

BE Brooks Ecological Ltd

Cost effective, grounded advice

**Code for Sustainable Homes (CSH) - Ecology Assessment
Land off Alric Drive, Barnsley**

Report reference: BE-R-0929-01
February 2011

Report Title:	Code for Sustainable Homes Land off Alric Drive, Barnsley
Report Reference:	BE-R-0929-01
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Technical review:	Robert Weston BSc MSc MIEEM Principal Ecologist
QA review:	Peter Brooks BSc, MA, MIEEM, CEnv Director

All parties involved in the review of our CSH reports are sufficiently qualified and experienced to comply with the Code's definition of a Suitably Qualified Ecologist.

The above named confirm that in their opinion this report:

- represents sound industry practice,
- reports truthfully, objectively and appropriately to site conditions
- avoids invalid, biased or exaggerated statements

Approved for issue
Peter James Brooks BSc (Hons) MA MIEEM CEnv
Director



Date 03.03.11

BE **Brooks Ecological** Ltd
Cost effective advice

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Summary Statement

The site is of low ecological value and its re-development need not be contrary to any national or local conservation policy or guidelines. No further survey work is required to establish the site's status in relation to any protected or otherwise important species or habitats.

The current situation in relation to CSH assessment is as follows:

Category 9 – Ecology

Eco 1: The land has been assessed as being of very low ecological value by a suitably qualified ecologist. One credit is anticipated.

Eco 2: Suitably designed key and additional recommendations have been made for the site. The requirement in this section to comply with all UK and EU wildlife legislation will be met due to an absence of any features whose damage or loss would be contrary to the law. Assuming incorporation of these, one credit is anticipated

Eco 3: There are no ecological features which require protection during development and one credit can be awarded by default.

Eco 4: This part of the assessment is not possible yet as details of the site's landscaping plans are not yet available. Based on relative scarcity of good quality habitat on the site, improving the ecological value of the site is a real possibility. Recommendations in relation to this are made at the end of the report. Two credits are anticipated based on a neutral change in the site's ecological value.

Part 1: Ecological Assessment

Introduction

Brooks Ecological Ltd was commissioned to produce an ecological assessment report of land at Alric Drive, Cundy Cross, Barnsley (SE 370 064). The assessment was required to provide the necessary information to determine points available at this stage of Section 9 (Ecology) of the Code for Sustainable Homes (CSH) assessment framework provided by the Building Research Establishment.

The assessment was carried out by Anne Proud. Anne has over 4 years experience as a professional ecologist and holds an MSc in Biodiversity and Conservation from Leeds University. Anne's work is supervised and reviewed by our senior ecologists.

Desk Study

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.

MAGIC search

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.

Within the 2km search radius one Site of Special Scientific Interest (SSSI) and one Local Nature Reserve (LNR) are located within the 2km search radius.

- Stairfoot Brickworks (SSSI) is located over 1.8km south east of the site and is a very small site recognised for its geological interest which would be unaffected by the proposed development.
- Dearne Valley Park LNR is located c.200m north west of the site. Developed on former industrial land, it contains areas of acidic oak woodland and a mosaic of wetland habitats, none of which are found within the proposed site. This LNR is separated from the site by a main road and has no good habitat links with it. Assuming impacts on the adjacent

river are avoided, it is unlikely to be affected by the proposed development.

Aerial Photography and Detailed Map Study

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.

The site is located in Cundy Cross, on the eastern edge of Barnsley, and comprises of a plot of land just off Alric Drive. It is bordered on three sides by bands of housing while to the south west lies an area of amenity grassland leading down to the River Dearne just under 100m from the site. Directly beyond the river lies the former Barnsley Main Colliery which is now given over to plantation woodland while Dearne Valley Park which surrounds the river, is located 250m to the north west. This park also contains the nearest pond which is 450m to the west of the site boundary. A narrow band of trees at the south western corner of the site extends towards the Dearne Valley Park although it is separated from the park itself by the A628.

English Nature Natural Area

The site falls within Natural Area 24 – *Coal Measures*

Based on shale and sandstone deposits natural area 24 is characterized by dense population centres such as Sheffield, Leeds and Wakefield. The area is typified by mixed agriculture, acidic / ancient woodlands, valley wetlands and acidic / neutral grasslands. There are no nationally important conservation priorities. Local Conservation priorities for the area are;

- Acid Grassland
- Fen, Marsh and Swamp
- Lowland Heathland
- Neutral Grassland
- Rivers and Streams
- Standing and open water

- Wet Woodland

No examples of these habitats are present within or surrounding the application site.

Local Biodiversity Action Plan

CSH asks that Biodiversity Action Plans are referred to in terms of the protection of existing and production of new important habitats. The local plan is 'Barnsley Biodiversity Action Plan',

The following Priority Habitats are listed on the plan:

- Upland Oakwood
- Lowland Mixed Deciduous Woodland
- Wet Woodland
- Wood Pasture and Parkland
- Hedgerows
- Arable Field Margins
- Floodplain Grazing Marsh
- Lowland Meadows
- Lowland Dry Acidic Grassland
- Lowland Heathland
- Upland Heathland
- Blanket Bog
- Purple Moor Grass and Rush Pasture
- Reedbeds
- Ponds
- Rivers
- Open Mosaic Habitats on Previously Developed Land

The site does not contain any good examples of the above habitats.

The following priority species are listed:

- Great Crested Newt (*Triturus cristatus*)
- Skylark (*Alauda arvensis*)

- Bittern (*Botaurus stellaris*)
- White-clawed Crayfish (*Austropotomobius pallipes*)
- Grey Partridge (*Perdix perdix*)
- Twite (*Carduelis flavirostris*)
- Little Ringed Plover (*Charadrius dubius*)
- Bluebell (*Hyacinthoides non-scripta*)
- Glow Worm (*Lampyrus noctiluca*)
- Barn Owl (*Tyto alba*)
- Lapwing (*Vanellus vanellus*)
- Water Vole (*Arvicola terrestris*)
- Otter (*Lutra lutra*)
- Bats
- Hedgehog (*Erinaceus europaeus*)
- Kestrel (*Falco tinnunculus*)
- Tree Sparrow (*Passer montanus*)
- Salmon (*Salmo salar*)
- Bullhead (*Cottus gobio*)
- Dingy Skipper (*Erynnis tages*)

The site does not contain habitat suitable for any of the above species with the possible exception of hedgehog and foraging bats. These are discussed in later sections of the report.

Data Search

The Barnsley area does not have any dedicated ecological record holder at this time. Records of any protected or otherwise notable species were collected from the National Biodiversity Network (NBN) Gateway website.

Only a small number of records were available for the search area. Three records of common birds species were found within a 1km radius, dating from 1970-present. These include house sparrow, starling and dunnock, all recorded within 300m of the site.

A single record for water vole is held for within 1km of the site although the precise location is unknown. However, there is no suitable habitat within the site

and the closest area likely to have potential for water vole is over 150m to the south on the opposite side of the River Dearne.

Records for reptiles (including adder, common lizard, slow worm and grass snake), otter, great crested newt and bats are held for within 10km of the site. The locations of these records are vague and they could be a large distance from the site.

Survey Method

The survey was carried out in February 2011 and has been supervised and reviewed by an experienced field ecologist and full member of the Institute of Ecology and Environmental Management (IEM).

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 Guidelines for Baseline Ecological Assessment (IEA, 1995).

Results

The site constitutes a small plot of land midst residential development. It contains heavily disturbed species-poor habitats:

- Rough grassland
- Trees
- Hedgerow
- Scrub
- Hard standing

Rough Grassland

This habitat dominates the small plot and holds a typically species-poor sward of extremely common species which may have been mown in the past, but does not show signs of recent management. There is also extensive fly tipping which includes several piles of garden waste. Abundant species include: perennial ryegrass (*Lolium perenne*), cocksfoot (*Dactylis glomerata*) meadow grasses (*Poa* spp.), white clover (*Trifolium repens*), dandelion (*Taraxacum* agg.), ribwort plantain (*Plantago lanceolata*) docks (*Rumex* spp.) and the common moss *Rhytidiadelphus squarrosus*.

The area had been subject to heavy disturbance and is crossed by a number of paths used by dog walkers. In areas closer to the boundaries, slightly less disturbance has resulted in the presence of additional species including nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*), lesser burdock (*Arctium minus*), cow parsley (*Anthriscus sylvestris*). Trampled stalk remains which could potentially be those of the invasive plant giant hogweed (*Heracleum mantegazzianum*), were also found.



Figure 1

View across the site facing south. The wooded area in the distance is the former colliery.

Trees

At the south western corner of the site is a narrow band of planted trees which extends beyond the site boundary towards the north west. This area is mainly limited to immature trees and saplings with species including cherry (*Prunus sp.*) silver birch (*Betula pendula*) grey alder (*Alnus incana*) rowan (*Sorbus aucuparia*) hazel (*Corylus avellana*) and snowberry (*Symphoricarpos albus*).



Figure 2

View of small wooded area.

Hedgerow

The site contains a few fragments of hedgerow that may have originally formed part of the southern boundary of the site. All that remains now is scattered hawthorn with occasional elder and a single hazel in the south eastern corner. The hedge has no distinctive ground flora although occasional patches of bramble (*Rubus fruticosus*) along with Japanese Rose (*Rosa rugosa*) were evident among the hawthorn. Some sections of the hedgerow have been recently damaged by fire.



Figure 4

View of fragmented hedgerow looking east.

Scrub

This habitat is largely limited to a narrow band on the edge of the site between the hedgerow and the managed amenity grassland adjoining a public footpath. Species here are limited to rank grasses with bracken (*Pteridium aquilinum*), brambles (*Rubus fruticosus* agg.) and scattered saplings of hawthorn.



Figure 5

Site viewed from adjoining amenity area showing small area of scrub with hedgerow beyond.

Hard standing

A small loop of tarmac is located at the centre of the site. It supports little in the way of plant diversity although small areas are now being colonised by patches of cocksfoot and perennial rye grass from the adjoining habitat.



Figure 6

Tarmac area viewed from the east.

Table 1: Habitats / plot types prior to development

Habitat	Number of species	Area* m ²
Rough grassland	4	7418
Trees	5	821
Hedgerow	2	45
Scrub	4	1075
Hard standing	0	592
Total		9951

*Scaling from plans is not always accurate and we cannot offer precise measurement of the site. Figures presented are all used to calculate proportions of the site thus anomalies in scaling are not significant in these calculations. All taken are from provided plans using area measurement tools on Promap.

Fauna

Amphibians

The site does not support amphibian breeding or good terrestrial habitat with the closest pond being 450m to the west and separated from the site by a main road. The site is assessed as being of negligible value to this group and highly unlikely to contain the protected species great crested newt.

Reptiles

Although the site is close to dispersal corridors such as the river and disused railways, it is separated from these by bands of housing and roads along with heavily managed amenity grassland to the south. The site contains only very poor reptile habitat and given the heavy levels of disturbance in the area it seems highly unlikely that any reptiles will be found on the site.

Birds

The site may support some very limited potential nesting habitat in the hedgerows and small wooded area. These are only likely to be suitable for small numbers of common bird species.

Protected mammals

The site is only likely to offer very limited foraging for bats within the trees and remains of the hedgerow. None of the trees on site contained features such as crevices or peeling bark which would offer suitable roosting potential.

The site is unlikely to offer suitable habitat for any other protected mammals and no evidence of badger was found on the site. The site may offer some limited foraging for hedgehog and plans for the new development should include provision to provide some suitable replacement habitat for this local BAP species.

Invasive species

The invasive Japanese rose was found growing within the hedgerow at the south of the site. In addition, plant remains which may be attributed to giant hogweed were also found on the site. However, as the remains were very limited and native hogweed is also found here, it is not possible to be conclusive about the presence of giant hogweed. It is recommended that additional checks later in the year are carried out when it will be possible to make an accurate identification.

Both Japanese Rose and Giant Hogweed are listed under Schedule 9 of the Wildlife and Countryside Act (1981) as amended and should not be allowed to spread in the wild. In practice this should be removed from site by a specialist contractor.

The location of both these species is shown on plan BE-D-0929-01.

Evaluation and Recommendations

The site is assessed as being of “**low ecological value**”, containing little natural habitat. Its development presents little risk of impacting on biodiversity and precautions are only required in terms of the following:

- Impacts on nesting birds must be avoided. Any clearance of trees or hedgerows on the site should be carried out during the period October – February.
- Remains of plants which could be giant hogweed have been found. However, it is not possible to be conclusive about its presence on the site and an additional visit in the summer is recommended in the summer to confirm its status. If found, giant hogweed should be removed by a specialist contractor.
- Japanese rose is located within the hedgerow and will need to be removed to avoid any potential spread to areas beyond the site.

Ecological enhancements associated with re-development of this site should be considered in line with the UK government’s guidance on nature conservation in relation to development (PPS9). This makes it clear that opportunities should be sought through the planning system to use development as an opportunity to enhance sites for wildlife where possible. This is further encouraged through the Code for Sustainable Homes requirement for Key and Additional recommendations to be made by the ecologist at this stage, these are set out below.

Part 2: Code for Sustainable Homes Assessment

The CSH assessment requires the following information from the Ecologist to demonstrate compliance:

Table 2: Compliance evidence from ecologist

Criteria	Criteria fulfilled?	Evidence presented
A site visit was carried out prior to construction	Yes	This report
Drawings or specification detailing how features will be protected	Not required	This report
Confirmation that the ecologist is suitably qualified	Confirmed	This report
The features on site are low ecological value or there are no features present	Confirmed	This report
Area of species per habitat or feature type	Confirmed	This report Table 1

To help with the planning of the project each CSH category is presented below showing either the points anticipated or those which may be achieved if recommendations are taken on board and evidence for such can be demonstrated.

Eco 1	Assessment Criteria	Credits available	Credits anticipated
	A suitably qualified ecologist assesses the site prior to development as being of low value. The site has been assessed as of low ecological value.	1	1

Eco 2	Assessment Criteria	Credits anticipated
	The developer must adopt all of the key recommendations made below and at least 30% (in this case 1) of the additional recommendations	1
Note: Confirmation is required that these have or will be incorporated and should be provided to the assessor. Recommendations carried out to comply with CSH must be in addition to the <u>requirement of the project to comply with UK and EU wildlife legislation.</u> The following precautions have been recommended in this respect: • Impacts on nesting birds must be avoided. Any clearance of scrub or trees on the site should be carried out during the period October – February. • Survey to confirm the presence of giant hogweed needs to be carried out in the summer. If confirmed, plants should be treated and removed from site by a specialist contractor. Japanese rose growing within the hedgerow should also be removed to prevent it spreading to surrounding areas.		

Key recommendations

Recommendation 1

Landscape plans often fail to provide sufficient structure, connectivity or recognisable food sources for our native wildlife.

Produce a landscaping plan which maximises the use of native or beneficial plant species, provides a variety of structures and uses linear features to create connectivity through the site. The fragmented hedgerow on site provides very little in terms of a wildlife corridor or foraging for bats. Landscape plans should include the replanting of a boundary hedge to provide connectivity with existing bands of trees to the west. Planting of oak, ash, field maple, holly or hawthorn trees of local provenance should be carried out wherever possible.

Recommendation 2

Bats are an important part of the functioning of ecosystems eating huge numbers of small insects. The design of modern buildings can prevent them from

roosting close to sources of insects but this can be remedied by erecting alternative roosting sites.

Incorporate 2 artificial bat roosting boxes suitable for bats in suitable locations beneath the eaves of buildings or within the structure of the buildings themselves; (Suggest Envisage code 0607 or equivalent*).

Additional recommendations

Recommendation 3

Modern houses do not offer communal nesting sites for the declining bird species such as the house sparrow, starling and swift.

Erect 2 of each of Envisage code 0107* (house martin), Envisage code 0902* (sparrow), Envisage code 0904* (starling), communal bird nesting units in suitable locations beneath the eaves of buildings.

Recommendation 4

Invertebrates, amphibians and small mammals all suffer from the lack of structure and diversity of habitat in our modern landscaped gardens.

Incorporate rubble or log pile structures into the landscaping plan, these can be screened or partially covered as required. Incorporate dry-stone walling wherever possible.

Recommendation 5

Hedgehogs, a local BAP species are in decline and act as important predators, ensuring a healthy ecosystem. Lack of suitable shelter in modern tidy gardens contributes to scarcity of this species.

Hedgehog boxes could be installed in discreet locations among the landscaping (Suggest Envisage code 0501 or equivalent*).

Recommendation 5

Ground water is often a limiting factor for native flora and fauna in our urban environments.

Promote the retention of ground water in and near the site by use of porous surfacing where possible, the incorporation of bog gardens ponds and soak-aways and the use of appropriately sourced mulches on planted borders and beds.

In terms of increasing the sites ecological value (which can result in the award of extra credits in Eco 4), sites of a low value can offer a great opportunity. We have worked with clients in the past who have been able to maximise their credits in Eco 4 through the creation of green roofs, areas of low maintenance meadow planting (instead of standard turf) or wetland and pond features all of which can represent cost effective, sustainable solutions.

* Products specified are for information and are available from Envisage Wildcare <http://www.wildcareshop.com/> – other similar products are available elsewhere.

Eco 3	Assessment Criteria	Credits available	Credits anticipated
	Where all existing features of ecological value on site potentially affected by works are managed and protected. The site does not support any features of ecological value – this credit can be awarded by default.	1	1

Eco 4	Assessment Criteria	Credits available	Credits anticipated
	The ecological value before and after development is measured and the overall change in species per hectare is: Minor negative (-9 to -3) Neutral (>-3 to +3) Minor positive (>+3 to +9) Major enhancement (>+9)	1 2 3 4	(2)
The site's previous ecological value has been calculated as 3.83 We do not have a post development plan for the site and can not at this stage calculate post development scores. However given the low value of existing habitats it is likely that the site will achieve a neutral rating and 2 credits A landscape plan with planting schedules will be needed to calculate the post development score.			

Eco 4 Calculations

Table 3 Calculations of ecological value pre-development

Habitat Type	Number of species	Area (m ²)	Species score
Rough Grassland	4	7418	2.98
Trees	5	821	0.41
Hedgerow	2	45	0.01
scrub	4	1075	0.43
Hard standing	0	592	0
			3.83

Table 4 Calculations of ecological value post-development

Habitat Type	Number of species	Area (m ²)	Species score

References

I.E.A. (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall

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

HMSO (1998) *Digest of environmental Statistics No. 20*, DEFRA, HMSO.

Department for Communities and Local Government (2008), *Code for Sustainable Homes - Technical Guide*, Communities and Local Government Publications.

Department for Communities and Local Government (2008), *Code for Sustainable Homes - Technical Guide*, Communities and Local Government Publications.



Survey boundary



Rough grassland



Young trees



Hardstanding



Target Note



Scrub

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Site: **Alric Drive, Barnsley**

Title: **Ecological Features Plan**

Drawing Number: **BE/D/0929/01**

Scale: Do not scale

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Revision:
