

Appendix 6.2

Desk Study and Phase 1 Habitat Survey

Whiteknights Campus, University of Reading

Phase 1 Habitat Survey & Desk Study Report:
Confidential

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1 Introduction

- 1.1 A Phase 1 Habitat Survey was originally carried out for the Whiteknights Campus of the University of Reading, Berkshire in October 2005. In March 2007, RPS was commissioned by Stride Treglown Ltd to carry out a desktop study and to update the Phase I Habitat Survey. Figure 1 shows the location of the site.
- 1.2 The site is a major University campus and contains numerous buildings of mixed styles and ages, areas of woodland and parkland, sports areas plus associated infrastructure and road/footpath systems.
- 1.3 The desktop study supplements field surveys through provision of data for protected species and sites of designated nature conservation importance.
- 1.4 The Phase 1 Habitat Survey mapped habitats present on the site, together with any features of particular ecological interest, and assessed the potential for protected species to be present at the site. The results of the survey are intended to indicate possible constraints/issues that need to be considered in future development of the campus and to indicate any further ecological work that may be necessary. This includes an indication of the seasonal timing of protected species surveys.
- 1.5 It should be noted that the optimum time for Phase 1 Habitat Surveys is between April and September, however it is still possible to identify habitat types at other times of the year.
- 1.6 This report describes the survey methods used (Chapter 2) and the results obtained (Chapter 3). The implications of the results are considered and discussed in Chapter 4.
- 1.7 As publication of details of the locations of badger setts should be limited in order to protect the welfare of badgers, this confidential information has been excluded from this report. Information is available to those with a legitimate need for the data on request.

2 Methodology

- 2.1 The study comprised two phases: a desk study and a Phase 1 Habitat Survey. The study took into account the *Institute of Environmental Management and Assessment's Guidelines for Baseline Ecological Assessment* (IEMA, 1997).

Desk Study

- 2.2 The purpose of the desk study was to review the existing information for the site. The aim of this is to supplement field surveys with data and information previously collated for the area. Records of protected species and sites of designated nature conservation interest were obtained within a 2km radius of the site. A list of the statutory and non-statutory consultees from which information was requested is given below:

- Berkshire Amphibian and Reptile Group;
- Berkshire, Buckinghamshire, and Oxfordshire Butterfly Recorder;
- Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT);
- Berkshire and South Buckinghamshire Bat Group;
- Berkshire County Local Biodiversity Action Plan (LBAP) ;
- Binfield Badger Group;
- Environment Agency;
- Natural England;
- Natural England web-site (www.naturalengland.org.uk);
- MAGIC web-site (www.magic.gov.uk);
- Reading Ornithological Club;
- Thames Valley Environmental Records Centre (TVERC).

Site Visit

- 2.3 A Phase 1 Habitat Survey of land at Whiteknights Campus (Reading University) was carried out on 10th, 11th and 12th of October 2005 in accordance with the standard methodology set out by the Joint Nature Conservancy Committee *Handbook for Phase 1 Habitat Survey* (JNCC 1990). This has been updated during March 2007.
- 2.4 Areas of similar habitat were mapped (Figure 4) and Target Notes provided for particular features of interest (Appendix 1). In particular any evidence for the presence of, or potential for, protected species was noted.

2.5 An overview of the habitats on the site is provided, and each of the habitat types is described. Where the potential for protected species exists, an indication of further surveys required is given.

3 Results

Desk Study

Consultees

- 3.1 A number of organisations and individuals, both statutory and non-statutory, were asked to provide records of designated sites and protected or otherwise notable species within the study area. Copies of the replies received are summarised in Table 1.

Table 1: Summary of Consultee Responses

Consultee	Response
Natural England	Natural England suggested that TVERC were contacted for ecological information and to obtain information from the Magic website.
Environment Agency	Recommended contacting BBOWT as a number of their sites are within the 2km buffer of the proposed development. EA confirmed that white-clawed crayfish and stag beetles have been found within the 2km buffer zone. For further details of rare or protected species EA recommended contacting the Thames Valley Environmental Records Centre.
Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust.	Do not hold any ecological data and suggested contact the Thames Valley Environmental Records Centre.
Thames Valley Environmental Records Centre (TVERC)	TVERC provided details of 7 Wildlife Heritage Sites (WHSs) within the study area. TVERC also provided lists of protected and notable species within the 2km buffer zone.
The Berkshire and South Berkshire Bat Group	Provided bat records within the 2km buffer zone of the site.
Binfield Badger Group	Provided records for two badger setts within the 2km buffer zone of the site.
Reading Ornithological Club	Provided ornithological records within the 2km buffer zone of the site.
Berkshire, Buckinghamshire, and Oxfordshire Butterfly Recorder	Provided various butterfly records within the 2km buffer zone of the site.

Consultee	Response
Berkshire Amphibian and Reptile Group	No response.
Magic – www.magic.gov.uk	Data indicated three local nature reserves within the 2km buffer zone of the site.
Berkshire County Local Biodiversity Action Plan (LBAP).	Includes multiple habitat action plans.

