodland Trust own or manage nature reserves or other areas of land that are important for biodiversity. These sites may be intended primarily for nature conservation, or for other purposes such as protection of landscape features or the provision public access to the countryside. These areas of themselves have no statutory basis, but a large number are also designated SSSIs / NNRs / SPAs / SACs / Ramsar sites, etc.

In Berkshire and Oxfordshire, BBOWT (Berks, Bucks & Oxon Wildlife Trust) sites fall into this category.

Regionally Important Geological and Geomorphological Sites (RIGS)

Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside statutorily protected land such as Sites of Special Scientific Interest (SSSI). Sites are selected under locally-developed criteria, according to their value for education, scientific study, historical significance or aesthetic qualities. Whilst not benefiting from statutory protection, RIGS are equivalent to local Wildlife Sites, and "*...consideration of their importance becomes integral to the planning process*".