



**Ecological Appraisal
Broomhead Estate,
Wombwell, Barnsley**

Report reference: R-1377-01
September 2012

Report Title:	Ecological Appraisal Broomhead Estate, Wombwell, Barnsley
Report Reference:	R-1377-01
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Summary Statement

The site has been found to be of low ecological value, based on it supporting a very limited range of common, species-poor habitats.

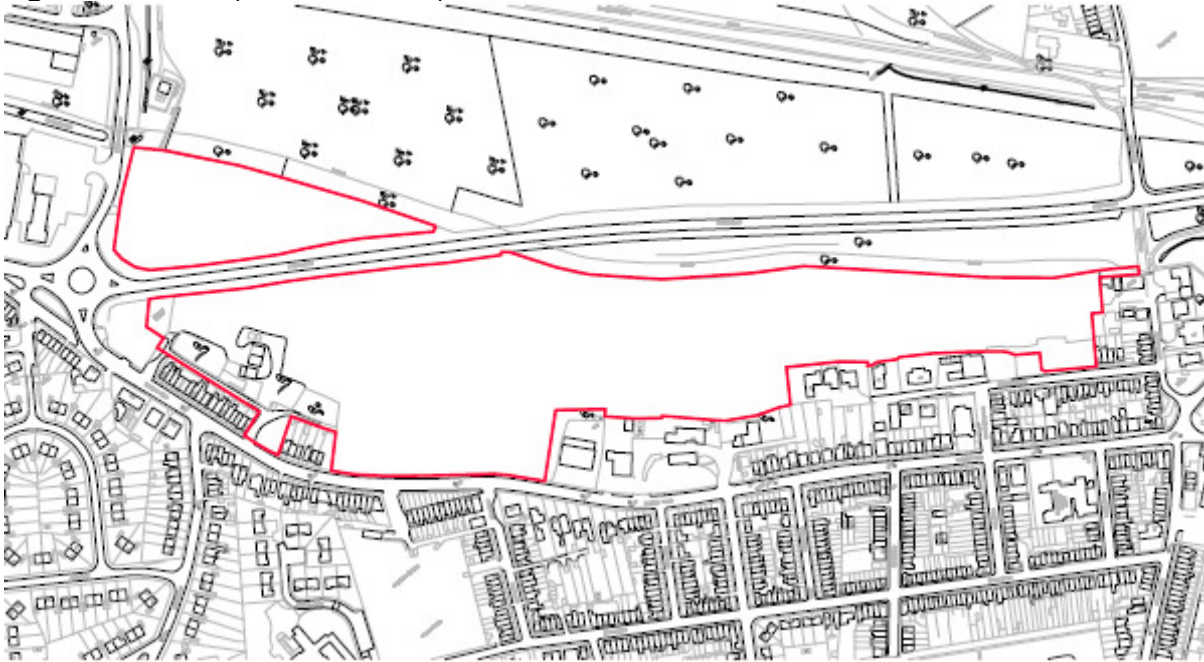
Two stands of Japanese knotweed have been found, these need to be dealt with in accordance with EA guidance.

General recommendations in terms of preventing impacts on nesting birds and enhancing the site's biodiversity are also made in the report.

Introduction

1. Brooks Ecological Ltd was commissioned by Persimmon Homes to carry out an ecological appraisal of land either side of the A633, Wombwell, Barnsley, South Yorkshire (SE 394 036).

Figure 1 Survey site boundary



Site Proposals

2. The land is proposed for change of use to housing and associated infrastructure.

Potential impacts

3. The following potential impacts are highlighted and the report which follows sets out the significance of these impacts relative to the ecological value of the site and the potential presence of protected or notable species:
 - Loss of areas currently occupied by habitat to built development
 - Effects on adjacent or nearby habitats

Desk Study

4. A desk study was carried out to identify species or habitats that are considered important in a local context and to identify any species recorded locally that may be associated with the application site. This information can be used to help target groups that need to be considered in more detail in order to identify the ecological baseline for the application site.