3.2 A summary of the designated, non-designated and protected species records within the 2km study area is provided below in Table 2. The locations of these designated sites are shown with the TVERC response. The protected species data is shown on Figure 2 (excluding the bird data).

Table 2: Summary of Ecological Data within the 2km study area

Source	Description of Record	Grid Reference	Designation/ Protection
TVERC	Whitely Park Farm/ St Patrick's Hall Mixed broadleaved semi-natural woodland and mesotrophic standing waters. Site is important for its bird fauna supporting various red and amber list species including spotted flycatcher and song thrush.	SU726715	Wildlife Heritage Site (WHS)
	The Cowsey Broadleaved woodland and mature scrub alongside west facing hillside. Natural springs feed wetlands and ponds. Site is important for its bird fauna supporting various red and amber list species.	SU727705	WHS
	Old Pond Copse, Moor Copse Eastern half of Maiden Erlegh Lakes and woods LNR. Includes ancient and semi-natural woodland, with pockets of scrub along a stream and man made fishing lake.	SU753712	WHS

Source	Description of Record	Grid Reference	Designation/ Protection
	High Wood, Bulmershe Semi-natural woodland with many non-native shrub species, area of acid grassland and heathland.	SU751726	WHS
	Redhatch Copse Varied ancient woodland with some wetland areas.	SU742707	WHS
	Whiteknights Park Mixed woodland, meadow and large shaded eutrophic lake. Various red and amber listed bird species, mammals and insects recorded on site including tawny owls, kingfisher and stag beetles.	SU737718	WHS
	Reading Cemetery Open grassland with a few mixed isolated trees and shrub.	SU734732	WHS
TVERC	Water vole found in grounds of private residence	SU745711	Habitats Directive, Wildlife and Countryside Act (WCA)
	30+ records of stag Beetle	nearest SU735727	Habitats Directive, WCA
	White Clawed Crayfish	SU753712 SU748711	Habitats Directive, WCA
Bat Group & TVERC	Daubentons bat	SU7173 SU721739	Habitats Directive, WCA
	Pipistrelle 45 kHz bat	SU721739 SU731716 SU732717 SU733718 SU734714 SU735713 SU737718 SU738715 SU738717 SU739717 SU748727 SU755723	Habitats Directive, WCA

Source	Description of Record	Grid Reference	Designation/ Protection
	Pipistrelle 55kHz bat	SU731716 SU721739 SU732764 SU733718 SU737718 SU739717	Habitats Directive, WCA
	Noctule bat	SU732717 SU734719 SU738712 SU738715 SU746722	Habitats Directive, WCA
Badger Group	Badger Setts 2 records within 2km of the site, one of which within site boundary. The latter is an old record and has been confirmed by an RPS ecologist to no longer exist	Confidential	Habitats Directive, WCA
Ornithological Club	Provided numerous bird records for the 2km study area.	Numerous	WCA UKBAP
Butterfly Recorder	Provided numerous bird records for the 2km study area.	Numerous	WCA
Amphibian and Reptile Group	No response.		
Berkshire County Local Biodiversity Action Plan (LBAP).	The LBAP contained the following: Habitat Action Plans for: Broad Habitats: Acid Grasslands, Calcareous grassland, Fen, marsh and swamp, Neutral grassland, Rivers and streams, Standing open water and canals. Priority Habitats: Aquifer fed naturally fluctuating water bodies, Chalk rivers, Eutrophic standing waters, Fens, Lowland calcareous grassland, Lowland dry acid grassland, Lowland heathland, Lowland meadows, Mesotrophic lakes, Reedbeds.		United Nations Environmental Programme Convention on Biodiversity 1992

Phase 1 Habitat Survey

- 3.3 The site at Reading University covers approximately 120 ha and consists of a complex mix of university buildings of various ages and styles, large areas of amenity grassland, scattered mature trees forming areas of parkland, a large lake, extensive areas of broad-leaved woodland, horticultural gardens and an area of formal gardens with an arboretum. There are also two artificial ponds within the site. A network of footpaths and roads links the buildings and other areas of the campus.
- 3.4 All habitats recorded are mapped in Figure 4 and the following paragraphs describe each habitat type in more detail. All plant names (common and scientific) follow the nomenclature of *Stace, 1997*. A list of plant species can be found in Appendix 2.

Habitat Descriptions

- 3.5 Amenity grassland – much of the site consists of closely mown amenity grassland, which is intensively managed and regularly mown and of relatively low ecological value.
- 3.6 Broad-leaved woodland – There are large tracts of woodland on the site, in particular the area known as “the Wilderness” (Target Note 66). Other areas of woodland include those described in Target Notes 2, 9, 10, 20, 23, 29, 30, 31, 32, 34, 36, 37, 40, 43, 48, 54, 61, 62 and 64. These contain a range of species including hazel, sycamore, horse-chestnut, oak, hornbeam, lime, ash, Turkey oak, rowan, hawthorn, beech, elm, wild privet etc. They also contain small mounds of yew, holly and rhododendron in places. Field layer vegetation is generally limited, in some areas consisting almost entirely of ivy, but other areas containing species such as herb-Robert, nettles, wood dock, Yorkshire fog, cock’s-foot and cleavers.
- 3.7 Introduced shrubs – Within the more built-up areas of the campus there are numerous ornamental beds containing a mix of cultivated shrubs, including species such as cotoneaster and pyracanthus etc. Although these are non-native species and are therefore of little ecological interest *per se*, the denser and more mature stands may provide suitable nesting places for common breeding birds (see below) and their berries will provide food for migratory and wintering birds.
- 3.8 Standing water – Whiteknights Lake (Target Note 49) extends from Whightknights Road on the northern boundary, through the centre of the site and provides habitat for wildfowl birds. Surrounded by woodland to the west and parkland to the east, there was little edge vegetation at the time of the survey, although the woodland

does in places reach the edge of the lake where willow and alder are present. Bulrush, nettles, and sedges were also evident at the time of survey.

- 3.9 Two artificial ponds are located within the built-up area of the campus, both of which are surrounded in bricks and raised up above the level of the surrounding walkways. TN 88 and 92 describe these, both of which contain goldfish and very little vegetation other than common duckweed. A further pond is present within the Harris Gardens (TN 82) with fool's-water-cress and exotic herb species on the perimeter. The shallow sloping sides and location within potential foraging habitat make this pond potentially suitable for amphibians.
- 3.10 Parkland/scattered trees – A large number of young, semi-mature, mature and veteran trees are planted across the site, many of which are located within grassland forming extensive areas of parkland. Many of these trees are native species including ash and pedunculate oak, though there is also a large number of horse-chestnut and lime trees. Others are exotic and non-native species of good variety.
- 3.11 Buildings – The site contains a number of buildings of a range of styles and uses. Most buildings have low potential for bat roosts, although there are some that have higher potential (see below).
- 3.12 Intact hedge, species poor – There are a number of stretches of hedge on the site, most of which are ornamental and mechanically clipped, consisting of either cherry laurel or beech, though some on the perimeter to the north west consist of a mix of species including sycamore, hawthorn, hazel, ash and elm. Associated ground flora is limited to common grasses such as cock's-foot and Yorkshire fog, nettles, cleavers and creeping thistle. Brambles are also present in places. None of the hedges on the site are considered to be species-rich.

Potential for Protected Species

- 3.13 There are a number of habitats within the site with the potential to support protected species.
- 3.14 Amphibians – Whiteknights Lake (indicated by Target Note 49) has the potential to provide suitable habitat for amphibians, which could include the European protected great crested newt, although the presence of waterfowl and fish reduces this potential. The two ponds described by Target Notes 88 and 92 have limited potential for amphibious species but this cannot be entirely ruled out. The

ornamental pond in the Harris Garden (TN 82) may be potentially suitable for amphibians.

- 3.15 Bats – The site provides potential foraging and roosting habitat for bats. The areas of woodland recorded on the site provide large numbers of mature and semi-mature trees in which bats may roost, and would also provide good foraging habitat, particularly those close to the lake. Numerous mature and veteran trees across the site should be considered for opportunities for roosting bats. Several Victorian buildings also have suitable roof spaces with access points for bats. Other buildings have limited potential for roosting bats as they have mainly flat roofs, however these cannot be entirely ruled out.
- 3.16 Nesting birds – The extensive areas of broad-leaved semi-natural woodland on the site provide habitat for nesting birds, in particular the areas marked with Target Note numbers Notes 2, 9, 10, 20, 23, 29, 30, 31, 32, 34, 36, 37, 40, 43, 48, 54, 61, 62, 64 and 66. Birds may also nest in the canopies of some of the larger individual trees across the site.
- 3.17 Invertebrates – There are several large areas of unmanaged woodland that may provide habitat for deadwood invertebrate species.
- 3.18 Reptiles – There is some potential for common species of reptile within the rough grassland, lake and woodland edges and dense scrub recorded across the campus.

4 Discussion

- 4.1 Although much of the Whiteknights Campus comprises buildings and amenity grassland, some elements are of ecological interest. In particular the tracts of woodland and large mature trees in the areas of parkland are likely to provide habitat for breeding birds and foraging/roost potential for bats. The large lake is also of some ecological interest, providing habitat for water birds as well as potentially for amphibians. Bats may also forage over the water. A number of Victorian buildings may provide roosting places for bats and the areas of woodland that are unmanaged may provide good habitat for deadwood invertebrates. The rough grassland and woodland/lake edges provide suitable habitat for reptiles.
- 4.2 There is thus the potential for protected species, which must be taken into account in the context of any future development and alteration of the site. Targeted appropriate surveys for bats, amphibians and reptiles would be required for the parts of the campus likely to be affected by future development before the commencement of any works that would directly affect areas of suitable habitat. Invertebrate surveys are unlikely to be required given that the proposed development would not affect the key areas of woodland within the site. The potential presence of birds nesting in trees and shrubs should also be considered prior to any felling of trees or shrubs.
- 4.3 Nine Wildlife Heritage Sites (WHS) were identified within the study area. Whiteknights Park WHS is located within the campus itself and, in line with local planning policy, should be protected from any adverse effects and, where possible, enhanced. In addition, the following WHSs are situated within 2km of the site: The Cowsey, Redhatch Copse, Rushey Way pond, Moor copse, Whitley Park Farm, Southlake Park, Highwood, Bulmershe College and Reading Cemetery.

