



**Ecological Appraisal
Land at Bengo Nurseries,
Bengo, Hertfordshire**

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Report Reference:	BE-R-1419-01
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Summary Statement

The site's development need not impact on protected or otherwise important species, habitats or designated sites.

Precautions are recommended in relation to avoiding impacts on reptiles and nesting birds.

Introduction

1. Brooks Ecological Ltd was commissioned by Bovis Homes to produce an ecological appraisal of land at Bengo Nurseries, off Sacombe Road, Bengo, Hertfordshire, (TL 323 142).



Figure 1

Survey site boundary is marked by the red line.

Site Proposals

2. The proposals are for residential development to occupy the application site.

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:
 - Site clearance;
 - Loss of areas currently occupied by habitat to built development; and
 - Effects on adjacent /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 locally designated statutory site within 2 km of the application site. This is Waterford Heath Local Nature Reserve approximately 400m north of the proposed site boundary. This site is managed by the Hertfordshire Wildlife Trust and is managed for its range of semi-natural habitats developing on the varied soil profiles left there after mineral extraction. The site shares some of the characteristics of this site given that colonisation of thin soils and gravels by scrub and ephemeral grassland is taking place here too. Habitats involved are discussed later and have not been found to be important in their own right and not sharing any of the characteristics valued at the nearby reserve, their loss would not impact negatively on this designation.
7. Local record holders have not provided information on any local non-statutory designations.

Natural England Natural Area

The site falls within *Natural Area 66 London Basin*;

8. Natural Area 66 is a large, trough-like basin based on sand and clay deposits. The area is characterised by dense populations such as London and islands of semi-natural habitat. This area forms the watershed for the River Thames and its extensive network of tributaries. Canals, reservoirs and ponds are common in this area. Associated with many of these freshwater habitats are areas of grazing marsh, neutral grasslands and fens. Different woodland types are also common in this area, including extensive stands of mature beech woods, significant areas of lowland mixed deciduous woodland and numerous large wood pastures and parklands. There are also notable areas of heathland in the Natural Area.

9. National conservation priorities for the area are;

- Coastal and floodplain grazing marsh
- Earth heritage
- Lowland beech and yew woodland
- Lowland heathland
- Lowland meadows
- Lowland mixed deciduous woodland
- Lowland wood pasture and parkland
- Standing open water and canals
- Wet woodland

10. Local conservation priorities for the area are;

- Chalk rivers
- Lowland dry acid grassland
- Purple moor-grass and rush pastures
- Rivers and streams

11. The application site does not present any good examples of these habitat types.

Local Biodiversity Action Plan

12. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'A Biodiversity Action Plan for Hertfordshire'.

13. Table 1 lists the local Species Action 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
Water vole	No	-
Dormouse	No	-
Natterers Bat	No	-
Otter	No	-
Tree sparrow	No	-

Bittern	No	-
Stone curlew	No	-
Song thrush	Yes	No
Great crested newt	No	-
Chalkhill blue	No	-
Grizzled skipper	Yes	No
Stag beetle	No	-
White clawed crayfish	No	-
Great pignut	No	-
Cornflower	No	-
River dropwort	No	-
Pasque flower	No	-

14. 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
Woodland	No	N/A
Wetland	No	N/A
Heathland and Acid grassland	No	N/A
Neutral Grassland	No	N/A
Chalk grassland	No	N/A
Farmland	No	N/A
Urban	No	N/A

Aerial Photography and Detailed Map Study

15. 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.
16. The site comprises a nursery with glasshouses, surfaced car parking and plant sales areas to the south. To other sides the glasshouse buildings are surrounded by areas

formerly used for growing and storage of plants. Much of the site has not been used for some time and is becoming overgrown by scrub and ruderal vegetation.

17. To the north and east the site is adjoined by arable farmland typical of the area, typified by large intensively managed fields with degraded hedgerow boundaries. To the west it is separated from recent residential development by Sacombe Road and to the south from more established dwellings by a triangular plot of allotment gardens.
18. The nearest watercourse is the River Rib 450m to the east, being separated from the site by a large sweep of arable farmland this is not well connected to the site. Over 650m to the west are found drains feeding the River Beane and Waterford marshes - again these are not connected to the site being beyond an area of housing and Great Mole Wood. The nearest pond to the site apparent from mapping is that within the Waterford Heath Nature Reserve and is over 650m from the site.
19. The site is linked to the establishing woodland at Waterford Heath and to older woodland at Great Mole Wood through the trees lining Sacombe Road and the trees in local more mature gardens, but does not form part of any important woodland network.

Records

20. Hertfordshire and Bedfordshire Records Centre (HBRC) has been asked to provide information on protected or notable species and locally designated sites within 2 km of the application site. The records returned include a large number of records of birds associated with the Kings Mead Reserve to the south west of Hertford, extensive records of moths, as well as records of species unlikely to be of relevance at this site such as water vole and otter.
21. The following are of more relevance to this assessment based on habitat potential:
 - Records of a range of bat at least 4 species, some associated with housing in nearby Bengoe.
 - A single record of great crested newt - this dating from 1981 from Kings Mead.
 - Records of adder at Waterford Heath (most recently 1993).
 - Records of grass snake (most recently 1993) from Waterford Heath and two gardens in Bengoe (1991 and 2007), these being 840m south and 400m south west of the site respectively.

- Records of slow worm and common lizard, although these are all from Hertford or Ware and all well over 1 km from the site.
- Two non site specific badger records for the general area from 2008 and 1985.

Phase 1 Habitat Survey

Survey Method

22. The survey was carried out on the 30th September 2012 by an experienced field ecologist who is a full member of the Institute of Ecology and Environmental Management (IEEM).
23. 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

24. The application site comprises areas of hard standing and colonising made ground surrounding a large expanse of glasshouses. As such it currently supports the following habitat types:
 - Buildings;
 - Hard standing;
 - Ruderal and ephemeral vegetation;
 - Scrub, and;
 - Trees.

Buildings

25. The only building present on the site is a large expanse of glasshouse. Due to its construction this building presents nothing in the way of habitat for any native groups. In particular it has no potential to support roosting bats or nesting birds.



Figure 2

The glasshouses viewed across hard standing to the east.

Hardstanding

- 26. Comprising areas of brick, concrete and crushed and compacted stone. These areas are subject to different levels of usage. Whilst some remain vegetation free, others are becoming colonised by elements of the ephemeral and ruderal vegetation described below.



Figure 3

Large expanse of gravel parking forming the southern part of the site.

Ruderal and ephemeral vegetation

27. Much of the site has provided space for growing on and storage of plants, compost etc. in the past. Operations at the nursery have clearly been scaled down, with many parts of the site becoming un-used, here colonisation of gravelled and paved areas, compacted soils, planting beds and small areas of grassland by the local species pool has begun. The species present are distributed according to substrate and the length of time available for colonisation and present a sere¹ from short ephemeral vegetation through more ruderal species, then more competitive plants to result in the scrub vegetation described below.
28. Plants present range from early colonisers such as the common mosses *Brachythecium rutabulum* and *Bryum argenteum*, grasses including fescues (*Festuca rubra* agg.), bents (*Agrostis* spp.) and yorkshire fog (*Holcus lanatus*) alongside ruderal forbs such as teasel (*Dipsacus fullonum*), fool's parsley (*Aethusa cynapium*) creeping thistle (*Cirsium arvense*), imperfortate st johns wort (*Hypericum maculatum*), bristly ox-tongue (*Picris echioides*), scented mayweed (*Matricaria recutita*), weld (*Reseda luteola*), ragwort (*Senecio jacobea*) and canadian fleabane (*Conyza canadiensis*). In parts the sward is more closed where species more typical of grassland are found including yarrow (*Achillea millefolium*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), tormentil (*Potentilla erecta*) and common mousear (*Cerastium fontanum*). More competitive forbs such as broad leaved dock (*Rumex obtusifolius*), mugwort (*Atriplex patula*), hemlock (*Conium maculatum*) and horseradish (*Amoracia rusticana*) grade into the scrub habitat.



Figure 4

Shorter ephemeral vegetation giving way to ruderals and scrub in the south eastern corner of the site.

¹ Transition from one habitat to another over time

Scrub

29. Present in the longer abandoned parts of the site - particularly in the north this habitat grades into the coarser ruderal vegetation described above and comprises some increasingly dense stands of bramble (*Rubus fruticosus* agg.) and hedge bindweed (*Calytegia sepium*) and more scattered buddleia (*Buddleia davidii*).



Figure 5

The northern part of the site is becoming dominated by scrub vegetation.

Trees

30. Trees are present on site only as young specimens of species such as red oak (*Quercus rubra*), field maple (*Acer campestre*), cherry (*Prunus* sp.), scots pine (*Pinus sylvestris*) and hawthorn (*Crataegus monogyna*) planted as landscaping trees and boundaries. Due to their age and condition none present any potential bat roost features.

Fauna

Bats

31. There is a small amount suitable bat foraging and commuting habitat around the application site in the form of landscape trees which form the southern and western boundaries. The site does not present any roosting opportunities.
32. There are some larger trees along the site's northern boundary, on the ground these appear to be part of the land ownership of the arable fields beyond. None are shown to be impacted in plans for the site.

33. It was noted that one of these trees - a mature ash (*Fraxinus excelsior*) presents limited potential to support roosting in branch scars / rot cavities. If it becomes clear that any works to this tree may be required these would need to be informed by a specific ecological survey of the tree.



Figure 6

The tree (apparently just outside of the site) with limited bat roost potential is highlighted in orange on the plan.

Amphibians

34. There is no amphibian breeding habitat in, or within 500 m of the application site. This means that the site will be of limited value to amphibians and that (especially in the case of great crested newt) they are very unlikely to be present at the site.

Birds

35. Set within an agricultural / urban fringe landscape, the site is likely to support a range of common farmland species. The site's value to birds will be limited to the potential nesting available in boundary planting and denser areas of scrub.

Protected mammals

36. No evidence of badgers could be found on the site although dense scrub in some parts made access difficult. It is felt to be very unlikely that the site would support this group due to its level and compacted nature, being surrounded by close fitting and apparently intact chain link and close board fencing. The site does not present any habitat for other protected mammal species.

Reptiles

37. There are records of grass snake and adder in the local area and slow worm and common lizard more widely. The site does present some marginal reptile habitat in its current state, with small parts of the site having a mix of suitable cover for hunting and open areas for basking. The site is next to areas of semi-natural habitat and allotment gardens which have potential to be used by this group.
38. Given the presence of small areas of suitable habitat and the site's location it is difficult to rule out the presence of this group entirely. It is felt however that if indeed present here, their use of the site would be in low numbers and the site would not be important to them locally. It is unlikely that such small populations would readily show up during standard survey, or be easy to remove by trapping. This assessment is based on the following:
- Suitable habitat on the site represents an ephemeral resource which will have developed here relatively recently in response to a decline in activity and management of the nursery.
 - Any reptile presence here is likely to be opportunistic, with foraging animals entering the site from the eastern boundary, the path, or allotment gardens to the south. This makes one of the potential areas of habitat on site poorly connected.
 - Whilst the grounded close board surrounding most of the site's fencing would not effectively preclude reptiles it does present a further barrier to their use of the site.
 - The majority of the site provides inhospitable habitat for this group.



Figure 7

Shows potential reptile habitat on the site.

Invertebrates

The nearby Waterford Heath LNR is known for its population of grizzled skipper butterflies, a relatively scarce species targeted by a Local Biodiversity Action Plan in this area. Given the absence of this species' primary larval food plants and adult food sources from the site it is very unlikely to be present and local populations would not be expected to be impacted by the proposals.

Evaluation and Recommendations

39. The site supports a small range of common species poor habitats reflecting the effect man has had here in the past.
40. The proposed development presents minimal risk of significant impacts on important, protected or designated sites.
41. The proposed development presents minimal risk of significant impacts on legally protected or otherwise valued species.
42. The following precautions are however considered necessary in relation to the site's development and avoidance of potential offences.

Reptiles

43. Given the minimal risk of this groups presence on the site a precautionary approach is proposed to the site's clearance. Loss of valuable habitat not being an issue, this focus on avoidance of killing or injury of reptiles and will not lead to their abandonment to unsuitable habitat.
 - Any piles of compost or rotting vegetation should be loaded by hand and removed from the site during the period March-May or August-September.
 - Small (1m length) sections of fencing should be removed in accordance with the plan shown in Figure 8 below.
 - Vegetation should be cleared in accordance with the plan shown in Figure 8 below.

Nesting birds

44. To prevent the proposed works impacting on nesting birds, clearance of the hedgerow and building on site will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act (1981) is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development.



Figure 8

Precautionary reptile protection strategy.

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.
46. It is recommended that where possible existing hedgerows are retained and that the site's boundaries are enhanced through the planting of native tree and shrub species such as hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), oak (*Quercus* sp), holly (*Ilex aquifolium*), spindle (*Euonymus europaeus*) and alder buckthorn (*Frangula alnus*).
47. Provision of bird nesting boxes or artificial roosts for bats in the developed site are likely to be successful given the connectivity to the site for these groups and their likely presence in the area. A suitable scale for this provision would be along the lines of providing 3 integral bat roosts in buildings and 5 open or hole fronted nesting boxes in trees or on buildings.

References

IEA. (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

Natural England Technical Information Note (TIN102) Reptile Mitigation Guidelines