Brooks Ecological
Grounded advice

Ecological Appraisal
Hanson Garden Centre, Clitheroe

Report reference: R-1525-01
March 2013

Report Title:	Ecological Appraisal Hanson Garden Centre, Clitheroe
Report Reference:	R-1525-01
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Summary Statement

The site is primarily comprised of land of low ecological value, however, the boundary hedgerows, ditches and mature broadleaf trees have a greater ecological value and as such should be retained and protected from development.

As there is a low risk of great crested newt entering the site, precautionary terrestrial surveys are recommended.

Should any of the mature trees be impacted by the proposals then further bat surveys are recommended. Precautions are also recommended in relation to the potential use of the boundary hedgerows and ditches by badger, nesting birds and water vole.

Introduction

1. Brooks Ecological Ltd was commissioned by ID Planning to produce an ecological appraisal of Hanson Garden Centre, Whalley Road, Barrow, Clitheroe, Lancashire, BB7 9BA (SD 738 388).

2. Due to access constraints, only areas accessible to the public could be surveyed. As such, a detailed search of the site boundaries was not possible.

Figure 1 Survey site boundary (approximate)

Site Proposals

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

Potential impacts

4. 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:

    - Clearance of vegetation;
    - Loss of areas currently occupied by habitat to built development;
    - Demolition of existing buildings; and
    - Effects on adjacent /nearby habitats.

Desk Study

5. 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

6. 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.

7. There is one statutory designated site within 2km of the application site. This is Light Clough Site of Special Scientific Interest (SSSI) approximately 1.8km southeast of the proposed site boundary. Light Clough is a small stream that is designated for it geological interest.

8. A single ancient and semi-natural woodland is situated within a 2km radius; this is Barrow Clough Wood, located roughly 950m north of the site.

9. Local record holders Lancashire Ecological Records Network (LeRN) have confirmed that there are seven non-statutory designated sites within the 2km search area; all of which are designated as Biological Heritage Sites (BHS). These are Calderstones Hospital Woodland/Railway Line (1.7km southwest), Barrow Clough Wood (970m north), Small Field (1.7km west), Barrow Brook Field (1km southwest), Hard Hill Common (910m southwest), Primrose Lodge (1.8km north) and the River Ribble (from

London Road Bridge Preston, in West, to County Boundary, in East) located 1.5km to the northwest.

10. These BHS are all sufficiently distant from the site to remain unaffected by the proposed development.

Natural England Natural Area

11. The site falls within Natural Area 12 *Forest of Bowland Lancashire Plains and Valleys.*

12. The underlying rocks of Carboniferous age, including hard Millstone Grits, softer alternating bands of limestones and shales, and the limestone 'reef knolls' near Clitheroe, have resulted in a diverse landscape rich in features of interest. The Forest of Bowland is dominated by a distinct, almost circular dome of heather moorland. The high Millstone Grit-capped summits of Bowland Fells and Pendle Hill, with their expansive areas of wild, open rolling heather moorland and blanket bog, are managed principally for grouse and sheep. Such areas provide a habitat for internationally important populations of red grouse, hen harrier, merlin, peregrine and golden plover.

13. This dome of moorland is incised by steep, wooded river valleys and is surrounded by a soft, undulating landscape with a mosaic of rush-filled pastures, herb-rich hay meadows and broadleaved woodland, separated by lush agricultural grassland, parkland and water bodies, such as Stocks Reservoir. The area is traversed by many fast-flowing upland streams and rivers, including the Hindburn, Roeburn, Lune, Wyre, Brock, Calder, Ribble and Holder.

14. Internationally important conservation priorities are;

- Moorland and mire

15. Nationally important conservation priorities are;

- Semi-natural woodland
- Coniferous plantations
- Species-rich grassland
- Rushy pasture

16. Regional Conservation priorities for the area are;

- Rivers and water bodies

17. The application site does not support any examples of these habitat types.

Local Biodiversity Action Plan

18. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Lancashire Biodiversity Action Plan'.