Protected species surveys

- 4.4 Amphibians – All amphibians are protected in this country under the Wildlife and Countryside Act 1981 (as amended) against sale. The great crested newt is more fully protected, against intentional killing, injuring or taking (capture. etc); possession; intentional or reckless disturbance whilst occupying a 'place used for shelter or protection' and destruction of these places. The great crested newt is also protected under European law, which is implemented by the Conservation (Natural Habitats & c.) Regulations 1994 and is listed in Schedule 2. This legislation makes it an offence to

deliberately to kill, capture, or disturb a great crested newt, or to damage or destroy the breeding site or resting place of such an animal.

- 4.5 Surveys for amphibians should be carried out for all ponds and the lake during the period of March – June prior to any future development that may affect the ponds or associated foraging habitat. Such surveys need to include a combination of at least three techniques. These usually include bottle trapping, torching and egg search. Four visits would need to be made in order to establish whether or not the great crested newt is present. If found, a further two visits would be necessary in order to establish a population size estimate. A Natural England license would be required if great crested newts were found on the site and would likely to be affected by the works. A mitigation strategy to avoid harm to the species would be required. These surveys should follow the English Nature Great Crested Newt Mitigation guidelines (August 2001).
- 4.6 Bats – Four species of bat have been recorded on site during the Phase I habitat survey including 45Khz Pipistrelle, 55Khz Pipistrelle, Daubentons and Noctules. All bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). All bats are also European protected and are listed in Schedule 2 of the Conservation (Natural Habitats &c) Regulations 1994. Taken together the Act and Regulations make it illegal to: intentionally or deliberately kill, injure or capture (take) bats; deliberately disturb bats (whether in a roost or not); damage, destroy or obstruct access to bat roosts; possess or transport a bat or any part of a bat, unless acquired legally; sell, barter or exchange bats, or parts of bats.
- 4.7 Activity surveys for bats should be carried out between mid-May and mid-September, in areas likely to be affected by development in order to establish if bats are present on the site. Visual inspections of buildings and their roof spaces, and any large trees that were to be disturbed or demolished during development should also be conducted. The results of activity surveys and visual roost inspections may indicate the need for more targeted emergent checks on specific buildings/trees. Any roosts that were to be disturbed during development would be subjected to licensing by Natural England. These surveys should follow the Bat Conservation Trust *Bat Surveys - Good Practice Guidelines* (July 2007).
- 4.8 Breeding birds – all breeding birds are protected in this country by the Wildlife and Countryside Act 1981 (as amended) making it an offence to take, damage or destroy the nest of any wild bird while it is in use or being built. Certain species listed on Schedule I of the Act are afforded special protection. In practise, any necessary

tree removal should avoid the breeding season, generally considered to be March to August inclusive. Where this is impractical, an ecologist should supervise vegetation clearance.

- 4.9 Invertebrates – An appraisal of habitat for invertebrates is unlikely to be required based on the currently known extent and location of development, particularly as areas of unmanaged woodland are avoided by the project. If required, surveys would target the areas affected and ideally need to be carried out during the period May – August.
- 4.10 Reptiles – A targeted reptile survey should be undertaken on site within the suitable habitat to be affected by the development proposals, in particular rough grassland and lake edges. Surveys should be carried out during the period April – June and September. These surveys should follow the Froglife Advice Sheet 10: *Reptile Survey* (Froglife, undated), and the *JNCC Herpetofauna Workers Manual* (JNCC 2003).

Figure 1

Site Location



Legend

- 2km Search Area
- Site Boundary

Rev:	Date:	Amendment:	AP	DC
			Name:	Checked:

■ Data Source: RPS 2006
 Status: PRELIMINARY

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■ Client: University of Reading
 Project: Whiteknights Campus

Title: Desktop Study Area

Scale: A3 @ 1:21,000

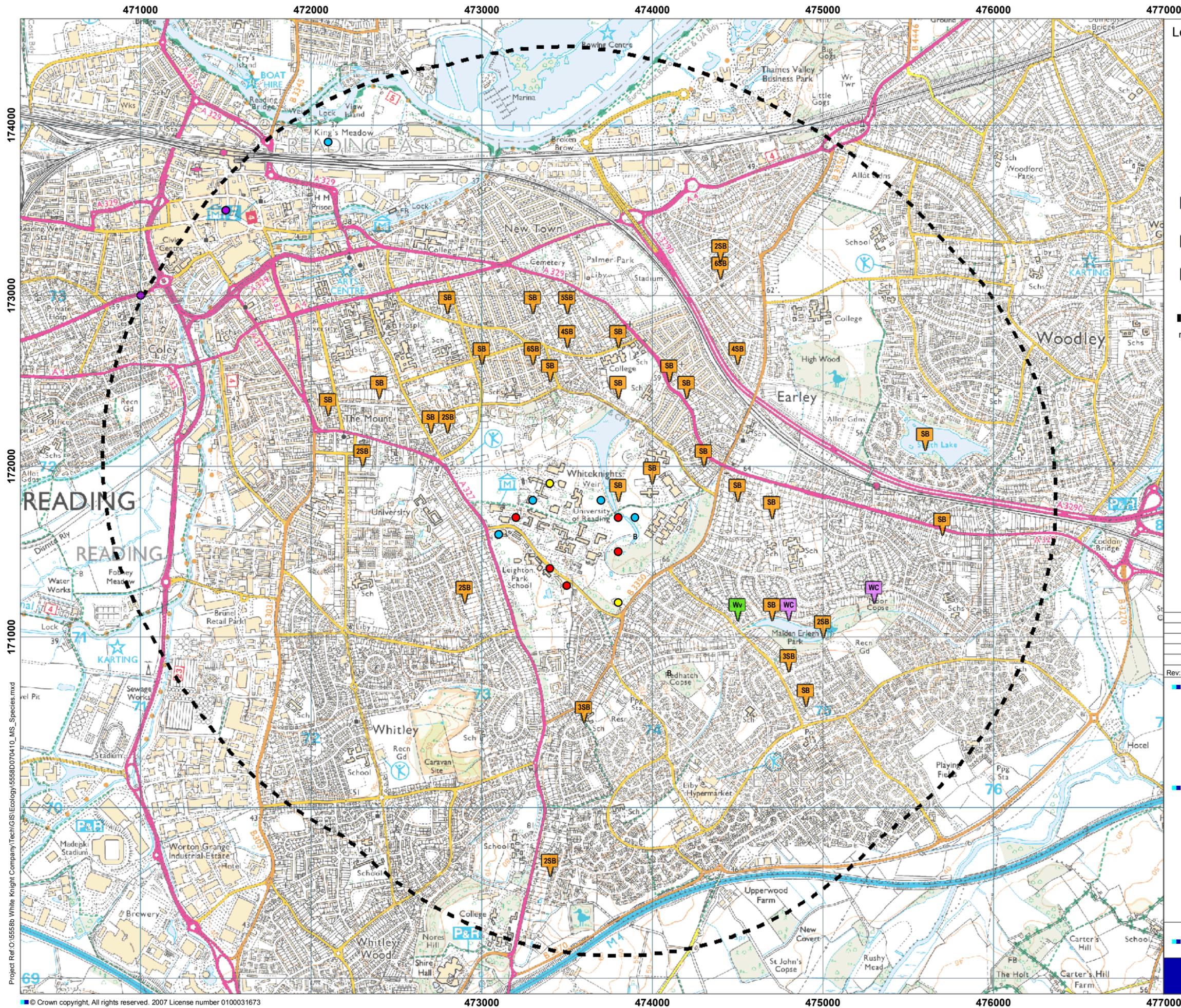
Date: 18/12/2006 Datum: OSGB36 Projection: BNG
 Drawn: CA Checked: DC Job Ref: JR5558

■ Figure No: 1 Revision: -

Project Ref: O:\5558\Tech\GIS\5558\061219_CA_DesktopStudySearchArea.mxd

Figure 2

Map of Protected Species



Legend

- Pipistrelle 45Khz
 - Pipistrelle 55Khz
 - Pipistrelle 45Khz & 55 Khz
 - Daubentons
 - Noctule
 - SB Stag Beetle
 - WV Water Vole
 - WC White Clawed Crayfish
 - 2km Search Area
- number before letter represents count of species

Rev:	Date:	Amendment:	Name:	Checked:

■ Data Source: RPS 2007
 Status: PRELIMINARY



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■ Client:
 Project: Whiteknights Campus

Title: Species Records

Scale: A3 @ 1:21,270

Date: 12/04/2007 Datum: OSGB36 Projection: BNG
 Drawn: MS Checked: Job Ref: 5558b

■ Figure No: **02** Revision: **X**

Project Ref: O:\5558b White Knight Company\Tech\GIS\Ecology\5558b\070410_MS_Species.mxd

Figure 3

Map of Designated Sites

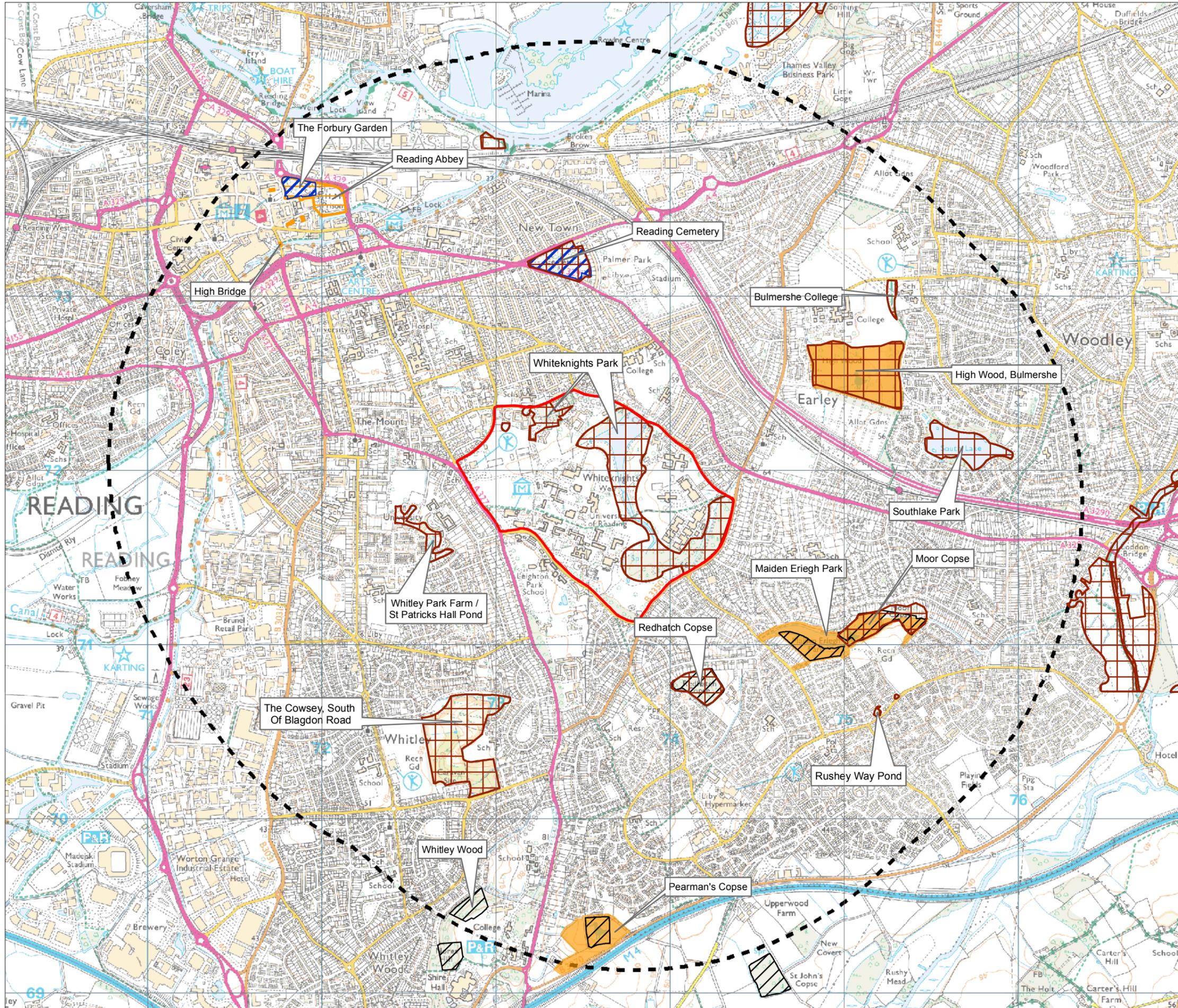
471000 472000 473000 474000 475000 476000

174000

173000

172000

171000



Legend

-  Ancient Woodland
-  Historic Parks and Gardens
-  Local Nature Reserve
-  Record Of Scheduled Monument
-  Wildlife Heritage Site
-  2km Search Area
-  Site Boundary

Rev:	Date:	Amendment:	Name:	Checked:

■ Data Source: RPS 2007
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■ Client:
 Project: Whiteknights Campus

Title: Designated Sites

Scale: A3 @ 1:21,500


Date: 02/04/2007 Datum: OSGB36 Projection: BNG
 Drawn: MS Checked: Job Ref: 5558b

■ Figure No: **3** Revision:

Project Ref: O:5558b White Knight Company\Tech\GIS\5558b\070330_MS_DesignSearch.mxd

Figure 4

Phase 1 Habitat Plan

O:\5558b White Knight Company\Tech\AutoCAD\Phase 1 Habitat Plan 2005\5294D051024 MM Habitat Plan_RevA.dwg



Legend

- A Amenity Grassland (J1.2)
- Standing Water (G1)
- Wall (J2.5)
- Broad-Leaved semi natural woodland (A1.1.1)
- Mixed semi-natural woodland
- Coniferous plantation woodland
- Intact Hedge, species poor (J2.1.2)
- Fence (J2.4)
- Introduced Shrub (J1.4)
- X X X X Ephemeral short perennial (J1.3)
- Tall Ruderal (C3.1)
- SI Poor semi-improved grassland (B6)
- ① Target Note



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Client: University of Reading		
Project: Whiteknights Campus		
Title: Phase 1 Habitat Plan		
Date: Sept 07	Scale: NTS	Original Paper Size: A3
Drawn: MP	Checked: KN	Job Ref: JR5558
Figure Number: 4	Rev: A	

Appendix 1

Phase 1 Habitat Survey Target Notes

Target Note (TN)

1. Brick house building with pitched tiled roof, in good condition but old. Surrounded by woodland/shrubs as described in TN 2.
2. Semi-natural woodland, including horse-chestnut, rhododendron, yew, beech. Some trees may have the potential for bat roosts, the whole area provides bird nesting habitat.
3. Sports Centre brick building, some parts have pitched roof with slates.
4. House/out-buildings, slightly pitched roof of slate, painted pebble dash walls.
5. Significant oak tree, cracks and holes evident.
6. Mature horse-chestnut, diameter at base 0.9m, cracks evident.
7. Sports pavilion, bricks and tiled roof, some tiles displaced.
8. Large London plane, diameter at base 1.5m, no obvious cracks or holes.
9. Broad-leaved woodland, group of mature and semi-mature horse-chestnut trees.
10. Broad-leaved woodland, ash, oak, elm, horse-chestnut, hawthorn and scattered holly. Including one mature oak tree.
11. Brick building with large roof space and tall chimneys, tiled roof.
12. Mature oak, 1.2m diameter at base, no obvious holes or cracks.
13. As for TN 12, diseased at base.
14. Very large London plane, diameter at base 2m, some evidence of holes.
15. Brick building with tiled pitched roof, c. 1980s, bat roost potential medium. Some climbing plants on walls.
16. Very large London plane tree, some holes evident, diameter at base 1.5m.

17. Group of around 20 young semi-mature and mature trees, mostly lime, horse-chestnut and oak with some rhododendron. Herb layer semi-improved grassland with cleavers, ivy, cock's-foot and other grasses.
18. 3 mature oak trees, diameter at base 1-2m, trees now in decline, ivy present, lots of dead wood.
19. Very large evergreen tree (species unknown) diameter at base 2m, some small crevices in bark evident.
20. Area of woodland, mostly lime, horse-chestnut and oak. Herb layer semi-improved grassland with cleavers, ivy, nettles, dandelion, cock's-foot and other grasses. Some holly also present. Structure generally quite dense.
21. Large horse-chestnut, diameter at base 1.8m.
22. Brick house with pitched tiled roof, medium – poor condition.
23. Group of semi-mature lime, horse-chestnut and oak trees.
24. Brick building with pitched tiled roof, ivy on back of building.
25. As TN 24.
26. Large lime tree, diameter 1m at base.
27. Large oak, starting to go into decline, some dead wood, diameter 1.3m at base.
28. Whitekights Hall, roof slightly pitched.
29. Small patch of woodland including yew, holly, rhododendron, sycamore, ash.
30. Woodland including oak, rhododendron, snowberry, yew, ash, scots pine and introduced shrubs, some ivy also present.
31. Woodland, including oak, sycamore, hazel, rhododendron, yew, hawthorn, holly and some bramble.
32. Area of shrubby woodland including some mature trees, lime, oak, horse-chestnut, yew, hornbeam. Herb layer consisting of grasses such as cock's-foot, cleavers, ribwort plantain, dock, nettle etc.

33. Group of mature/semi-mature lime and horse-chestnut trees.
34. Mixed age woodland, including horse-chestnut, oak, sycamore, hornbeam, lime, ash, rhododendron, hawthorn, yew and holly. Understory ivy, wood avens, grasses etc. Dead wood present.
35. Large oak, diameter 1.2m at base.
36. Area of shrubby woodland, including holly, hornbeam, yew, sycamore, horse-chestnut, brambles, nettles, ivy along the ground.
37. Area of woodland including hazel, sycamore, yew, rowan, horse-chestnut, elm, holly, oak, ash, wild privet, rhododendron. Understory ivy, bramble, nettle, herb robert and grasses including bent grass, cock's-foot etc. Mainly young trees but some semi-mature/mature. Good habitat for nesting birds, possible habitat for bats and invertebrates.
38. Foxhill Lodge, house with steeply pitched roof of tiles, set in garden with shrubs, flowerbeds and clipped hedges.
39. Printers building, painted bricks, wood framed windows, reasonable condition, slight pitched roof.
40. Woodland, similar to that described in TN 37.
41. Large horse-chestnut, diameter 1.3m at base.
42. Very large oak tree, 1.8m diameter at base.
43. Broad-leaved woodland, including cherry, hazel, holly, oak, elder, hawthorn, with understory of bramble, nettles, grasses, ivy and docks. Good habitat for birds and deadwood invertebrates.
44. Mature oak, diameter at base 1.4m, lots of holes visible.
45. Mature oak, 1.5m diameter at base, holes visible.
46. Foxhill House, old brick building with steeply pitched roof.
47. As for TN 46, adjacent building in similar style.

48. Woodland/parkland (tracts of amenity grassland in places) lots of ornamentals and exotics mixed in with oak, horse-chestnut, rhododendron, yew, holly, hawthorn, hornbeam, elm, sycamore etc. Lots of ivy on the ground. Opportunities for bat roosting, nesting birds and deadwood invertebrates.
49. Whiteknights Lake, large freshwater lake surrounded by woodland, trees and parkland, in some places the woodland goes right down to the waterline. Edge vegetation includes bulrush, nettles, alder, willow. Mallards and moorhens observed during the survey. Provides suitable habitat for amphibians, although it is likely that there are fish present. Good for freshwater invertebrates and also as a bat foraging area.
50. Large horse-chestnut tree, diameter 1.5m at the base.
51. Large oak tree, diameter at base 1.3m.
52. Large oak tree, diameter at base 1.6m.
53. Group of 3 mature oaks, 1.3m diameter at base.
54. Woodland along path and edge of lake, including lime, hawthorn, ash, alder, bramble, nettles, dock, grasses, yew, hornbeam, creeping thistle, cherry, silver birch, crack willow.
55. 2 large oak trees, 1.2m and 1.6m diameter at base.
56. Pumphouse and substation, flat roof and in reasonable condition, ivy present.
57. Mature oak, diameter at base 1.4m.
58. 2 mature cedars, diameter at base 1.2m.
59. Old brick house with steeply sloping roof.
60. Very large tree, species unknown, diameter at base 2m.
61. Woodland, including both native and non-native species, bare ground underneath, although some grasses present.
62. Area of shrubby woodland, including lime, horse-chestnut, sycamore and cultivated shrubs.

63. 2 buildings of brick, flat roofs, with some gaps in brick work, windows and doors boarded up, ivy present on roof and walls.
64. Area of woodland, mainly oaks, though also some holly and sycamore present as well as rhododendron.
65. North and South Lodge, small rendered buildings, pitched roofs, gaps evident though roof space not obvious.
66. The Wilderness, large tract of semi-natural woodland, dense with rhododendron understory in most places, tree species include holly, sycamore, oak, elm, horse-chestnut, yew, wild privet, hornbeam, elder etc. Trees are of varying ages, dead wood on ground (invertebrates). Bramble also present.
67. Very large conifer tree, diameter at base 1.8m.
68. Large mature oak, diameter at base 1.8m, with ivy on trunk.
69. Brick and panelled building, slate roof, pitched roof with grills in end walls.
70. Mature oak, 1.3m diameter at base.
71. Very large cedar, diameter 1.3m at base.
72. Large oak tree, 2m diameter at base.
73. Large cedar, 2m diameter at base.
74. Black Horse House, medium sloping roof with grills in end walls.
75. Semi-mature oak tree, some holes evident though small.
76. Large cedar, diameter at base 1.3m.
77. As TN 76.
78. As TN 76.
79. Large oak tree, 1.2m diameter at base, some cracks evident.
80. Oak tree, diameter at base 1.4m, some holes evident.

81. Harris gardens, formal ornamental gardens including a variety of exotic shrub and herb species and a number of mature trees forming an arboretum.
82. Ornamental pond with plastic liner, little vegetation seen at time of survey, though fool's-water-cress seen, plus exotic herb species on the perimeter. Water to a depth of 30cm, clear although under trees so heavily shaded, shallow sloping sides up to amenity grassland/parkland. Potentially suitable habitat for amphibians.
83. Wilderness Lodge. Painted bricks, steeply pitched slate roof.
84. Swiss Cottage and private garden, painted bricks and tiled roof with lots of moss.
85. Group of brick houses with pitched tiled roofs, in medium – poor condition, set in private gardens.
86. Accelerator building, bricks and pitched roof, medium – poor condition.
87. Old brick building with very steeply pitched slate roof, lots of eaves and windows.
88. Pond raised up in square brick construction, goldfish present, very little vegetation, very limited potential for amphibious species.
89. Blandford Lodge, pitched roof with gables.
90. Large London plane tree with ivy, diameter at base 1.3m.
91. Brick lodge with pitched roof, appeared unused at time of survey.
92. Pond under arm of building, raised up by bricks, common duckweed present, goldfish observed, limited potential for amphibians as vertical sided.
93. House/garden rendered and painted, pitched steeply sloping roof.
94. Area of experimental beds used for horticulture, interspersed with amenity grassland walkways.
95. Walled formal garden with box hedges, amenity grassland and herb/vegetable beds.

Appendix 2

Species List

The following plant species were observed during the site visits. All plant names (common and scientific) follow the nomenclature of *Stace, 1997*.

<i>Acer pseudoplatanus</i>	Sycamore
<i>Aesculus hippocastanum</i>	Horse-chestnut
<i>Agrostis spp</i>	Bent Grass
<i>Alnus glutinosa</i>	Alder
<i>Apium nodiflorum</i>	Fool's-water-cress
<i>Betula pendula</i>	Silver Birch
<i>Carpinus betulus</i>	Hornbeam
<i>Cedrus sp</i>	Cedar
<i>Cirsium arvense</i>	Creeping Thistle
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Dactylis glomerata</i>	Cock's-foot
<i>Fagus sylvatica</i>	Beech
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Geranium robertianum</i>	Herb Robert
<i>Geum urbanum</i>	Wood Avens
<i>Hedera helix</i>	Ivy
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Ilex aquifolium</i>	Holly
<i>Lemna minor</i>	Common Duckweed
<i>Ligustrum vulgare</i>	Wild Privet
<i>Pinus sylvestris</i>	Scots Pine
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Platanus x hispanica</i>	London Plane
<i>Prunus avium</i>	Cherry
<i>Prunus spinosa</i>	Blackthorn
<i>Quercus sp</i>	Oak
<i>Rhododendron ponticum</i>	Rhododendron
<i>Rubus fruticosus agg</i>	Bramble
<i>Rumex sp</i>	Dock
<i>Salix fragilis</i>	Crack willow
<i>Sambucus nigra</i>	Elder

Sorbus acuparia

Symphoricarpos albus

Taraxacum sp

Taxus baccata

Tilia sp

Typha latifolia

Ulmus sp

Urtica dioica

Rowan

Snowberry

Dandelion

Yew

Lime

Bulrush

Elm

Common Nettle

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