Extended Phase 1 Habitat Survey

Land Northwest of Harwell Campus, Oxfordshire

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1 Introduction

1.1 Ecoconsult Ltd has been commissioned to carry out an extended phase 1 habitat survey of land northwest of Harwell Campus, Oxfordshire, OX12 8LJ shown in Figure 1 below.

1.2 The following work has been undertaken to inform this report:

- an ecological data search
- an extended phase 1 habitat survey of the site

1.3 Information has been used to describe habitats of nature conservation interest at the site and provide an assessment of potential ecological impacts.

Figure 1: Site boundary

2 Survey Methodology

Desk study

2.1 A data search was requested from The Thames Valley Environmental Records Centre for the site and 1km radius from the site boundary.

2.2 The MAGIC website was searched to provide information regarding statutory nature conservation sites within 5km from the site boundary.

2.3 The site was assessed in relation to Natural England's Sites of Special Scientific Interest (SSSI) Impact Risk Zones (IRZs).

2.4 Aerial photographs and 1:10,000 Ordnance Survey maps were used to search for ponds within 500m of the site.

Field surveys

Phase 1 habitat survey

2.5 The extended phase 1 habitat survey was carried out on 1st December 2014 and followed the methodology in *Handbook for Phase 1 Habitat Survey* (Joint Nature Conservation Committee, 2003) and *Guidelines for Baseline Ecological Assessment* (Institute of Environmental Management and Assessment, 1995).

3 Results of data search

Statutory Nature Conservation Sites

3.1 There are no statutory nature conservation sites located within 5km of the site boundary.

Site of Special Scientific Interest Impact Risk Zone (IRZ)

3.2 The site lies within a Site of Special Scientific Interest Impact Risk Zone. Risks where Natural England should be consulted by the Local Planning Authority are listed as follows:

- air pollution (Pig and poultry units and any other development/ industrial or commercial process that could cause air pollution);
- discharges (Any discharge of water or liquid waste that is more than 20m³/day. The water needs to either be discharged to ground (ie to seep away) or to surface water, such as a beck or stream. Discharges to mains sewer are excluded).

3.3 The proposed development will not result in any of the above and therefore it is assessed that there will be no risk to any Sites of Special Scientific Interest.

Species

Bats

3.4 The Thames Valley Environmental Records Centre currently holds records for the following species of bats within 1km from the site boundary including common pipistrelle, soprano pipistrelle and brown long-eared bats. These are from the Harwell Campus.

Badger

3.5 The Thames Valley Environmental Records Centre does not currently hold any badger records for the site or within 1km from the site boundary.

Water vole

3.6 The Thames Valley Environmental Records Centre does not currently hold any water vole records for the site or within 1km from the site boundary.

Birds

3.7 The Thames Valley Environmental Records Centre currently holds records for the following notable bird species within 1km from the site boundary.

Species	Dates
European golden plover	1998
Northern lapwing	1999, 2001
European turtle dove	2003
Peregrine falcon	2001
Yellowhammer	1999
Spotted flycatcher	2000
Willow tit	2000
Willow warbler	2000, 2003
Green woodpecker	2000, 2003

3.8 It appears that Northern lapwing may have nested in the arable field to the north of the site in the past.

Reptiles

3.9 The Thames Valley Environmental Records Centre does not currently hold any reptile records for the site or within 1km from the site boundary.

Amphibians

3.10 The Thames Valley Environmental Records Centre does not currently hold any great crested newt records for the site or within 1km from the site boundary. Common toad has been recorded from the Harwell Campus.

3.11 Ecoconsult has recorded common frog, common toad and smooth newt from ponds in the Harwell Campus in 2013.

Invertebrates

3.12 Notable moth species have been recorded at Lydebank Plantation to the west of the site. These will not be affected by the proposed development.

Plants

3.13 Notable plants have been recorded in the Harwell Campus. These will not be affected by the development of this site.

4 Results of Field Surveys

Local context

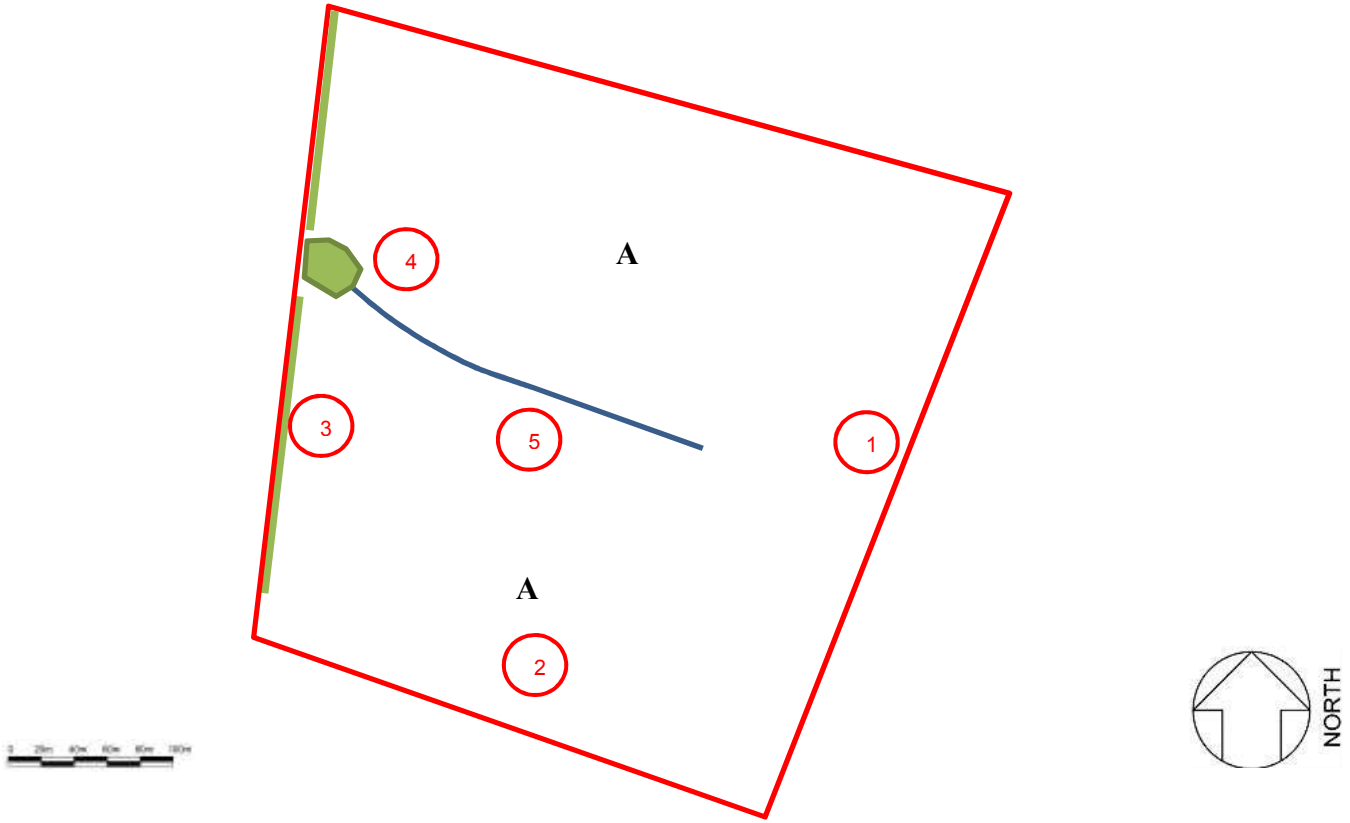
4.1 The site is located immediately northwest of the Harwell Campus site. Land to the east of the site is separated from the Harwell Campus by a chain link fence. The northern half of the Campus land supports scattered small trees and shrubs in amongst grassland. Tree lines and woodland shelterbelts are frequent to the west of the site. The busy A4185 road is c.190m of the northeast corner of the site. The central grid reference for the site is: SU 47721 87895.

Habitats

4.2 The site is dominated by intensive arable land. The habitats are shown on the phase 1 habitat map in Figure 2 below.

4.3 The following habitat types are represented on or adjacent to the site:

- arable land
- ditch
- trees (small group of crack willows)
- species-poor hedge



Key

A	Arable land		Hedge
	Ditch	1	Target note
	Crack willows		Site boundary

Figure 2: Phase 1 habitat map

Arable land

4.4 The site consists of intensive arable land. This is of low ecological value.

4.5 The field boundary to the east is a chainlink fence with a 2m grass margin next to the fence. This margin is dominated by common nettle *Urtica dioica*, with cock's-foot *Dactylis glomerata*, false oat grass *Arrhenatherum elatius,* cow parsley *Anthriscus sylvestris*, bramble *Rubus fruticosus* agg, creeping thistle *Cirsium arvense*, red fescue *Festuca rubra* agg., hemlock *Conium maculatum* and cleavers *Galium aparine*.

4.6 The southern boundary runs alongside a wide public byway. The narrow grass margin supports a similar composition of species to the eastern boundary.

Group of crack willow trees

4.7 At the western side of the site is a small area of crack willow *Salix fragilis* pollards.

4.8 Some of the willows have splits and small cavities around pollarding height (c.2m) which have bat roosting potential. The ground flora supports common nettle and broad-leaved dock *Rumex obtusifolius*.

Ditch

4.9 A ditch river runs from a culvert in the field towards the western boundary through the area of crack willows. The water in the ditch was mostly shallow (c.10 -15cm deep) at the time of the survey. It is likely to dry out during the summer.

4.10 The ditch and adjacent grass margin support cock's-foot, false oat grass, common nettle, broad-leaved dock and flag iris *Iris pseudacorus*.

Species-poor hedge

4.11 A track runs along the western boundary with a managed hedge between the track and the arable field. The hedge was dominated by blackthorn *Prunus spinosa* and hawthorn *Crataegus monogyna* with occasional dog rose *Rosa canina* agg. and bramble. The hedge is dense and will support nesting birds. Planted shelterbelts of trees lie on the other side of the track.

Species

Bats

4.12 The crack willow pollards were considered to have bat roosting potential.

4.13 Bats will use habitat along the western and eastern boundaries for foraging and commuting and may use the southern boundary to a lesser extent.

Badger

4.14 No badger setts or signs of badgers were observed within the site boundary or within close proximity to the site boundary.

Water vole

4.15 No signs of water vole were located in the ditch.

Amphibians

4.16 There is a lined water reservoir some 200m to the south. This appears to be devoid of vegetation and have very low suitability for great crested newts or other amphibians. Surveys of other more suitable water bodies in the Harwell Campus carried out by Ecoconsult in 2013 recorded no great crested newts. It is therefore highly unlikely that great crested newts occur at this site.

Reptiles

4.17 Potential reptile habitat is minimal and restricted to field margins around the boundaries and the ditch margins running from the centre of the site to the western boundary. If reptiles occur they are likely to be at very low populations.

Birds

4.18 A number of bird species were recorded during the phase 1 habitat survey. These included rook, sparrowhawk, linnet, buzzard, wren, long-tailed tits, woodpigeon and pheasant.

Invertebrates

4.19 Habitats on the site are common and of low quality and therefore unlikely to support notable invertebrates.

5 Conclusions and recommendations

5.1 An ecological data search and extended phase 1 habitat survey have been carried out for the site.

Nature conservation sites

5.2 There are no likely impacts to nature conservation sites.

Habitats

5.3 The site is dominated by intensive arable land of low ecological value.

5.4 The small group of crack willow pollards, ditch and hedgerow provide habitats for wildlife and should be retained where possible and incorporated into the green infrastructure of the proposed development.

Species

Bats

5.5 The crack willow pollards have bat roosting potential. If proposed for removal, a bat survey of the trees should be carried out and, if roosts are present, a Natural England mitigation licence will be required.

5.6 Green infrastructure should be designed to improve the foraging and commuting value of the site for bats. Bat boxes could be incorporated into buildings.

Badger

5.7 No badger setts or signs of badgers were observed. If setts are discovered prior to the development, a badger mitigation licence may be required.

Birds

5.8 The site may support farmland birds (such as skylark) although the land would appear to be intensively farmed. Birds will nest in the hedge along the western boundary, the area of crack willows and potentially the ditch. Bird boxes could be incorporated into buildings.

5.9 Nesting birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended). Disturbance to nesting birds should be avoided by carrying out site clearance works outside the main nesting season. The main nesting season is generally March to August.

Appendix A: Bibliography

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