19. 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**	**Could development impact significantly on BAP objectives**
Black-tailed Godwit	No	-
Farmland Birds	Yes	No
Hen Harrier	No	-
Lapwing	No	-
Reed Bunting	No	-
Skylark	No	-
Song Thrush	Yes	No
Twite	No	-
Bats	Yes	Yes
Brown Hare	No	-
Otters	No	-
Red Squirrel	No	-
Water Vole	Yes	No
Great Crested Newt	Yes	Yes
Natterjack Toad	No	-
Belted Beauty Moth	No	-
Dorus Profuges- a hoverfly	No	-
High Brown Fritillary	No	-
Large Heath Butterfly	No	-
Northern Brown Argus	No	-
Pearl-bordered Fritillary	No	-
Shining Guest Ant	No	-
Southern Wood Ant	No	-
Wall Mason Bee	No	-
Freshwater Pearl Mussel	No	-
Freshwater White-clawed Crayfish	No	-
Jennings Proboscis Worm	No	-
Whorl Snails	No	-
Birds-eye Primrose	No	-
Black Poplar	No	-
Dwarf Cornel	No	-
Flat-Sedge	No	-
Great Butterfly Orchid	No	-

Lady's-slipper Orchid	No	-
Lancaster Whitebeam	No	-
Narrow Small-Reed	No	-
Purple Ramping-fumitory	No	-
Rock Sea Lavender	No	-
Sea Bindweed	No	-

20. 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?**	**Could development impact significantly on BAP objectives**
Arable Farmland	No	-
Broadleaved and Mixed Woodlands	No	-
Calcareous Grassland	No	-
Limestone Pavement	No	-
Moorland and Fell	No	-
Mossland	No	-
Reedbed	No	-
Rivers and Streams	No	-
Salt Marsh and Estuarine Rivers	No	-
Sand Dune	No	-
Species-rich Neutral Grassland	No	-

Aerial Photography and Detailed Map Study

21. 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.

22. The site comprises a garden centre situated on the northern outskirts of the rural village of Barrow. The site is bounded by Clitheroe Golf Club to the northwest, Whalley Road to the southeast and pastoral fields to the northeast and southwest.

23. The surrounding landscape is characterised by large pastoral fields enclosed by a network of boundary hedgerows and mature broadleaf standards. These hedgerows form strong linear features across the surrounding landscape. Two small woodlands are situated close to the site; c.200m northwest (Elbow Wood) and 590m southwest. The adjacent golf course supports a mix of amenity grassland, rough grassland and lines of mature trees, again forming strong linear features. Several small streams and wet ditches are present in the surrounding fields, the closest runs along the application sites northern boundary, situated on adjacent land.

24. Four ponds are located within a 500m radius, three of which are connected to the site by the network of surrounding hedgerows; c.152m northeast, c.190m southwest and c.430m southwest. Two large reservoirs are present approximately 540m southeast and 580m south, separated from the site by busy roads and built development.

Records

25. Lancashire Ecological Records Network (LeRN) has been asked to provide information on protected or notable species and locally designated sites within 2 km of the application site. The records include the following which are of relevance to this assessment:

- Two common amphibian species and three records for great crested newt (gcn). The gcn records date from 1985 to 2011 and relate to three different sites c.1.9km, c.2km and 2.1km south, all of which are separated from the site by built development.
- A range of common and notable bird species, many of which are listed under the Lancashire BAP Provisional Long List.
- Three water vole records from 1977 relating to Barrow Lodge, c.570m south.
- A record of otter spraint c.2km northeast.
- Three bat records relating to soprano pipistrelle, pipistrelle sp. and chiroptera sp. Two of these records relate to roosts, c.970m and c.1.8km south.
- A single badger record relating to a site c.2km west.

Survey Method

26. The survey was carried out in March 2013 by an experienced field ecologist who is a member of the Institute of Ecology and Environmental Management (IEEM).

27. 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

28. The application site comprises an active garden centre, which is bordered by pastoral fields and a golf course. The site supports the following habitat types:

- Garden centre & buildings;
- Hedgerows;
- Trees, and;
- Ditches.

Garden centre & buildings

29. The application site is Hanson's Garden Centre, which consists primarily of tarmac and compacted gravel hard-standing (Figure 2). A public tarmac car park is located towards the eastern end of the site and a private compacted gravel car park to the northwest. The centre of the site supports a range of buildings and tarmac bays which are filled with a wide range of potted flowering plants, shrubs and trees. Several ornamental broadleaf and conifer trees have been planted within the garden centre, mostly of semi-mature age.

Figure 2

Hanson's Garden Centre.

30. A small public children's play area is situated along the south-western boundary, comprising of amenity grassland. This grassland is dominated by perennial rye (*Lolium perenne*), with a small amount of scattered forbs including creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), dandelion (*Taraxacum agg*.) and perennial daisy (*Bellis perennis*).

31. Several buildings are present on site, all of which are single storey (Figure 3a and 3b). These include; several large glass greenhouses, several rendered buildings with either flat or double pitched corrugated metal roofs, and a single skin breeze block building with a corrugated metal roof.

Figure 3a

Large greenhouses towards the south-eastern corner of the site.

Figure 3b

Rendered buildings within the centre of the site.

Hedgerows

32. The site is completely enclosed by hedgerows and a number of ornamental hedges are located within the centre of the site.

33. The south-eastern boundary hedgerow along Whalley Road has been planted within a slightly raised bed and is regularly cut to a height of around 1.5m (Figure 4). This consists entirely of hawthorn (*Crataegus monogyna*) with a ground layer of ivy (*Hedera helix*), daffodil (*Narcissus sp.*), Yorkshire fog (*Holcus lanatus*) and cock's foot (*Dactylis glomerata*).

Figure 4

South-eastern hedgerow.

34. The south-western hedgerow is managed to around 2.5m high and is comprised of hawthorn, with occasional elder (*Sambucus nigra*), field maple (*Acer campestre*), holly (*Ilex aquifolium*) and cypress (Figure 5). The ground layer includes ivy, garlic mustard (*Alliaria petiolata*), lesser celandine (*Ranunculus ficaria*), daffodil, lords-and-ladies (*Arum maculatum*) and common nettle (*Urtica dioica*).

Figure 5

South-western hedgerow.

35. Due to access constraints, a thorough survey of the north-western hedgerow was not possible. However, this hedgerow looks to comprise entirely of cypress.

36. The north-eastern hedgerow is largely unmanaged and is made up of hawthorn, with occasional elder. The ground layer supports a mix of lords-and-ladies, garlic mustard, dandelion, cow parsley (*Anthriscus sylvestris*), ground ivy (*Glechoma hederecea*) and common nettle.

37. Several small sections of ornamental hedgerow are present within the garden centre. These comprise either garden privet (*Ligustrum ovalifolium*) or cypress.

Trees

38. A large number of mature broadleaf trees are present as standards within the boundary hedgerows (Figure 6); the predominant species being ash (*Fraxinus excelsior*). Other species present within the hedgerows are horse chestnut (*Aesculus hippocastanum*), lime (*Tilia sp.*), oak (*Quercus robur*) and larch (*Larix decidua*).

Figure 6

Mature standard trees along the north-eastern boundary.

39. Several semi-mature broadleaf and conifer trees have been planted within the garden centre. These include ash, silver birch (*Betula pendula*), cherry (*Prunus padus*), cypress, fir (*Abies sp.*), pine (*Pinus sp*.) and spruce (*Picea sp.*).

Ditches

40. Due to access constraints, the north-western end of the site could not be surveyed. However, Promap has highlighted the presence of a wet ditch along the north-western boundary and part of the south-western boundary.

Fauna

Bats

41. The buildings within the centre of the site are deemed to have a very low risk of supporting roosting bats. The mature boundary trees could not be fully inspected, however several trees support features, such as split limbs and cavities that have the potential to support roosting bats.

