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**Hedsor Court Farm  
Sheepcote Lane**

**Report for:**  
Mr C Coates  
Hedsor Court Farm  
Sheepcote Lane  
Hedsor  
Buckinghamshire  
SL1 8PE

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## **INTRODUCTION**

### **Overview**

AA Environmental Limited (AAe) has been commissioned by Mr C Coates to produce an Ecological Mitigation and Enhancement Plan (EMEP) for the above site. This EMEP has been produced using the Nature Conservancy Council document<sup>1</sup> as a guide, with the intention to enhance the value of the site by creating a range of new habitats/opportunities for wildlife. The Plan also details the sympathetic management of these features to maximise their ecological value in the long term. In addition, this report will provide the information to assist with discharging Condition 15 attached to planning (Buckinghamshire Council application ref: 20/07812/FUL) which states:

*Prior to the commencement of development on site a scheme to mitigate against potential harm to protected species, compensate for the loss of features of ecological value on the site and to provide ecological enhancement shall be submitted to and approved in writing by the Local Planning Authority. This shall include details of proposed measures to protect wildlife during site clearance and construction, including great crested newts, nesting birds, bats and badgers.*

*The proposed enhancement measures shall show how enhancements will be incorporated into landscaping (showing planned species, locations, size, density and wildlife value) and into the buildings (showing the location and type of measures such as bird and bat boxes) and a timescale for the implementation of the measures. All works shall then proceed in accordance with the approved scheme unless otherwise first agreed in writing by the Local Planning Authority. The measures contained within the scheme shall thereafter be retained on site unless otherwise first approved in writing by the Local Planning Authority.*

*Reason: To ensure that the development safeguards protected wildlife and achieves a net gain in biodiversity. A pre-start condition is necessary to ensure that measures are in place to protect wildlife prior to site clearance and enhancement measures are incorporated into the design and construction of the buildings.*

An Annotated Site Plan (Figure 1) has been attached for reference.

### **Site Description and Proposals**

The site is located off Sheepcote Lane in Hedsor, Buckinghamshire, centred at National Grid Reference: SU 917865. The site application area covers approximately 0.49 hectares. The site comprised an equine facility (stabling, arenas, accommodation, paddocks), with boundary vegetation and a small woodland also present. The site is bordered by woodland to the west, paddocks to the north, Sheepcote Lane to the east and paddocks and a residential property to the south.

The consented scheme includes the demolition of equestrian and existing dwelling, erection of a one and half storey 5-bed dwelling with garaging, detached stable building. Block existing access and re-surfacing of driveway, creation of new driveway and access with entrance gates and piers.

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<sup>1</sup> Nature Conservancy Council 1988 (reprinted 1991). Site management plans for nature conservation, a working guide.

## **SITE CONTROLS TO BE APPLIED**

### **Badgers and Bats**

Although no evidence of badgers or bats was recorded on the site, all site operatives should be made aware of current legislation protecting badgers and their setts, and bats and their roosts. In the unlikely event of any badgers or bats being encountered on the site, then works should stop immediately and Natural England or AAe contacted so that appropriate advice can be provided.

### **Great Crested Newts**

Although the site has been assessed to provide poor terrestrial habitat for any species of herpetofauna (amphibians and reptiles), great crested newts have been recorded in a pond to the south of the site. It is therefore recommended that site clearance works are carried out under a precautionary approach, as detailed below.

An assessment will be completed by the Ecological Clerk of Works (ECoW) to agree the areas to be subject to an ecological watching brief. These areas will then be demarcated on the ground with suitable fencing (Heras or equivalent) to delineate the area to be sensitively cleared.

Site clearance within these areas will only be carried out when great crested newts are active. Although activity is weather and temperature-dependent, great crested newts are usually fully active from March to October, inclusive. All works within these potentially sensitive areas will be directly supervised by a suitably experienced and licensed ECoW.

Prior to the works commencing all site personnel will be given a toolbox talk to inform them about the potential presence of great crested newts and the legal protection they are given (a generic toolbox talk for great crested newts is attached at Appendix A).

A hand search of the area will be carried out, with any natural or artificial refugia found, such as logs, stones, rocks etc., lifted and checked for sheltering animals before being removed from the site.

If considered necessary, any existing vegetation will be managed with the aim to reduce cover for species, which will then aid with the final clearance exercise. This will be carried out using hand-held equipment (such as strimmers, brush cutters and hedge strimmers) only and completed in a phased approach, with all arisings collected using **plastic rakes**. The arisings will either be disposed of off-site or used as habitat enhancement measures within suitable areas on the site. Once the material has been removed a finger-tip search of the area will be carried out by the ECoW.

After the ECoW is satisfied with the above preparatory works, he/she will supervise a destructive search of the area. This will involve the removal of all remaining ground vegetation leaving only bare earth. An excavator will be used for this purpose, with the turf/topsoil being placed carefully to one side. Particular care will be required during this exercise, which will be closely monitored by the ECoW.

Any animals found during the exercise will be caught and placed in a container and released in suitable retained habitat.

In the unlikely event of any great crested newts are encountered then works will stop and the Council's Ecologist and/or Natural England contacted so that an appropriate way forward can be agreed.

The following additional controls will be implemented during the works:

- cover any deep excavations overnight to prevent any animals falling into them, where possible;
- any materials required should be stored above ground on pallets;
- any stored or excess excavated material should be positioned in suitable locations within the site and not stored close to adjacent habitat as animals may attempt to take refuge and/or overwinter in them.

## **Nesting Birds**

Prior to the clearance of any shrubs and trees carried out within the bird nesting season (March to August inclusive), a visual check for any active birds' nests will be carried out by the ECoW within 24 hours before the commencement of the vegetation removal works. If before or during the works any active nests are identified, the following controls will be implemented:

- The nest will be clearly identified along with a suitable buffer zone (minimum 5 m radius around the nest). This area will be clearly marked-up on the ground (using red spray paint and/or rope) and not cleared.
- Nests located during the survey will be monitored until they are assessed as no longer active, after which the vegetation can then be removed.

## **Tree Protection**

In order to protect the established vegetation to be retained, suitable fencing will be required at certain locations to reduce the possibility of any damage that could be caused during the works (as shown on the Tree Protection Plan prepared by Merewood, held under separate cover). To minimise accidental damage, any overhanging branches should be pruned back to suitable live growth points, with all works undertaken by a suitably qualified and experienced specialist contractor and should conform to current industry best practice, i.e. BS 3998: 2010 '*Tree Work - Recommendations*'.

## **PRESCRIPTIONS**

### **Overview**

The key enhancement measure will be to introduce new wildlife-friendly planting within the site. Once established this will provide a range of habitats for local species and act as wildlife corridors, increasing connectivity between the site and neighbouring habitats. Additional measures will be to install a series of bat, bird and insect boxes; at suitable locations on the site in order to enhance roosting, nesting and sheltering opportunities.

### **New Planting**

As part of the overall landscape treatment of the site, planting will be carried out. Such planting will include a variety of native and ornamental species of value to wildlife and suitable species' are provided within Natural England's Leaflet 'Plants for wildlife-friendly Gardens' (copy attached at Appendix B). In particular, flowering plants will be of benefit to invertebrate species and shrubs and trees may provide nesting opportunities for birds once they become established.

A check of the new planting will be conducted, with replacement planting carried out where necessary. The planting will require minimal maintenance, with occasional weeding and pruning of plants where necessary. Shrub areas, planted for the benefit of invertebrates, should be covered with a mulch for water retention, which will aid flower/nectar production. Regular dead-heading of flowers will encourage further flowering, improving the supply of nectar for butterflies and other insects. At the end of the season, plants should not be pruned or dead-headed until later in the winter, allowing birds to feed on any seeds.

### **Bat Boxes**

In order to provide roosting opportunities for bats, four bat boxes/tubes will be installed on the site (x2 Ibstock Enclosed Bat Box B and x2 Schwegler 2F, or equivalent). The boxes will be positioned in accordance with best practice, indicative locations are shown on Figure 1 and a guidance document is attached at Appendix C. Bat boxes do not require regular cleaning periodic maintenance checks should be carried out with any damaged boxes replaced as necessary (**Note: any works/checks to bat boxes might require a licensed bat worker**).

### Bird Boxes

In order to enhance nesting opportunities for birds, six bird boxes will be installed on the site (e.g. x2 Schwegler 2GR Nest Box on suitable trees and x4 Schwegler Swallow Nest 10B on the new stable block). The boxes will be positioned in accordance with best practice, indicative locations are shown on Figure 1 and a guidance document is attached at Appendix C. The nest boxes should be cleaned out once a year during the winter months, and, in the event that any become damaged, replaced as necessary.

### Insect Boxes

In order to enhance nesting/sheltering and overwintering opportunities for insects, two insect boxes will be installed on the site (x2 Schwegler Clay and Reed Insect Nest Box, or equivalent). The boxes will be positioned in accordance with best practice, indicative locations are shown on Figure 1. Insect boxes do not require regular cleaning, although periodic maintenance checks should be carried out with any damaged boxes replaced as necessary.

### Lighting

In accordance with best practice, a sensitive lighting scheme will be incorporated to minimise light spillage and pollution with no lighting directed onto any wildlife boxes installed.

### Timetable for Implementing the Ecological Measures

Ecological Measure	Date*
Bat Boxes on existing trees	Spring/summer 2021
Bat Boxes/tubes on new build	Spring/summer 2022
Bird Boxes on existing trees	Spring/summer 2021
Bird Boxes on new stable block	Spring/summer 2022
Insect Boxes	Spring/summer 2021
New Planting	Spring/Autumn 2022

\* Indicative only, as the actual date will depend upon build schedule.

### RESPONSIBILITIES

Mr C Coates will be responsible for the implementation of the measures as set out in this EMEP, although contractors may be appointed for certain tasks as necessary. Any ongoing management/maintenance checks will be the responsibility of the owner (Mr C Coates).

**Author:**  
Alan Beaumont  
BSc (Hons) MSc MCIEEM  
Director of Ecology  
E [alan.beaumont@aae-ltd.co.uk](mailto:alan.beaumont@aae-ltd.co.uk)

**Office:**  
AA Environmental Ltd  
Units 4-8  
Cholswell Court  
Shippon  
Abingdon  
Oxon OX13 6HX

Company No. 8474322  
E [info@aae-ltd.co.uk](mailto:info@aae-ltd.co.uk)  
T 01235 536042  
F 01235 523849

**Figure 1**



Schwegler Barn Swallow Nest 10B



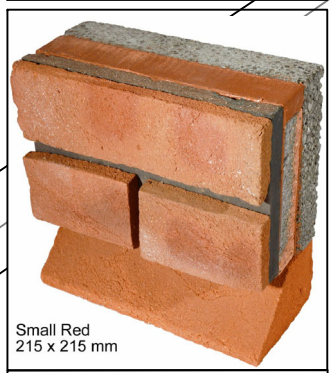
Schwegler 2F Bat Box



Schwegler 2GR Nest Box










Schwegler Clay and Reed Insect Nest



Small Red 215 x 215 mm  
Ibstock Bat Box B

**KEY**

-  Site Boundary (Indicative)
-  Bat Box
-  Bird Box
-  Swallow Nest
-  Integrated Bat Box
-  Insect Box
-  Individual Tree

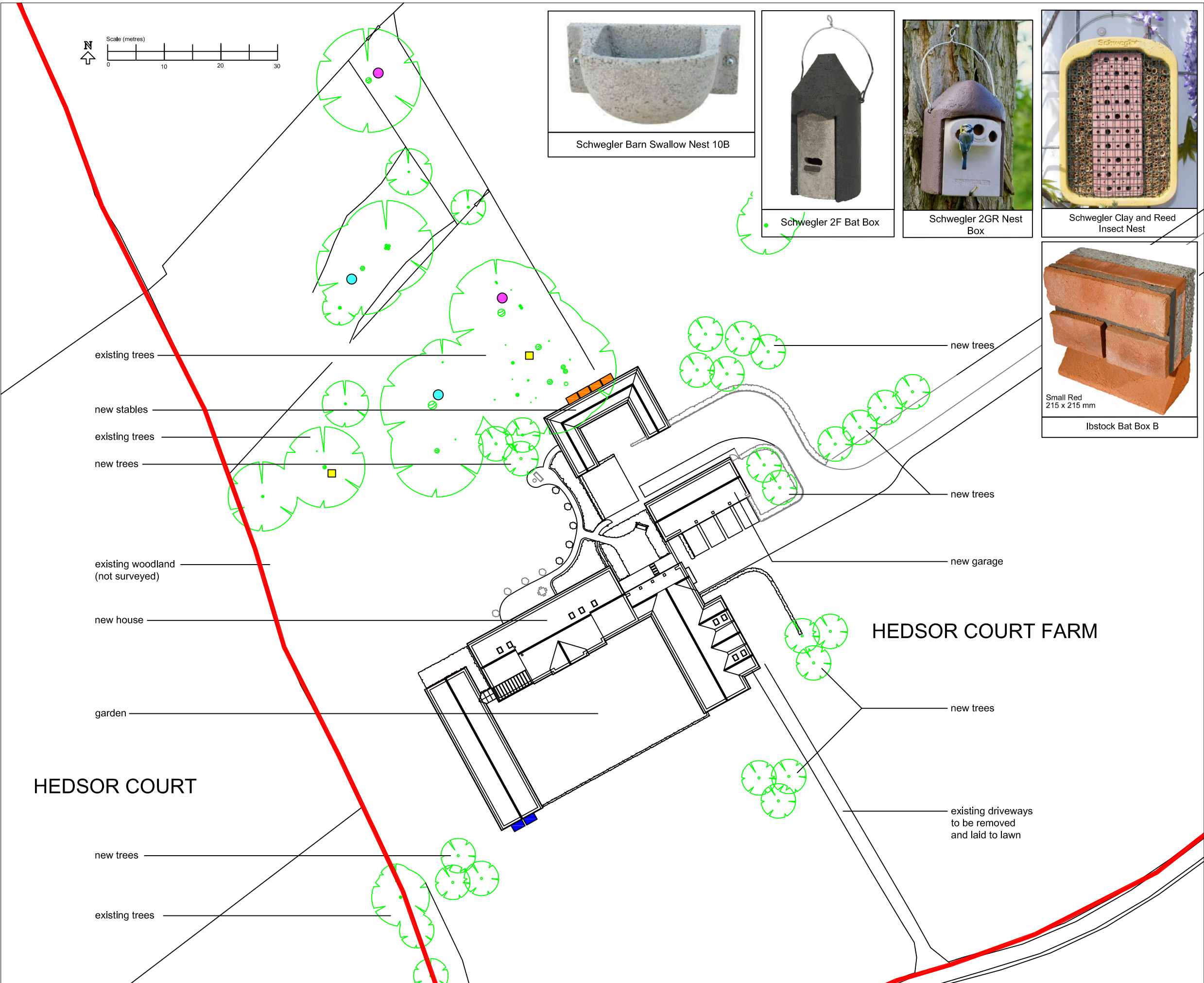
**Notes**

**Bat Box**  
x2 Schwegler 2F Bat Boxes (or equivalent)  
x2 Ibstock Bat Box B

**Bird Box**  
x2 Schwegler 2GR Nest Boxes (or equivalent)  
x4 Schwegler Barn Swallow Nest 10B

**Insect Box**  
x2 Schwegler Clay and Reed Insect Nest Boxes

A sensitive lighting scheme will be adopted for the proposals and no lighting will be directed onto any wildlife boxes installed.



Rev.	Details	Drawn	Date
		Chkd.	

Project  
203268  
Hedsor Court Farm  
Sheepcote Lane

Title  
Annotated Site Plan



**AAe**  
Environmental Consultants

AA Environmental Ltd  
Units 4-8  
Chelswell Court  
Shippon Abingdon  
Oxon OX13 6HX  
T:(01235) 536042  
F:(01235) 523849  
info@aae-ltd.co.uk  
www.aae-ltd.co.uk

Scale	Date	18.03.21	Drg. No.	Figure 1	Rev.
As shown	Drawn	LT	Chkd.		

**Appendix A**  
Toolbox Talk (Great Crested Newts)

# TOOLBOX TALK: GREAT CRESTED NEWTS

## Key Contact

AA Environmental Ltd, Units 4-8 Cholswell  
Court, Shippon, Oxfordshire, OX13 6HX

Tel: 01235 536042

## Did you know?

- Great crested newts or **GCNs** are the largest and rarest species of newt found in the UK.
- Significant population declines, mostly due to habitat loss, has seen European and UK law introduced to protect GCNs.
- The UK is one of the final strongholds of GCNs, with an estimated population of 400,000 across the country.
- GCNs are amphibians and so use ponds for breeding, but spend much of their lives on land.
- For their survival, a link between a suitable breeding pond and terrestrial habitat is essential.
- During winter, GCNs will hibernate on land and may not wake up if disturbed. This makes them vulnerable to site works, especially during winter months.
- GCNs can be found in a range of habitats, be it rural or urban.
- GCNs, like many amphibians, are nocturnal and are consequently rarely seen during the day time.
- The lifespan of a GCN can be up to 15 years.

## Identification

- GCNs may be found in a number of places around a site. When on land they tend to favour log/wood, stone and rubble piles. Breeding ponds are mainly medium-sized ponds, however, ditches and even large puddles may be used.
- Mature GCNs may grow up to about 17 cm long.
- Most of their skin is dark brown or black and warty in texture/appearance with an orange/yellow and black pattern on their tummy.
- During the breeding season adult males have a jagged crest running along their back, which only becomes clearly visible when in the water.

## Legislation

- All amphibian species have some level of protection under UK law.
- **GCNs are protected by UK and European Law.** This makes it **illegal** to intentionally or recklessly kill, injure or take, intentionally or recklessly disturb whilst occupying a 'place used for shelter or protection' and protects these places against destruction.

## Site Controls

- There is always a **risk** that as GCNs move within the terrestrial habitat or between breeding ponds that they could be encountered during site works.
- **If any GCNs are encountered during works the following controls must be applied to avoid breaking the law:**
  1. If GCNs are discovered/suspected works must stop **immediately**, with any GCNs left in-situ and AAe immediately contacted (contact details above).
  2. Site operatives must not intentionally handle GCNs.
  3. During works, operatives must wear gloves in case of accidental contact with GCNs.
  4. Care must be taken when moving logs, stones or rubble, or when clearing areas near to ponds. These are favoured habitats for GCNs and they may be sheltering within them.
  5. Stockpiling of materials is only permitted within designated areas.

These controls have been put in place to protect all site operatives from breaking the law. You are not expected to be able to identify GCNs or their presence so remember, **if in doubt shout and contact the relevant person.**





**Appendix B**  
Natural England's leaflet 'Plants for wildlife-friendly Gardens'



Natural England works for people, places and nature to conserve and enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas. We conserve and enhance the natural environment for its intrinsic value, the wellbeing and enjoyment of people, and the economic prosperity it brings.

[www.naturalengland.org.uk](http://www.naturalengland.org.uk)

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ISBN 978-1-84754-020-1

Catalogue code NE29

Written by Steve Berry. Designed by [statusdesign.co.uk](http://statusdesign.co.uk)

Front cover image: Herbaceous border.

Jim Foster/Natural England

## Plants for wildlife-friendly gardens

[www.naturalengland.org.uk](http://www.naturalengland.org.uk)



## Plants for wildlife-friendly gardens

This leaflet lists some of the many garden plants which can help to attract wildlife to your garden. While plants that occur naturally in England – native species – do have more to offer some forms of wildlife, recent research has seriously challenged once-conventional view that native flora is always best. It is now clear that many cultivated varieties and exotic plants are also good for wildlife, provided that their flowers are not too complex.

For example, highly bred double-flowered varieties produce little or no pollen or nectar and so are not of interest to bees, butterflies or other pollinating insects.

Cowslips. Paul Glendell/Natural England



### Please note

Garden plants should never be planted out in the wild and, similarly, wild plants should never be dug up to be planted in the garden.

Digging up wild plants is illegal. It is also usually pointless as many will only thrive on poor soils and will not flourish in gardens. Introducing cultivated plants into the wild has caused severe problems for native wildflowers – and their associated wildlife – and is still doing so. Rhododendron now smothers huge areas of woodland in England (and Wales) and is extremely hard – and expensive – to control. Similarly, the fleshy-leaved Hottentot fig *Carpobrotus edulis* has invaded cliffs in Devon and Cornwall where it forms dense stands, out-competing native species and even

changing the composition of the soil. Various introduced aquatic plants have caused even greater havoc, and it has so far proved impossible even to prevent their further and highly damaging spread.

Do take great care, therefore, and never risk introducing garden plants into wild areas. Discarding the results of weeding over the garden fence – for example, into adjoining allotments, woodland, railway land or wasteland – is irresponsible. All unwanted plant material should instead be composted. The Natural England booklet *Composting and peat-free gardening* has further details. (See Further information, page 14.)

Cottage garden. Paul Keene/Avico Ltd



# Trees and shrubs

## Large trees

Ash *Fraxinus excelsior*  
Beech *Fagus sylvatica*  
Cherries *Prunus avium* and *P. padus*  
Elm *Ulmus procera*  
Oaks *Quercus robur* and *Q. petraea*  
Small-leaved lime *Tilia cordata*  
White willow *Salix alba*

## Medium/small trees

Alder *Alnus glutinosa*  
Apples *Malus spp.*  
Field maple *Acer campestre*  
Holly *Ilex aquifolium*  
Pears *Pyrus spp.*  
Rowan *Sorbus aucuparia*  
Silver birch *Betula pendula*  
Yew *Taxus baccata*

## Plants for hedges

A combination of shrubs and climbers can make attractive hedges of great benefit for wildlife, as well as providing a functional boundary. Beech and holly can also be effective when used to make single species hedges.

## Shrubs suitable for hedges

Blackthorn *Prunus spinosa*  
Buckthorn *Rhamnus catharticus*  
Cherry plum *Prunus cerasifera*  
Elder *Sambucus nigra*  
Guelder rose *Viburnum opulus*  
Hawthorn *Crataegus monogyna*  
Hazel *Corylus avellana*  
Privets, including wild privet *Ligustrum vulgare*



Honeysuckle flower.  
Derek Ratcliffe/Natural England

## Climbers and 'scramblers'

Climbing brambles *Rubus spp. fruticosus* group (including various cultivars and hybrids, eg loganberries, tayberries etc).  
Climbing roses *Rosa spp.* especially wild species such as dog rose *R. canina* and field rose *R. arvensis*  
Ivies *Hedera spp.*, including common ivy *H. helix*  
Honeysuckles *Lonicera spp.*, including the native *L. periclymenum*  
Wild clematis/Old man's beard *Clematis vitalba*



Several bird species are fond of firethorn berries, and blackbirds may nest in this shrub.  
Chris Gibson/Natural England

## Plants to site under trees or in shady areas

The following species flower early before trees are in full leaf, and will do well in areas that become shady later in the year.

Bluebell *Hyacinthoides non-scripta*  
Bugle *Ajuga reptans*  
Daffodils, including wild daffodil *Narcissus pseudonarcissus*  
Foxglove *Digitalis purpurea*  
Lily of the valley *Convallaria majalis*  
Lords-and-ladies/cuckoopint *Arum maculatum*  
Primrose *Primula vulgaris*  
Sweet violet *Viola odorata*  
Wood avens *Geum urbanum*  
Yellow archangel *Lamiastrum galeobdolon*

## Other shrubs for nectar, pollen or fruits

These following plants are especially attractive to insects or provide food for birds and other animals.

Bodant viburnum *Viburnum x bodnantense*  
Californian lilac *Ceanothus spp.*  
Creeping cotoneaster *Cotoneaster frigidus*  
Firethorn *Pyracantha spp.*  
Himalayan honeysuckle *Leycesteria formosa*  
Japanese quince *Chaenomeles japonica*  
Laurustinus *Viburnum tinus*  
Lilac *Syringa vulgaris*  
Mahonia *Mahonia spp.*  
Mock orange *Philadelphus spp.*  
Serviceberry *Amelanchier canadensis*

**Warning.** Some species of cotoneaster (eg *C. horizontalis*) are invasive and not recommended.

# Wildflowers

## Native wildflowers for borders

**Please note.** Any native plant with a simple, open-structured flower is likely to attract pollinating insects. Especially attractive are the flowers of the daisy family (Compositae), the cabbage family (Cruciferae) and the carrot family (Umbelliferae). In addition, members of the huge family of Labiales, which includes mints and deadnettles, are also recommended. The following list is therefore only an indication of the huge variety of wildflowers you could plant in your garden.

- Agrimony *Agrimonia eupatoria*
- Chicory *Chichorium intybus*
- Chives *Allium schoenoprasum*
- Common mallow *Malva sylvestris*
- Common poppy *Papaver rhoeas*
- Corncockle *Agrostemma githago*
- Cornflower *Centaurea cyanus*
- Corn marigold *Chrysanthemum segetum*
- Cowslip *Primula veris*
- Dame's-violet *Hesperis matronalis*
- Dandelion *Taraxacum officinale*
- Devil's-bit scabious *Succisa pratensis*
- Field scabious *Knautia arvensis*
- Foxglove *Digitalis purpurea*
- Germander speedwell *Veronica chamaedrys*
- Goldenrod *Solidago virgaurea*
- Great mullein *Verbascum thapsus*
- Greater knapweed *Centaurea scabiosa*

- Harebell *Campanula rotundifolia*
- Herb-robert *Geranium robertianum*
- Lady's bedstraw *Galium verum*
- Marjoram *Origanum vulgare*
- Meadow cranesbill *Geranium pratense*
- Oxeye daisy *Leucanthemum vulgare*
- Primrose *Primula vulgaris*
- Red campion *Silene dioica*
- Spiked speedwell *Veronica spicata*
- Tansy *Tanacetum vulgare*
- Teasel *Dipsacus fullonum*
- Toadflax *Linaria vulgaris*
- White campion *Silene alba*
- Wild thyme *Thymus drucei*
- Yellow loosestrife *Lysimachia vulgaris*

The poached-egg plant may attract various species of hoverfly.  
Chris Gibson/Natural England



Wild thyme. Peter Wakely/Natural England



## Cultivated plants for borders

Grecian windflower *Anemone blanda*  
 Angelica *Angelica archangelica*  
 Aubretia *Aubretia deltoidea*  
 California poppy  
*Eschscholtzia californica*  
 Candytuft *Iberis sempervirens*  
 Christmas rose *Helleborus niger*  
 Cosmos *Cosmos bipinnatus*  
 Evening primrose *Oenothera biennis*  
 Fleabane *Erigeron spp.*  
 Forget-me-not *Myosotis spp.*  
 French marigold *Tagetes spp.*  
 Globe thistle *Echinops ritro*  
 Grape hyacinth *Muscari botryoides*  
 Hollyhock *Althaea rosea*  
 Honesty *Lunaria rediviva*  
 Ice plant *Sedum spectabile*  
 Lenten rose *Helleborus orientalis*  
 Michaelmas daisy *Aster spp.*  
 Perennial cornflower  
*Centaurea montana*  
 Perennial sunflower  
*Helianthus decapetalus*  
 Paul Glendell/Natural England



Marsh marigold *Caltha palustris*.  
 Paul Glendell/Natural England

Phlox *Phlox paniculata*  
 Poached-egg plant  
*Limnanthes douglasii*  
 Purple coneflower  
*Echinacea purpurea*  
 Red valerian *Centranthus ruber*  
 Snapdragon *Antirrhinum majus*  
 Snowdrop *Galanthus nivalis*  
 Spring crocus  
*Crocus chrysanthus* and hybrids  
 Sweet alyssum *Lobularia maritima*  
 Sweet bergamot *Monarda didyma*  
 Sweet William *Dianthus barbatus*  
 Tobacco plant *Nicotiana affinis*  
 Wallflower *Cheiranthus cheiri*  
 White arabis (single) *Arabis alpina*  
 Winter aconite *Eranthis hyemalis*  
 Yellow alyssum *Alyssum saxatile*

## Drought-tolerant plants

Climate change is now a reality. Some parts of England in recent years have received a lower level of annual rainfall than Jerusalem, while spring and summer hosepipe bans may become a regular feature in the east and south-east at least. It makes sense, therefore, to select plants which, once established, can withstand long periods without being watered. Many of the following species originate from South America, the Mediterranean or the Middle East and are well-suited to dry soils in full sun, as well as providing for the needs of garden wildlife.

Argentinean salvia *Salvia argentea*  
 Calamint *Calamintha nepeta ssp. nepeta*  
 Cardoon *Cynara cardunculus*  
 Chile black scabious *Scabiosa atropurpurea*  
 Crimson clover *Trifolium incarnatum*  
 Crocus *Crocus tommasinianus*  
 Escallonia *Escallonia spp.*  
 False dittany *Ballota acetabulosa*  
 Giant dead-nettle *Lamium orvala*  
 Giant echium *Echium pininana*  
 Giant scabious *Cephalaria gigantea*  
 Golden-drops *Onosma spp.*  
 Honeywort *Cerinthe major* and *C. purpurascens*  
 Honey garlic *Nectaroscordium siculum*  
 Lamb's lugs (or ears) *Stachys olympica* and *S. lanata*

Jerusalem sage *Phlomis russelliana*  
 Marjoram *Origanum vulgare* and its garden form 'Aureum', golden marjoram  
 Myrtle *Myrtus communis*  
 Onion *Allium christophii*  
 Rock-roses *Helianthemum spp.*  
 Sea-hollies *Eryngium spp.*  
 Sun-roses *Cistus spp.*  
 Winter savoury *Satureia Montana*

Sea Holly. Chris Gibson/Natural England



## Ponds and marshes

Water is important for wildlife. Even a small pond or boggy area can attract birds, insects and other animals. It also creates an interesting feature in itself. The Natural England leaflet *Garden ponds and boggy areas: havens for wildlife* has a wealth of advice about creating garden wetlands and selecting suitable plants (see Further information, page 14).

**Plants for marshy areas and pond edges**

For a wildlife-friendly, natural look, ensure your pond has shallow, sloping edges (to help animals get in and out easily) and plants around the edges to provide cover and interest.

- Bogbean *Menyanthes trifoliata*
- Brooklime *Veronica beccabunga*
- Cuckooflower *Cardamine pratensis*
- Lesser spearwort *Ranunculus flammula*
- Marsh marigold *Caltha palustris*
- Marsh woundwort *Stachys palustris*
- Ragged robin *Lychnis flos-cuculi*
- Water avens *Geum rivale*
- Water forget-me-not

Bogbean. Peter Wakely/Natural England



- Myosotis scorpioides*
- Water mint *Mentha aquatica*
- Water plantain
- Alisma Plantago-aquatica*
- Water violet *Hottonia palustris*
- Small Tortoiseshell. Natural England



Dog rose. Peter Wakely/Natural England



### Submerged plants

These plants will help to oxygenate pond water and will also offer cover for secretive pond life.

Curled pondweed

*Potamogeton crispus*

Other pondweeds *Potamogeton spp.*

Hornwort *Ceratophyllum demersum*

Spiked water milfoil

*Myriophyllum spicatum*

Water starwort *Callitriche spp.*

### Floating plants

These provide some shade and interest. You need a balance of floating and submerged plants to ensure that some light gets to underwater areas.

Amphibious bistort

*Persicaria amphibian*

Broad-leaved pondweed

*Potamogeton natans*

Frogbit. Peter Wakely/Natural England



Teasel. Peter Wakely/Natural England

Fringed waterlily

*Nymphoides peltata*

Frogbit *Hydrocharis morsus-ranae*

Water crowfoot *Ranunculus aquatilis*

Water-lilies: many small cultivars and hybrids may be suitable.

### Large Ponds

The following plants are only really suitable for quite substantial ponds, either because they grow tall and will simply look out of place in a small pond, or because they spread rapidly and may take over small areas of water. Some will do both! In the right place, however, they can be superb.

### Marginal plants

Flowering rush *Butomus umbellatus*

Hemp agrimony

*Eupatorium cannabinum*

Meadowsweet *Filipendula ulmaria*

Purple loosestrife *Lythrum salicaria*

Yellow flag *Iris pseudacorus*

### Floating plants

White waterlily *Nymphaea alba*

Yellow waterlily *Nuphar lutea*

### Invasive plants

The following species are more suited to lakes than ponds. Attractive though they are, they are best avoided in all but the largest areas of water.

Bur-reed *Sparganium erectum*

Greater spearwort

*Ranunculus lingua*

Lesser reedmace *Typha angustifolia*

### Warning!

A number of plants can take over your pond and are already damaging our native plants and other wildlife in ponds, lakes and rivers. A particular problem with these plants is that they can be sold under a variety of English names, and in some cases are not correctly identified at all. Watch out for – and avoid – the following:

Australian swamp stonecrop

(also known as New Zealand

pygmyweed *Crassula helmsii*)

Curly waterweed

*Lagarosiphon major*

Fairy or water fern

*Azolla filiculoides*

Floating pennywort

*Hydrocotyle ranunculoides*

Parrot's feather

*Myriophyllum aquaticum*

If you already have these, get rid of them by composting or burning. Never dispose of them in other ponds or in lakes or rivers as this will spread the problem: they can regenerate even from mere fragments of leaf. Consult the leaflet *Warning – invasive alien pond plants* for more details. This is available from the Natural England Enquiry Service (see Contacts on page 14). The best insurance is to buy only from reputable suppliers. Our Enquiry Service may be able to help you locate one close to you.

Meadow crane's-bill. Peter Rowoth/Natural England





## Contacts

### Natural England

1 East Parade  
Sheffield, S1 2ET  
Enquiry Service: 0845 600 3078  
enquiries@naturalengland.org.uk  
www.naturalengland.org.uk

### Flora Locale

Denford Manor,  
Hungerford  
Berkshire, RG17 0UN  
Tel: 01488 680 458  
www.floralocale.org

### Plantlife International

14 Rollestone Street  
Salisbury, SP1 1DX  
Tel: 01722 342730  
www.plantlife.org.uk

### RSPB

The Lodge  
Sandy  
Beds, SG19 2DL  
Tel: 01767 680551  
www.rspb.org.uk

### The Wildlife Trusts

The Kiln  
Waterside  
Mather Road  
Newark, NG24 1WT  
Tel: 01636 677711  
www.wildlifetrusts.org.uk

## Further information

This is one of a range of wildlife gardening booklets published by Natural England. For more details, contact the Natural England Enquiry Service on 0845 600 3078 or e-mail enquiries@naturalengland.org.uk

Natural England also produces *Gardening with wildlife in mind*, an illustrated wildlife reference. Originally on CD but now also available online, *Gardening with wildlife in mind* has detailed information on 800 plants and animal species often found in our gardens, and shows how they are ecologically linked. See [www.plantpress.com](http://www.plantpress.com)

## Other Titles

There is a vast number of books about all aspects of wildlife gardening. The following list is very selective:

Couzens, D. & Partington, P. *The secret lives of garden birds*. Christopher Helm. 2004.

Moss, S. *The bird-friendly garden*. HarperCollins. 2004.



Cornflower *Centaurea cyanus*. Jill Sutcliffe/Natural England

Robinson, P. *RHS water gardening*. Dorling Kindersley. 2003.

Spedding, S. & G. *The natural history of a garden*. Timber Press. 2003.

Bardsley, L. *The wildlife pond handbook*. New Holland. 2003.

Baines, C. *How to make a wildlife garden*. Frances Lincoln Ltd. 2000.

**Appendix C**  
Bird and Bat Box Guidance Document

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## BIRD AND BAT BOX/TUBE GUIDANCE DOCUMENT

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### Overview

The boxes/tubes used should be made of woodcrete material<sup>1</sup> (or equivalent) wherever possible and be positioned in accordance with good practice. All of the boxes can be obtained from the following suppliers:

Jacobi Jayne [www.jacobijayne.co.uk](http://www.jacobijayne.co.uk)  
Envisage Wildcare [www.wildcareshop.com](http://www.wildcareshop.com)  
NHBS [www.nhbs.com](http://www.nhbs.com)

### Bird Box Installation Guidance

The requirements for nest boxes vary between species. However there are some general rules to follow:

- Boxes should be located in a sheltered position out of strong sunlight, wind and rain. Generally this means that the box should be positioned somewhere between the north east and south east side of a structure.
- For extra shelter, smaller boxes should be positioned at a slight forward angle.
- Large open boxes should be angled upwards when mounted to allow the nest to rest naturally at the back of the box.
- Boxes should be positioned out of the reach of predators where possible (e.g. cats).
- A density of around 10 bird boxes per hectare is acceptable.
- Position boxes away from bird tables and other feeding areas where possible.

### Bat Box/tube Installation Guidance

- Boxes should be located in a sheltered position, out of strong wind, but exposed to sunlight for part of the day to provide solar warming.
- When installed on trees, where possible boxes should be put up in groups of two or three, facing in different directions to allow bats access to a range of temperature conditions. Furthermore, it is recommended that, to avoid competition for bat boxes, bird boxes should also be installed on the same trees<sup>2</sup>.
- It should be ensured that the entrance hole to the box is kept clear, so that bats can access it freely.
- Ideally bat boxes should be positioned near linear vegetation (e.g. a hedgerow).
- When installing boxes on trees, the ideal position is at around 5 metres or more.
- On buildings, boxes should be positioned high up by the eaves to avoid bats being predated by cats and other predators.
- Boxes should be installed out of the direct line of artificial lighting, both current and to be installed.

### References

1. Du Feu, C. (1993). *Nestboxes BTO Guide No. 23*. BTO, Thetford.
2. The Bat Conservation Trust (2003). *Bat Boxes - Your Questions Answered*.
3. Meddings, A., Taylor, S., Batty, L., Green, R., Knowles, M., Latham, D. (2011). Managing competition between birds and bats for roost boxes in small woodlands, north-east England. *Conservation Evidence*, 8, pg. 74-80.

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<sup>1</sup> Woodcrete is a blend of cement and sawdust. This material is found to be as successful as wooden bat boxes/tubes with greater durability and longevity. Schwegler bat boxes/tubes are constructed from this material.

<sup>2</sup> Research carried out by Meddings *et al.* (2011) suggests that installing bird and bat boxes on the same tree will reduce the likelihood of birds nesting in bat boxes and thus preventing a reduction in roosting opportunities for bats.