Designated Sites

5. A search of the MAGIC website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Scientific Interest [SSSI's]) as well as many non-statutorily listed habitats (e.g. Ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats.
6. There is one designated site within 2km of the application site. Stairfoot Brickworks is c.1.5km north west of the site. This site is designated on the basis of its geological exposures and potential impacts on it are outside of the scope of this report.
7. Wombwell wood and Wombwell Wood South are two areas of ancient and semi-natural or replanted woodland. 1.3km from the site at its closest point, this woodland would not be expected to be impacted by the proposed development.
8. Local records holders, Barnsley Biological Records Centre (BBRC) have confirmed that there are no non-statutory designated sites within the 2km search area.

Natural England Natural Area

9. The site falls within *Natural Area 24 Coal Measures*.

The topography of the Natural Area is gently undulating and the network of towns and cities is characterised by a matrix of acidic ancient and secondary woodlands, valley wetlands, neutral and acid grasslands, and mixed agriculture. Canals, mill-ponds and natural rivers are also important features.

10. National conservation priorities within this natural area are;
 - Earth heritage
11. Local Conservation priorities within this natural area are;
 - Acid grassland

- Fen, marsh and swamp
- Lowland heathland
- Natural grassland
- Rivers and streams
- Standing open water and canals
- Wet woodland

12. The application site does not present any good examples of these habitat types. The grassland present within the site is improved and is discussed later in the report.

Local Biodiversity Action Plan

13. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Barnsley Biodiversity Action Plan'.
14. Table 1 lists the local Species Actions Plans and, with reference to the field study presented later in this report, assesses a) whether the species potentially have any degree of dependence on the site, and b) if so whether development would be likely to have a significant bearing on the objectives of the UK/LBAP.

Table 1: Species Action Plans

Species/group	Potentially on site	Would development impact significantly on BAP objectives
Hedgehog	No	N/A
Barn owl	No	N/A
Skylark	No	N/A
Tree sparrow	No	N/A
Twite	No	N/A
Great crested newt	No	N/A
Salmon	No	N/A
Bullhead	No	N/A
White-clawed crayfish	No	N/A
Glow worm	No	N/A
Dingy skipper	No	N/A
Bats	No	N/A
Bluebell	No	N/A
Water vole	No	N/A
Otter	No	N/A
Grey partridge	No	N/A
Bittern	No	N/A
Kestrel	No	N/A

Little ringed plover	No	N/A
Lapwing	No	N/A

15. Table 2 lists local Habitat Action Plans and assesses a) whether habitats on site could represent valuable examples of the habitat type within the spirit of the BAP and b) whether loss of the habitat would have a significant bearing on the objectives of the BAP.

Table 2: Habitat Action Plans

Habitat	Valuable examples present on site?	Would development impact significantly on BAP objectives
Upland oakwood	No	N/A
Lowland heathland	No	N/A
Upland heathland	No	N/A
Blanket bog	No	N/A
Purple moor grass and rush pasture	No	N/A
Reedbeds	No	N/A
Ponds	No	N/A
Rivers	No	N/A
Open mosaic habitats	No	N/A
Lowland mixed deciduous woodland	No	N/A
Wet woodland	No	N/A
Wood pasture and parkland	No	N/A
Hedgerows	No	N/A
Arable field margins	No	N/A
Floodplain grazing marsh	No	N/A
Lowland meadows	No	N/A
Lowland dry acidic grassland	No	N/A

Aerial Photography and Detailed Map Study

16. Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.

17. The site comprises two areas of arable land. The site is bordered to the north by an immature semi-natural landscape of plantation woodland and amenity grassland areas. To the south lies an urban residential and industrial environment.
18. There are two large fishing ponds 370m and 440m from the northern pocket of land. Several drains run within 500m of the site, but are not found within it. The nearest is found just beyond the northern boundary with another issuing from beyond the south eastern boundary.
19. The site is on the northern edge of the town of Wombwell, and beyond the plantation and amenity grassland of the school to the north it is only a short distance before relatively open habitat is reached in the form of agricultural land.

Records

20. The local Data holder is Barnsley Biological Records Centre (BBRC), they have been asked to provide information on protected or notable species within 2km of the application site. The records include the following:
 - A range of common and ubiquitous birds as well as a small number of records of birds which feature on the BTO's BoCC red and amber lists and local and national BAP's were returned. Records returned for protected birds include those of kingfisher, merlin, firecrest and redwing. The only one of these records with a precise location is that of the merlin, recorded c.720m west of the site
 - Two records for indeterminate bat species were returned, the closest of which is approximately 120m from the southern site boundary.
 - The only other records of protected species are those of water vole. Recorded in 2001 at the River Dove 500m north east of the site.

Phase 1 Habitat Survey

Survey Method

21. The survey was carried out on the 31st August 2012 by an experienced field ecologist who is an Associate member of the Institute of Ecology and Environmental Management (IEM).
22. The survey followed a Phase 1 habitat survey methodology (JNCC, 1993) and was extended to assess faunal potential. This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). Evidence of fauna and faunal habitat is also recorded (for example droppings, tracks or

specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the current IEEM (2012) Guidelines for preliminary Ecological Appraisal.

Results

23. The application site comprises two arable fields. The site was found to represent the following habitats:

- Arable land
- Scrub
- Allotment
- Buildings
- Defunct hedgerow
- Plantation woodland
- Amenity grassland

Arable

24. The site comprises two fields separated by the A633. Both fields contain a well managed crop which, at the time of the survey was wheat with the occasional self seeded oat.
25. The margins around both fields were very narrow, typically less than 1m in width, and contain species poor plant communities. Margins were dominated by false oat grass (*Arrhenatherum elatius*), rosebay willowherb (*Chamerion angustifolium*), common nettle (*Urtica dioica*) and poppy (*Papaver rhoeas*). Scattered specimens of bird cherry (*Prunus padus*), hogweed (*Heracleum sphondylium*), mugwort (*Artemisia vulgaris*), smooth sow thistle (*Sonchus oleraceus*), creeping thistle (*Cirsium arvense*) and field bindweed (*Convolvulus arvensis*) were also found.



Figure 1

General view of the site's northern field

Scrub

26. To the south west of the site the arable field gives way to an area of scrub surrounding the buildings on site. This area is dominated by elder (*Sambucus sp.*), hawthorn (*Crataegus monogyna*), rosebay willowherb, creeping thistle (*Cirsium arvense*) and nettle (*Urtica dioica*), grasses such as cock's-foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*) are also prevalent. This habitat is also found as small patches along the southern boundary and in the eastern section of the northern field. In these areas cow parsley (*Anthriscus sylvestris*), prickly lettuce (*Lactuca serriola*), groundsel (*Senecio vulgaris*) and burdock (*Arctium sp.*) were also found.



Figure 2

Arable field giving way to scrub in south west corner of the site

Allotment

27. Found in the south west corner of the southern field is a very small fenced off area used as local allotments. While some of the allotments appear active, in general the area seems somewhat un-managed and overgrown. While the active plots hold no ecological value the un-managed sections show a suite of species similar to those found in the scrub regions of the site with additional species including willow (*Salix* sp.), dock (*Rumex* sp.) and rose (*Rosa* sp.). A section of heavily managed privet (*Ligustrum* sp.) hedge separates the allotments from the track at the rear of the house to the south.

Buildings

28. Within the scrub habitat are a group of small sheds, constructed with red brick and corrugated metal roofs. Due to their construction of solid brick or sheet metal walls, metal frames with sheet metal roofing, these buildings hold no features with potential to hold roosting bats.



Figure 3

Buildings in south west corner of site

Defunct hedgerow

29. Occasional isolated hawthorns, elder and willow or short fragments of hawthorn dominated hedgerow are located intermittently along the southern boundary of the southern field. In no areas are these fragments well connected, nor do they currently form part of any significant habitat corridor. More well established hedgerows are found on the road side of the A633 outside the development boundary.

Plantation woodland

30. A narrow strip of land, c.30m long and 5m wide, at the eastern end of the site connects the field to Littlefield Lane. This strip links with the landscape of planted woodland along the A633. The section holds young sycamore (*Acer pseudoplatanus*), birch (*Betula* sp.) and elder with an under-storey of nettle, cleavers, false-oat grass and bindweed or bare ground.

Amenity grassland

31. Forming a connection between the southern field and Barnsley Road is a small area of short mown amenity grassland dominated by perennial rye-grass (*Lolium perenne*) which holds two semi-mature silver birch trees.

Invasive species

32. One stand of Japanese knotweed (*Fallopia japonica*) was found within the site boundary located along the southern field margin approximately 350m from the southern site limit. This appears to have been sprayed off at the time of survey.

33. Another stand of Japanese Knotweed is located, apparently beyond but adjacent to the site boundary, in the extreme north-western corner of the site next to a short (c.3m) un-culverted section of a watercourse running beyond the northern boundary of the site.

Fauna

Bats

34. The only buildings on site offer no suitable bat roost potential, the site itself presents limited foraging opportunities due to its species poor habitats and lack of connectivity.. For these reasons the development would not be expected to result in any impact on this group.

Amphibians

35. There is no amphibian breeding habitat within the application site. The habitats on site will be of limited value to amphibians and (especially in the case of great crested newt) they are very unlikely to be present at the site.
36. Ponds within 500m of the site consist of two large fishing ponds to the north of the site. Although these have some potential to support amphibians, due to the populations of predatory fish likely to be present the likelihood of their supporting great crested newt is extremely low. Given this, their distance from the site (370m and 440m) and the poor foraging habitat present on the application site, impacts on great crested newt can be reasonably ruled out at this stage.

Birds

37. Low numbers of common breeding birds are likely to occur in the scrub habitat, surrounding hedgerow and plantation woodland areas of the site. Due to the extent of this habitat it is very unlikely that the conservation status of any species would be affected by the proposed development.
38. Due to the nature of habitat on site and the general location it is unlikely that any birds of any conservation concern would be affected by the development.

Other protected species

39. The site does not present valuable examples of suitable habitat for any other protected species. The sites use as regularly disturbed arable fields negates any potential for badger or reptiles. Having no watercourses, the site is unsuitable for water vole or otter.

Evaluation and Recommendations

40. The site supports a limited range of common, species poor habitats. The use of the site as open and disturbed arable fields with poor margins make it of low ecological value.
41. No evidence of any protected species was found within the site and the site has low potential for any such species to occur. The sheds within the site have no potential to hold roosting bats and whilst habitats on the boundary of the site, generally plantation woodland, are likely to offer foraging and commuting for bats development of the proposal site would not sever any such routes.
42. The scrub and overgrown allotment areas along the southern boundary of the site are likely to hold small populations of common breeding bird species but these would not form a significant part of local populations of any of the species likely to occur e.g. wren, blackbird, dunnock, chaffinch etc.
43. To prevent the proposed works impacting on nesting birds, clearance of the site will need to be undertaken outside of the nesting season (which is 1st March – 31st August inclusive). Any clearance required during the nesting season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act is not contravened.
44. The Japanese knotweed found on site should be removed and disposed of in such a way as to prevent any offence being caused. Guidelines on these methods can be obtained from the Environment Agency or specialist contractors who can deal with the eradication of these plants. The areas of this plant are marked indicatively on plan BE-D-1377-01.

Enhancement

45. In line with planning guidance now outlined in the National Planning Policy Framework (NPPF) development should take account of the value of ecosystem services and enhance ecological networks. Landscaping of the site could incorporate belts of native vegetation including berry bearing shrubs such as dogwood (*Cornus* spp.), hawthorn (*Crataegus monogyna*) and spindle (*Euonymus europaeus*). Areas of remnant grassland could be managed as wildflower habitat making use of locally native but declining species such as great burnett (*Sanguisorba officinalis*), ladies mantle (*Alchemilla xanthochlora*) and bistort (*Persicaria bistorta*).
46. The site could be enhanced in terms of bats, the site does not currently hold features which could support a bat roost. Features providing artificial bat roosting could be incorporated into the south-east and south-western facing elevations of buildings.

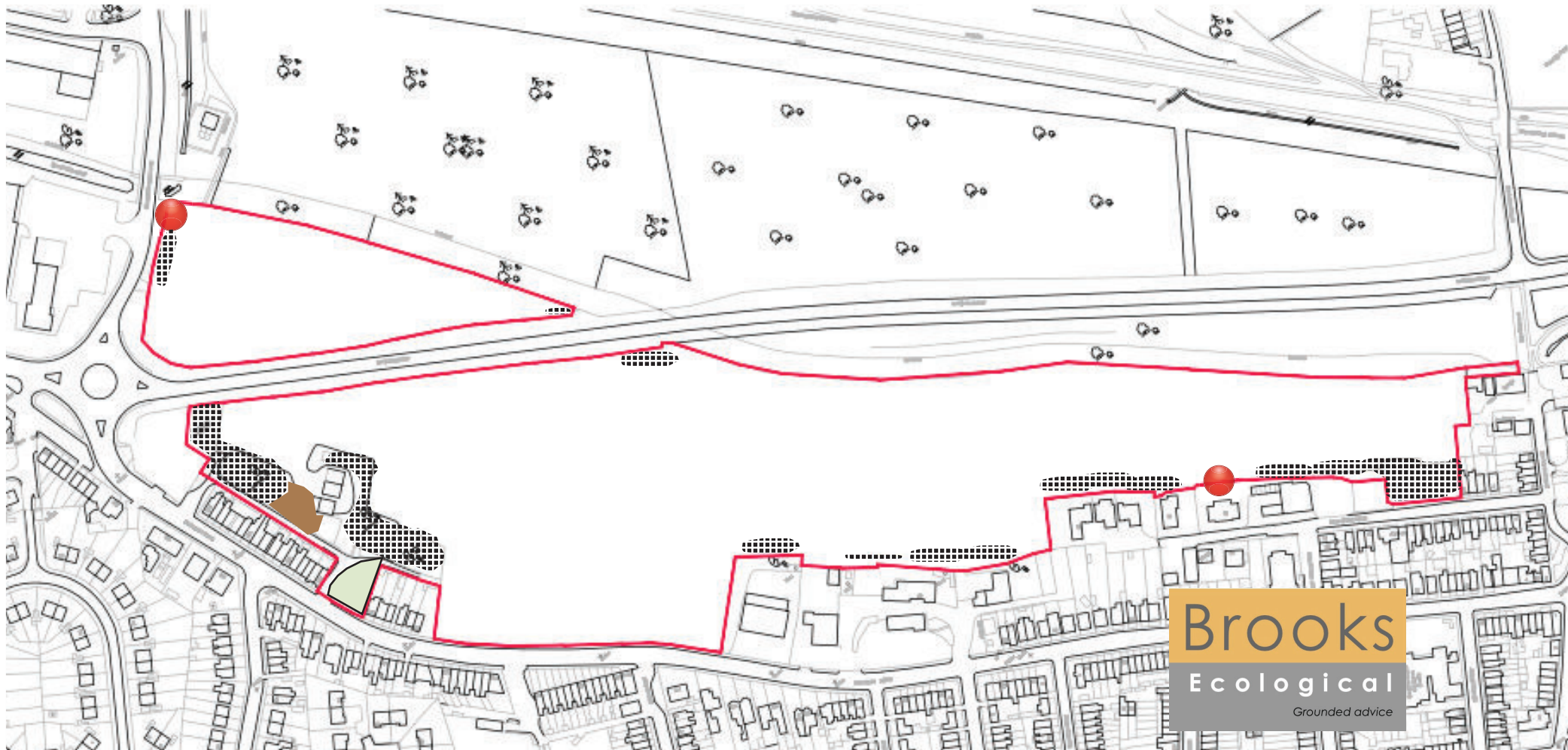
Similarly bird nesting opportunities could be easily designed into the new building. UKBAP, red and amber list species for which nest boxes are readily available include: house sparrow, starling, swift and house martin.

47. Opportunities for native species to flourish in urban environments are often limited due to the tidy nature of new developments. Developments can be enhanced for native species by installing features such as hedgehog refuges in hedgerows and leaving occasional small gaps at the base of fences to afford them easy movement around sites. Log piles can be created in hedgerows providing refuge for amphibians and reptiles and habitat for invertebrates.

References

Nature Conservation Committee (1990). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*. NCC

IEEM (2012). Guidelines for preliminary Ecological Appraisal
http://www.ieem.net/docs/GPEA_web.pdf



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T: 0113 250 6101 F: 0113 250 6944

Site: Broomhead Estate, Wombwell

Title: Ecological Features Plan

Drawing Number: BE/D/1377/01

Scale: Do not scale Date: September 2012

Revision:



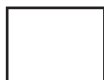
Scrub



Amenity Grassland



Japanese knotweed



Arable Land



Allotment