42. The boundary hedgerows also have the potential to support foraging and commuting bats.

Amphibians

43. The site supports no amphibian breeding habitat; however, suitable terrestrial habitat is present in the form of boundary hedgerows and artificial refugia within the garden centre, i.e. pallets, sheds and plant pots. Four ponds are located within a 500m radius, three of which are connected to the site by the northern hedgerows; c.152m northeast, c.190m southwest and c.430m southwest. Although great crested

newt (gcn) have not been recorded within these ponds, they are known to be present in the wider area (three sites between 1.9-2.1km south). As such a landscape appraisal has been produced later in this report to determine what level of survey is appropriate for this site.

Birds

44. The boundary hedgerows, trees and some of the garden centre buildings have the potential to support nesting birds.

Protected mammals

45. Due to access constraints, a thorough search of the boundary hedgerows could not be undertaken. As badgers have been recorded in the surrounding area, the presence of setts within the hedgerows cannot be ruled out.

46. Similarly, a wet ditch is present within the north-western and part of the south-western boundary hedgerows. As this ditch could not be surveyed and assessed for its suitability for supporting water vole, the presence of this species within the ditch cannot be ruled out at this stage.

Reptiles

47. The application site is considered to represent sub optimal reptile habitat and as no reptile records were returned for the 2km radius search area, the absence of this species from the site can be reasonably concluded.

Invasive species

48. No invasive species, other than potted examples of cotoneaster and montbretia, were encountered within the application site.

49. A landscape appraisal is required, as suitable great crested newt terrestrial habitat is present on site, and the surrounding landscape support ponds that have the potential to hold great crested newts.

50. The nearby ponds are not within the ownership or access rights of Partner Construction and hence it is not possible through aquatic survey methods to carry out great crested newt presence/likely absence surveys. Consequently the risk of great crested newts using the application site is assessed through landscape analysis relying on walkover survey from accessible footpaths and roads and a study of aerial photography and mapping.

51. The results of this analysis are presented in plan form at the end of this report (D-1525-02). This plan shows the locations of nearby ponds assessed as having *potential* to support breeding great crested newt as well as our assessment of the likely associated terrestrial territories based on habitat types and presence of barriers to dispersal, such as built development and roads.

52. For the purposes of this report, good terrestrial habitat includes:

- Scrub, woodland and woodland edge vegetation;
- Wetland;
- unkempt gardens and allotments; and
- Hedgerows with broad verges.

53. Poor habitat is:

- arable land;
- improved, grazed and regularly cut grassland; and
- hard-standing and built development.

54. The application site itself supports predominately hard-standing and built development, surrounded by boundary hedgerows. The large number of pot plants, sheds and other features, such as pallets, offer potential refuge habitat for amphibians. However, all of these features are subjected to high levels of disturbance and are frequently moved by garden centre staff and customers.

55. The boundary hedgerows (scheduled for retention) represent <u>moderate habitat potential</u> for foraging if great crested newt are able to access them.

Assessment of ponds

56. Ponds were identified using Ordnance Survey (OS) detailed plans. An attempt was made to visit these ponds during the survey to assess their potential to support breeding great crested newts; however, no public access was available.

Figure 7 Locations of surrounding ponds in relation to the application site.

57. These ponds are located, c.152m northeast (pond 1), c.190m southwest (pond 2), c.430m southwest (pond 3) and c.200m south (pond 4).

58. Ponds 1, 2 and 3 are surrounded by prime terrestrial habitat in the form of Clitheroe Golf Club and surrounding woodland pockets. These are joined together by field hedgerows and the application sites north-western boundary hedgerow. Pond 4 is isolated from the site by built development and Whalley Road. This pond is surrounded predominantly by poor habitat in the form of pastoral fields.

59. Pond 1 looks to be ornamental and is therefore likely to be stocked with fish. If this is correct, then the pond would be unsuitable for supporting breeding great crested newts. The pond is surrounded by tarmac hard-standing which is likely to further reduce its attraction to newts.

60. Ponds 2 and 3 appear to be very similar, both are positioned within the corners of pastoral fields, immediately surrounded by boundary hedgerows and mature broadleaf trees. These ponds will therefore be subjected to high levels of shade. While shading does not preclude the presence of great crested newt it much reduces the likelihood of being used and its capacity to support a breeding population. However for the purposes of this assessment these ponds are considered able to support a small population.

61. Figure D-1525-02 shows our assessment of the surrounding terrestrial habitat and the core areas that any great crested newt associated with these ponds would be expected to be found in.

62. Connected high value habitat is found in close proximity to these ponds in the form of Clitheroe Golf Club which supports a mix of rough grassland, hedgerows, scrub, trees and woodland. It is likely that any local population would be centred in this area with great crested newt moving between pond 2 and 3 in a meta-population. The application site is not likely to form a core part of the terrestrial habitat for this putative meta-population.

Conclusion

63. The rationale above points to the risk of finding great crested newt within the construction zone of the application site as being low and on this basis it is reasonable to conclude that development presents a limited risk of affecting great crested newt and contravening the legislation protecting them. It does not however conclude that there is no risk. For this reason it is recommended that the following proportionate measures are put in place to give further confidence to the assessment.

<u>Pre -construction terrestrial survey</u>

64. During March and in suitable weather conditions, the site can be subjected to torchlight survey to look for any great crested newt on land on passage to their breeding ponds. Any refugee remaining on site will also be searched for great crested newt.

65. The boundary hedgerows are scheduled to be retained and protected from development. The tree protection fencing will create a sufficient buffer to reduce the risk of great crested newts using these hedgerows being injured.

66. However, should the current plans change and breaks within the hedgerows are required, then prior to making these breaks the areas to be affected should be subject to a fingertip search to look for great crested newt taking refuge among exposed roots, decaying wood or burrows.

67. If at any time great crested newt are found within the application site it would be necessary to stop works until a Natural England mitigation licences could be secured.

68. Land within the centre of the site, currently used as a garden centre, is assessed as being of low ecological value; the boundary hedgerows, ditch and mature standard broadleaf trees on the other hand all have a higher ecological value.

69. The proposed development presents minimal risk of significant impacts on important, protected or designated sites.

70. Due to limited site access, the following precautions are considered necessary in relation to the site's development:

Great crested newt

71. As great crested newt can not be ruled out from the surrounding ponds, precautionary terrestrial surveys within the construction zone are recommended, as outlined previously in the Landscape assessment.

Boundary habitats

72. The boundary hedgerows, ditches and mature standard trees are considered to have a high ecological value. These features should therefore be retained and protected from development. This can be achieved through erecting suitable tree protective fencing outside of the tree and hedgerow root protection area (RPA) during the construction phase of the development. As the hedgerows also have the potential to act as wildlife corridors for animals such as bats, then artifical light used during construction and post development should be directed away from the boundaries.

73. As a thorough search of the boundary hedgerows and ditches was not possible at the time of the site visit, the presence of badger and water vole can not be ruled out at this stage. Once access to these features has been established, then a badger and water vole survey is recommended. If either species are found to be present within the site boundaries, then a suitable buffer zone between development and the boundaries should be created.

74. The mature trees have the potential to support roosting bats, therefore if any of these boundary trees require removal or significant pruning work, then further bat surveys are recommended.

Nesting birds

75. To prevent the proposed works impacting on nesting birds, all vegetation clearance or work to existing buildings 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.

Enhancement

76. 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.

77. A landscape scheme could be produced for the site which incorporates only native species, or those non-natives that have a benefit to local wildlife, i.e. berry bearing or nectar rich.

78. The site could be enhanced in terms of providing roosting opportunities for bats. Up to 5 features providing artificial bat roosting could be incorporated into the south-east and south-western facing elevations of new builds.

79. Similarly the site could be enhanced for nesting birds by erecting up to 5 artificial bird boxes in suitable locations on some of the new builds.

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

N

Garden centre

Buildings

Hedgerows

Ditch

Trees

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Site: Hansons Garden Centre

Title: Ecological Features Plan

Drawing Number: D-1525-01

Scale: Do not scale

Date: 21.03.13

Revision:

N

Pond

Core territory based on availaility of prime terrestrial habitat

Likely associated territory

Barriers to movement

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Project: Hansons Garden Centre

Title: Great Crested Newt Landscape Analysis

Drawing Number: D-1525-02

Scale: Do not scale Date: March 2013

Revision: