

Ecological Impact Assessment

Whiteknights Campus Boundary Replacement Fence Reading Borough Council

Client:	University of Reading
Document No.:	30303 NPA WK XX RP Y 0110
Revision:	P01
Status:	Planning
Print Size:	A4
Date:	18/05/2026

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Document Control

Project: Whiteknights Campus Boundary Replacement Fence

Project No: 30303

Document Title: Ecological Impact Assessment

Document No: 30303 NPA WK XX RP Y 0110

X

Original document

Revision

P01

Revision letter

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Revision Record

Rev letter	Date prepared	Prepared by	Checker / Approver	Description of changes

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1.0 Introduction

- 1.1 This document has been prepared by Nicholas Pearson Associates (NPA) on behalf of University of Reading (UoR) who propose to replace the existing boundary fencing and gates at Whiteknights Campus, University of Reading (OS Grid reference SU7471).
- 1.2 A separate planning application has been submitted to Wokingham Borough Council for similar boundary fencing works in on the Whiteknights Campus in that LPA area.
- 1.3 Proposals are shown on the Site Plans¹ and is hereafter referred to as the "Site".
- 1.4 To inform the proposals NPA have undertaken a desk study, an extended habitat survey and a Biodiversity Metric Calculation. This report presents the results of the surveys, identifies potential impacts and sets out the proposals to mitigate those potential impacts and provide biodiversity enhancement.

2.0 Legislation and Policy

- 2.1 In carrying out this appraisal relevant legislation, planning policies, development plans and best practice guidelines were consulted.

Legislation

Designated Sites

- 2.2 The Conservation of Habitats and Species Regulations 2017 (as amended) provide for the designation of both Special Protection Areas (SPA) and Special Areas of Conservation (SAC). The Wildlife and Countryside Act 1981 (as amended) provides for the designation of Sites of Special Scientific Interest (SSSI).

Species Protection

- 2.3 The Conservation of Habitats and Species Regulations 2017 (as amended) (also known as the Habitats Regulations) provide strict protection to a small group of species, commonly referred to as 'European Protected Species'. The Wildlife and Countryside Act 1981 (as amended) provides full and partial protection to species listed in the schedules.

¹ Nicholas Pearson Associates 2026 Site Plan RBC Sheets 1-7 30303 NPA WK ZZ DR L 3110-3017

Biodiversity

- 2.4 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on public authorities to: consider how they can, consistently with proper exercise of its functions, conserve and enhance biodiversity; agree policies and objectives based on that consideration; and act to deliver those policies and objectives. This act also places a duty on the Secretary of State to publish a list of habitats and species of principal importance for the purpose of conserving or enhancing biodiversity.
- 2.5 Schedule 7A of the Town and Country Planning Act 1990 sets out that every planning permission, subject to some exemptions, is required to deliver at least a 10% biodiversity gain.

Planning Policy

National Planning Policy Framework 2024

- 2.6 The NPPF requires Local Planning Authorities to set out a strategic approach to make sufficient provision for "conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measure to address climate change mitigation and adaptation (Para 20)". Section 15 of The NPPF includes guidance outlining that policies and decisions should contribute to and enhance the natural local environment by protecting and enhancing sites of biodiversity value, minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats, and hedgehogs. When determining planning applications "if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused (para 193a)". Opportunities "to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate (para 193d).
- 2.7 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy – Reading Borough Council

- 2.8 The Reading Borough Local Plan, adopted in 2019, includes the following policies which relate to biodiversity:

- EN12: Biodiversity and the Green Network
- EN14: Trees, Hedges and Woodland
- ER2: Whiteknights Campus, University of Reading.

2.9 Reading Borough Council is preparing a Draft Local Plan Partial Update. The draft local plan is under examination and underwent Stage 2 hearings in February 2026. It includes the following relevant policies relating to biodiversity:

- EN12: Biodiversity
- EN14: Trees, hedges and woodlands
- EN19: Urban Greening Factor
- ER2: Whiteknights Campus, University of Reading.

3.0 Methods

Desk Study

- 3.1 Records of biological Sites of Special Scientific Interest (SSSIs), National Nature Reserves, Local nature Reserves (LNRs), Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites within a 1km buffer of the Site were retrieved from Natural England's MAGIC website. The SSSI Impact Risk Zone layer was also searched to determine if the proposals were of a type which would give rise to likely impacts on SSSIs.
- 3.2 Online mapping was consulted to search for ponds within 250m of the Site.
- 3.3 The Reading Borough Council Local Plan map was reviewed to check for areas of identified biodiversity interest². The Reading Biodiversity Action Plan 2021 was reviewed to check for Local Wildlife Sites.
- 3.4 The Berkshire Local Nature Recovery Strategy (LNRS) mapping³ was reviewed to determine strategic significance for Biodiversity Net Gain. The Ancient Tree Inventory was also reviewed as part of the desk study⁴.

² Reading Borough Council Local Plan. <https://my.reading.gov.uk/custom/ReadingLocalPlanSolo.html> Accessed 17/03/2026

³ Berkshire Local Nature Recovery Strategy Map. https://mol.rbwm.gov.uk/mol/lnrs_berks/ Last accessed 29/04/2026

⁴ Woodland Trust Ancient Tree Inventory <https://ati.woodlandtrust.org.uk/> Last accessed 28/04/2026.

Site Surveys

- 3.5 An extended habitat survey was carried out by an experienced NPA ecologist on the 16th and 17th of April 2026. Mapping polygons were based on a previous site wide survey by LUC⁵ for University of Reading with an NPA surveyor updating the habitats and providing additional detail. Habitats and features of ecological value/interest were mapped using the habitat types required for Biodiversity Net Gain⁶, informed by Version 2.0 of the UK Habitat Classification system⁷. A condition assessment was undertaken by NPA using the Statutory Biodiversity Metric methodology⁸.
- 3.6 The scope of the survey was extended to include an assessment of the Site's potential to support protected species, including a search for evidence of Badger *Meles meles* and mammal paths under the existing fence line.

Biodiversity Net Gain

- 3.7 The Statutory Biodiversity Metric Calculation Tool was used to calculate biodiversity metrics for the Site. The metric uses area and linear habitat features as a proxy measure to capture a quantitative value of the Site for biodiversity pre- and post-development. The calculation takes the area, distinctiveness, condition and spatial significance of the habitat features into account as well as the ease of habitat creation and time taken for habitats to mature.
- 3.8 The extent for the baseline and proposed areas were taken from the Baseline Habitat Plan (Figure 1) and the Site Plan – RBC Sheets 1-7⁹.

Constraints

- 3.9 Some areas for the survey area could only be accessed from one side of the fence (Target Notes 46 & 47) however there was a clear view along the fenceline in these areas. This is not considered a significant constraint to assessment of the proposed fence replacement works.

⁵ LUC 2023, Whiteknights Campus Baseline Biodiversity Net Gain Assessment for University of Reading.

⁶ Statutory biodiversity metric tools and guides - GOV.UK. [Online] Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>.

⁷ UKHab (2023) *UK Habitat Classification Version 2.0* [Online]. Available at: <https://ukhab.org/>

⁸ Statutory Biodiversity metric condition assessments. Available at <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides> (Last accessed 24/07/24)

⁹ NPA Site Plan – RBC 30303 NPA WK ZZ DR L 3111-3117

4.0 Baseline Ecological Conditions

Designated Sites

Statutory Sites

- 4.1 There are no statutory designated sites within the search area. The proposals do not fall within any of the descriptions of development for the SSSI Impact Risk Zones which overlay the Site.

Non-statutory Sites

- 4.2 Parts of the Site are areas of identified biodiversity interest (policy EN12), these are areas of woodland.

Habitats

- 4.3 Habitats along the fenceline were a combination of woodland and amenity grassland with a mixture of more managed habitats at the entrances to the university.
- 4.4 Figure 1 shows the habitats present at the Site with Figure 2 showing an overview of the baseline habitats of the wider site. Photographs showing an overview of the Site are provided in Appendix 1 and Target Notes in Appendix 2. Condition assessments are provided as a separate Excel document (30303 NPA WK XX RP Y 0115).
- 4.5 The Site can be divided into the following habitat types:
- Lowland mixed deciduous woodland
 - Other woodland; mixed
 - Native hedgerows
 - Non-native and ornamental hedgerow
 - Mixed scrub
 - Introduced shrub
 - Modified grassland
 - Other neutral grassland
 - Ruderal/ Ephemeral
 - Developed land; sealed surface
 - Artificial unvegetated surface
 - Vegetated garden

Lowland mixed deciduous woodland

- 4.6 The woodland block in the north-east of the Site had a mixture of Oak *Quercus*, Pine *Pinus* and Poplar *Populus* in the canopy with lots of Cherry *Prunus*, Yew *Taxus baccata* and some Cherry Laurel *Prunus laurocerasus*. The understory was dense with Bramble *Rubus fruticosus* agg. There was some Variegated Yellow Archangel *Lamium galeobdolon* subsp. *argentatum* and Three Cornered Garlic *Allium triquetrum* at Target Note 45.

- 4.7 The southern woodland blocks comprised woodland with a mix of native and non-native species in the canopy. Sycamore *Acer pseudoplatanus*, conifers, Elm *Ulmus*, Horse Chestnut *Aesculus hippocastanum*, Yew, Holly *Ilex aquifolium*, Cherry Laurel, Holm Oak *Quercus ilex* and Bramble present. These blocks generally contained dense vegetation, aside from areas where woodland management activities had recently taken place.

Other woodland; mixed

- 4.8 Narrow blocks of woodland which were generally very dense. A mixture of trees were present with mature Oaks, mature non-native conifers, Beech *Fagus sylvatica*, White Poplar *Populus alba*, Sycamore, Holly, Yew, Elm, Cherry Laurel, Hawthorn *Crataegus monogyna*, and Holm Oak. The blocks were generally dense though some woodland management activities had been carried out in the block to the south of Chancellors Way.
- 4.9 Along Upper Redland Road there was a group of mature non-native trees with younger natives around them. The shrub layer contained significant quantities of Snowberry *Symphoricarpos albus*, Cherry Laurel and Wilsons Honeysuckle *Lonicera nitida*.

Native hedgerows

- 4.10 Native regularly managed hedgerows along Upper Redland Road. Woody species present comprised Hornbeam *Carpinus betulus*, Hawthorn, Holly, Yew, Blackthorn *Prunus spinosa*, Privet *Ligustrum vulgare* and Horse Chestnut saplings, native species were generally at least 90%, with some non-natives present such as Cherry Laurel. The hedgerows were of a similar character although only one section classified as 'species rich'.
- 4.11 Some Variegated Yellow Archangel was present at the base of a hedge at Target Note 43.
- 4.12 The hedgerow along Elmhurst Road was more formal in character with mostly Hornbeam, some Holly and some Yew.

Non-native and ornamental hedgerow

- 4.13 Non-native hedgerows comprised hedgerows with a mix of native and non-native species (ie along Upper Redland Road), single species Hornbeam hedges (along Elmhurst Road), Beech hedges (Whiteknights House entrance), non-native conifer (in south) and mixed non-native species (near the Russell Building).

Mixed scrub

- 4.14 An area of mixed shrub planting including Hazel *Corylus avellana*, Willow *Salix*, Bird Cherry *Prunus padus*, Dogwood *Cornus sanguinea* and Holly. A line of young Lime trees *Tilia* were present in this area but are not mapped as outside of the Site area.

Introduced shrub

- 4.15 Small areas of mixed ornamental planting.

Modified grassland

- 4.16 Regularly mown lawns and sport pitches. These areas of grassland were typically dominated by Perennial Rye Grass *Lolium perenne* with a variety of regularly occurring lawn species including White Clover *Trifolium repens*, Daisy *Bellis perennis*, Common Chickweed *Stellaria media*, Greater Plantain *Plantago major*, Yarrow *Achillea millefolium*, Dandelion *Taraxacum officinale*, Lesser Celandine *Ficaria verna*, Red Dead Nettle *Lamium purpureum*, Cock's-foot grass *Dactylis glomerata* and Bent grasses *Agrostis* spp. The sports pitch areas were typically species poor while lawn areas typically had a greater species richness with 6-8 species per m². Along Shinfield Road the area under the fenceline was bare, it is likely that the area is treated with weedkiller as maintenance.

Other Neutral Grassland

- 4.17 Some small parcels of other neutral grassland were present. They had a few wildflower species present such as vetches *Vicia* spp., Cuckooflower *Cardamine pratensis*, Cow Parsley *Anthriscus sylvestris*, Red Dead Nettle, Dove's-foot Cranesbill *Geranium molle*, Field Woodrush *Luzula campestris*, Germander Speedwell *Veronica chamaedrys*, Oxeye Daisy *Leucanthemum vulgare*, Common Bird's-foot trefoil *Lotus corniculatus* and Bulbous Buttercup *Ranunculus bulbosus*. Grasses included False-oat Grass *Arrhenatherum elatius*, Yorkshire Fog *Holcus lanatus*, Creeping Soft-grass *Holcus mollis*, Sweet Vernal Grass *Anthoxanthum odoratum* and Perennial Ryegrass depending on local conditions. None were particularly species rich.

Developed land; sealed surface

- 4.18 This habitat comprises footpaths, roads, parking and pavements.

Artificial unvegetated surface

- 4.19 A gravel area.

Vegetated garden

- 4.20 The fence will adjoin private gardens.

Species

Bats

- 4.21 Habitats on the Site are likely to be used by commuting and foraging bats and it is likely that there are potential roosting features nearby (as the proposals would not remove any trees the trees were not assessed in detail). A Holly tree with a cavity which appeared suitable for roosting bats was noted (Target Note 39) but would not be impacted.

Badger

- 4.22 No direct evidence of Badger was found in or adjacent to the Site but Badgers are known to occur on the wider campus.
- 4.23 A hole of a suitable size to be used by Badger was present in the fenceline to be replaced at Target Note 40, although it did not appear to be regularly used.

Birds

- 4.24 Woodland, shrubs and hedgerows provided habitat for nesting birds.

Amphibians

- 4.25 The site is within a mixture of red, amber and green Great Crested Newt *Triturus cristatus* Impact Risk Zones. However there are no mapped water bodies within 100m of the proposed working area. Aerial mapping does show several potentially suitable ponds within 250m of the work area.

Other Species

- 4.26 It Is possible that reptiles could occur within the work area, although suitability was limited in most areas due to the sudden transition between shaded woodland and mown grassland/pavements.
- 4.27 While the Site supports woodland, it is situated within an urban area and isolated from extensive wooded cover by roads and development, it is considered unlikely that Dormice *Muscardinus avellanarius* would be present.

- 4.28 Hedgehog *Erinaceus europaeus* and Stag Beetles are known to be present on the Whiteknights campus¹⁰ with Stag Beetles utilising tree stumps / large deadwood.

5.0 Biodiversity Net Gain

- 5.1 The proposed fenceline replaces an existing fenceline and as such vegetation removals are restricted to those required to allow for access to the fence.
- 5.2 Where possible, construction access will be taken from open land/highway adjacent to the fence, though a strip of vegetation around 50cm will be cut back to allow access, with trees and large branches retained. A slightly larger area would be cut back where the new fence needs to be installed around retained trees or where offsite habitats prevent access from the highway. As trees, large branches and the canopy above the works will be retained it is anticipated that vegetation will recover quickly after fence installation. As it is expected that vegetation will return to at least its original condition within a 2 year period area based habitats are shown as 'retained' within the metric. A 10% net gain in biodiversity will be achieved by planting trees and a new species rich native hedgerow.
- 5.3 Locations and details of habitat enhancements, including species mixes and their management, are provided in the Site Plan¹¹ and the Proposed Planting Schedule and Management Notes¹².
- 5.4 The Metric calculations determine the proposals would result in an increase of 10.18% area habitat units and 11.16% hedgerow units.
- 5.5 Table 5.1 below shows the results of the biodiversity net gain calculation.

Table 5.1 BNG results.

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	0.11
	<i>Hedgerow units</i>	0.23
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	10.18%
	<i>Hedgerow units</i>	11.16%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

¹⁰Campus Species Lists | Whiteknights biodiversity <https://blogs.reading.ac.uk/whiteknightsbiodiversity/campus-species-lists/>

¹¹ NPA Site Plan – RBC 30303 NPA WK ZZ DR L 3111-3117

¹² 30303-NPA-WK-ZZ-SH-L-5101-S4-P01_Planting Schedule and Notes.

6.0 Impacts and mitigation

6.1 While the works are generally of low impact, ecological receptors have been identified. Table 6.1 below identifies the potential impacts for each of these receptors and incorporates mitigation measures to avoid and reduce these impacts. In addition, it sets out additional ecological enhancements

Table 6.1: Potential Impacts and Mitigation

Ecological Receptor	Potential Impact	Design response/ Mitigation / Enhancement Measures	Residual Effects
Designated sites	No impacts to designated sites anticipated.	n/a	N/A
Habitats	- Damage to habitats during works - Risk of spreading Schedule 9 invasive <i>Rhododendron</i>, Three Cornered Garlic and Variegated Yellow Archangel	- Cutting back of vegetation will be limited to a narrow strip with trees over 75mm and branches over 150mm being retained. Cherry Laurel and <i>Rhododendron ponticum</i> will be removed from along the fenceline/works area. The canopy above the fenceline will be retained. It is anticipated that vegetation will regrow quickly. Wherever possible (ie the majority of the fence) access will be taken from adjacent open habitats which reduce disturbance along the fenceline. - Note: the university is actively managing the woodlands, including invasive species management, under a woodland management plan. - Materials will not be stored in woodland areas. - Materials (incl soil) which may contain Variegated Yellow Archangel or Three Cornered Garlic will not be removed or spread around. 9 trees and 35m of species rich native hedgerow will be planted.	Positive as required by statutory 10% gains.
Bats	Potential loss of bat roosting habitat in trees.	No trees over 75mm diameter at 150mm will be removed and no branches over 50mm diameter will be removed.	Not significant

Ecological Receptor	Potential Impact	Design response/ Mitigation / Enhancement Measures	Residual Effects
Badger	- Post installation affecting new or unidentified Badger setts. - Barriers changing movement patterns of Badger	- The route of the fence should be checked for Badger setts before replacement of the fence. - Wildlife passage points will be located in the same locations that existing suitably sized gaps in fences are present.	Not significant
Birds	- Potential harm to nesting birds in trees or shrub during vegetation clearance. - Temporary loss of nesting habitat.	- Removal of tree and scrub will be avoided during the nesting bird season (March-August) or checks for nesting birds will be undertaken immediately before works. If nesting birds are found, they will be protected. 5 No. 1B Schwegler nest boxes (mix of 26mm and 32mm entry holes) will be installed on mature trees adjacent to the Site, <i>e.g.</i> within the woodland to the south. They will be positioned: - Out of direct sunlight, ideally facing between north and east, - against the trunk of the tree so as to be more stable, - between 3-4m off the ground, - box tilted forward slightly to provide further protection from the rain, and - with a clear flight path to/from the box.	Not significant
Amphibian	Potential killing, injury and/or disturbance.	- It is unlikely that Great Crested Newt (GCN) would be in the work area but not impossible to rule their potential presence out. The rapid risk assessment tool in the Natural England GCN method statement results in an assessment of "Green: Offence Highly Unlikely". If a GCN is recorded, those works would stop and an ecologist will be consulted for advice. - Excavations (eg for post holes) will not be left open overnight to avoid fauna falling into holes. - Materials will not be stored in woodland, scrub or tall grass areas. Materials will either be stored on hard standing or lifted off the ground on pallets.	Not significant

Ecological Receptor	Potential Impact	Design response/ Mitigation / Enhancement Measures	Residual Effects
Other species	Risk of harm to fauna if refugia/hibernacula are damaged	If any potential refugia or hibernacula (eg log or stone piles, tree root systems, large deadwood) are present along the fence line these should be left in place if possible. If these features do need to be moved then this should be done by hand, during the period March-October (ie outside of the hibernation period), if this is not possible an ecologist will be consulted for advice.	Minor positive
	Improvement in fence design	The new vertical bar fence is of a more wildlife friendly design than the old chain-link mesh fence due to having larger gaps between solid bars.	
	Opportunity to provide enhancements for hedgehogs	2x hedgehog nest boxes will be provided  ¹³ - Hedgehog boxes to be positioned: - on the ground in a quiet, shady location away from footpaths. - To be placed under thick vegetation. - The entrance is to be out of the wind.	

¹³ <https://www.nhbs.com/hedgehog-nest-box>

Figures:



