

ECOLOGY AND PROTECTED SPECIES SURVEY

WATERLOO FARM, MONUMENT ROAD, WOODHALL SPA, LINCOLNSHIRE

MAY 2015



Scarborough Nixon



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**ECOLOGY AND PROTECTED SPECIES SURVEY,
WATERLOO FARM, MONUMENT ROAD,
WOODHALL SPA, LINCOLNSHIRE**

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1 INTRODUCTION

Scarborough Nixon Associates Ltd has been commissioned by Neil Dowlman Architecture Ltd to undertake an ecology and protected species survey of agricultural buildings at Waterloo Farm, Monument Road, Woodhall Spa, Lincolnshire.

The site was surveyed on 19th May 2015 by Helen Scarborough (registered to use Natural England Class Licences WML-CL08 to survey great crested newts, WML-CL19 and WML-CL20 to survey bats; registration number CLS000487) and Celia Commowick.

During the initial appraisal of the site the protected species considered likely to occur on site were identified. These were:

- Bats
- Common bird species
- Schedule 1 bird species

This report details the methods used, describes the species found on the site, discusses the results and makes recommendations for further work. English names of higher plants are used throughout the text. Plant names are those used by Stace (2010).

There are records of great crested newt in the area, and the site occurs in close proximity (50m) to a small pond on the other side of the southern site boundary. The potential impacts on great crested newts were considered as part of the initial appraisal; however, due to the high level of disturbance by cattle and horses around the buildings, and the lack of suitable habitat (no areas of potential refuge/crumbling lower brickwork), it is highly unlikely that the development of the site will impact this species and the potential for a breach in the legislation which protects these species and their habitats is very low.

2 METHODS

2.1 Data search

Lincolnshire Environmental Records Centre (LERC) was consulted and commissioned to search for sites with statutory and non-statutory designation and records of protected species within 2km of the site.

2.2 Bats

Aided where necessary by the use of powerful torches, binoculars and ladders, a visual search was made of all accessible parts of the buildings where it was safe to do so. Where accessible, all undisturbed surfaces were inspected for evidence of past and present occupation by bats in the form of live animals, droppings, urine or fur staining around possible access points and roost areas, lack of cobwebs along beams, feeding remains such as moth wings or other insect parts and the bodily remains of bats (English Nature, 2004).

2.3 Birds

2.3.1 Common bird species

The survey site was searched for signs of use by nesting birds, typically old and active nests and concentrations of faecal deposits associated with a breeding site. All bird species recorded on site were noted.

2.3.2 Schedule 1 bird species

An inspection of the buildings on site was undertaken in order to check for signs of use by barn owl *Tyto alba* including faecal splashing and pellets.

2.4 Habitats and plant species

An extended ecological assessment survey was undertaken, not only to identify the habitats present on the survey site, but also to gather more detailed information on hedgerows and plant species on site, and to assess the potential of the surrounding habitat to support legally protected species.

3 SITE ASSESSMENT

3.1 Location and grid reference

The site comprises several outbuildings surrounded by pasture, located along Monument Road, Woodhall Spa, Lincolnshire – central grid reference TF195649.

The site is described below. Representative photographs are included in the text.

3.2 The outbuildings

The detached outbuildings comprise a single storey barn, constructed of solid brick walls supporting an open-void pitched timber roof covered with clay pantiles and felt underlining, divided into three sections by internal solid brick walls, with an open fronted section to the south of the building used for storage, an enclosed section in the middle used as a tack room, and an enclosed section to the north currently used as a stable. The barn has a single timber framed window with wooden hit and miss ventilator located in the stable. Adjoining the barn on the western elevation is a single-storey shelter constructed of a timber frame and pitched roof covered with corrugated metal sheeting. The shelter has no windows and is open on the northern elevation. It is currently being used as a cattle shelter.

Both outbuildings are in a reasonable state of repair, although there are some slipped/lifted tiles and substantial gaps in the felt lining of the barn roof, in the open fronted section and the tack room. Due to these gaps and the open fronted aspect of certain sections of the barn and shelter, the buildings are quite exposed and draughty. This factor, together with the lack of suitable niches and gaps suitable for roosting, means the buildings are considered to have negligible potential for bats. The barn may have moderate potential for barn owl roosting but lacks a suitable area for nesting.



Photograph 1: Exterior view of the barn



Photograph 2: Interior of the barn, showing gaps in the roof



Photograph 3: Exterior of the cattle shelter



Photograph 4: Interior of the cattle shelter

3.3 The pasture

The surrounding pasture is used as grazing for horses and cattle, and is dominated by perennial rye-grass *Lolium perenne*, annual meadow-grass *Poa annua* and cock's-foot *Dactylis glomerata* with nettle *Urtica dioica*, dock *Rumex sp.*, ribwort plantain *Plantago lanceolata*, greater plantain *Plantago major*, dandelion *Taraxacum sp.*, white clover *Trifolium repens*, brome *Bromus sp.*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, bramble *Rubus fruticosus agg.*, cow parsley *Anthriscus sylvestris*, ragwort *Senecio jacobaea*, nipplewort *Lapsana communis*, cleavers *Galium aparine*, rosebay willowherb *Chamerion angustifolium*, common chickweed *Stellaria media*, smooth sow-thistle *Sonchus oleraceus* and white dead-nettle *Lamium album*. Close to the buildings where the ground is not so disturbed are some less common plant species such as silverweed *Potentilla anserine*, common vetch *Vicia sativa* and Germander speedwell *Veronica chamaedrys*.

3.4 Site boundaries and surrounding habitats

The north boundary comprises barbed-wire fencing, with electric fencing along the west boundary, and managed hedgerows along the eastern and southern boundaries. To the east of the site lies the road.

Surrounding habitats are pasture and arable, with hedgerows and the gardens associated with the farm house.



Photograph 5: View to the north



Photograph 6: View to the west



Photograph 7: View to the south



Photograph 8: View to the east (on the far side of the road)



Figure 1: An aerial view of the site

4 RESULTS

4.1 Data search

The results of the data search show that there are no statutorily protected areas within 1km of the site. However, there are three local wildlife sites (LWS) within 1km as follows:

- Bracken Wood, Woodhall Spa
- Glen Lodge Meadow
- Woodhall Spa Wetland

There are also three sites of nature conservation interest (SNCI's) within 1km of the site. SNCI's are sites that have not yet been assessed according to LWS guidelines, and if certain formal criteria are met, they will be raised to LWS level.

- Glen Lodge Woodland
- Bracken Wood
- Halfmoon Spinney

The proposed development is considered unlikely to have a detrimental effect on the nature conservation interest of these non-statutory sites.

There is an ancient woodland site within 1km of the proposed site, and the priority habitats of lowland dry acid grassland, lowland meadows and lowland mixed deciduous woodland are also found within 2km of the site. However, the proposed works will not have an adverse impact on these areas.

Several records of protected species were given for within 2km of the development site, including great crested newt *Triturus cristatus*, water vole *Arvicola amphibious* and various bat species.

There were also records of 18 bird species with special designations from within 2km of the site, some of them are birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 and as amended).

Full details of all protected species records provided by LERC from within 2km of the site are presented in Tables 1 and 2.

Table 1: Protected amphibian and mammal records within 2km of the site

Species	Latin name	Number of records	Most recent record
great crested newt	<i>Triturus cristatus</i>	3	2006
brown long-eared bat	<i>Plecotus auritus</i>	4	2008
common pipistrelle	<i>Pipistrellus pipistrellus</i>	4	2008
Daubenton's bat	<i>Myotis daubentonii</i>	5	2008
noctule bat	<i>Nyctalus noctula</i>	1	2008
soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	1	2008
European water vole	<i>Arvicola amphibius</i>	3	2008

Table 2: Records of birds with special designations within 2km of the site

Species	Latin name	Number of records	Most recent record	Schedule 1 species	BoCC
whooper swan	<i>Cygnus cygnus</i>	3	2013		Amber
greylag goose	<i>Anser anser</i>	1	2003		Amber
marsh harrier	<i>Circus aeruginosus</i>	5	2013	Y	Amber
hen harrier	<i>Circus cyaneus</i>	2	2011	Y	Red
goshawk	<i>Accipiter gentilis</i>	1	2013	Y	Green

Species	Latin name	Number of records	Most recent record	Schedule 1 species	BoCC
merlin	<i>Falco columbarius</i>	2	2008	Y	Amber
hobby	<i>Falco subbuteo</i>	12	2013	Y	Green
peregrine	<i>Falco peregrinus</i>	3	2013	Y	Green
green sandpiper	<i>Tringa ochropus</i>	9	2013	Y	Amber
wood sandpiper	<i>Tringa glareola</i>	1	2013	Y	Amber
barn owl	<i>Tyto alba</i>	15	2012	Y	Amber
kingfisher	<i>Alcedo atthis</i>	6	2013	Y	Amber
wryneck	<i>Jynx torquilla</i>	3	2013	Y	Red
woodlark	<i>Lullula arborea</i>	1	2009	Y	Amber
fieldfare	<i>Turdus pilaris</i>	18	2013	Y	Red
redwing	<i>Turdus iliacus</i>	15	2013	Y	Red
brambling	<i>Fringilla montifringilla</i>	8	2013	Y	Green
common crossbill	<i>Loxia curvirostra</i>	3	2013	Y	Green

4.2 Bats

No evidence of the past or present occupation by bats was noted in the interior or exterior fabric of the buildings. The corrugated shelter had no suitable niches or gaps and was exposed and draughty, and the brick outbuilding also lacked niches/gaps and was draughty in many places due to the gaps in the roof. The potential for long term significant use by bats for both outbuildings was considered to be low due to lack of field signs and few available niches.

There were no trees with bat roost potential on the site.

4.3 Birds

4.3.1 Common bird species

A number of common birds were seen on or flying over the site during the survey. A total of three species were noted. These are listed below:

woodpigeon	<i>Columba palumbus</i>
swallow	<i>Hirundo rustica</i>
tree sparrow	<i>Passer montanus</i>

Active tree sparrow nests were in evidence between the pantiles and felt lining of the barn with birds congregating on the roof ridge, flying into the barn, adults carrying food items and vocalisations of young birds recorded.

4.3.2 Schedule 1 bird species

Evidence of barn owl was found in the open fronted section of the barn, with some faecal splashing, three old pellets and one recent barn owl pellet in evidence. There was no evidence of barn owls nesting in the building, and due to the small number of pellets found it is likely it is being used as an occasional roost site only.



Photograph 9: Faecal splashing



Photograph 10: Fresh barn owl pellet

4.4 Habitats and plant species

The habitats and plant species recorded on the site are common and widespread in the local area and in the country.

The plant species recorded on the site are not listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). No nationally rare or scarce plants as defined by Wigginton (1999) and Stewart *et al* (1994) respectively were found.

The hedgerows close to the site would not be classified as 'important' under the Hedgerow Regulations 1997.

5 DISCUSSION AND RECOMMENDATIONS

5.1 Bats

5.1.1 Legal protection

In England, Scotland and Wales, all bats are strictly protected under the Wildlife and

Countryside Act 1981 (and as amended); in England and Wales this legislation has been amended and strengthened by the Countryside and Rights of Way (CROW) Act 2000. Bats are also protected by European legislation; the EC Habitats Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 – often referred to as 'The Habitat Regs'. Taken together, all this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat
- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not.
- Damage or destroy the breeding or resting place of a bat
- Possess a bat (alive or dead) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost
- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

5.1.2 Recommendations

The survey indicates that the site is not used on a regular basis by roosting bats and has limited suitability for such use, and therefore no large scale mitigation is required ahead of work to redevelop the site and there is no requirement for a Natural England European Protected Species licence. No further survey work is needed and it is not considered necessary to work to a Method Statement. However as bats are present in the local area, it is recommended that precautions are taken to ensure bats are not disturbed during the development work. These precautions, together with suggestions for enhancing ecological diversity of the site are detailed below. Local Planning Authorities have an obligation to enhance biodiversity and ensure 'favourable conservation status' – the implementation of these measures will ensure legal compliance and ensure that obligations relating to biodiversity are fulfilled.

Precautionary working practices and enhancement measures for bats – Waterloo Farm, Woodhall Spa

- Ideally work should commence outside the main hibernation period i.e. before late October or after early April. This minimises the potential to disturb bats.

Scarborough Nixon Associates Ltd

Note: early spring or late autumn are good times to commence work to avoid conflicts between the bat hibernation season and the bird nesting season

- All contractors working on the building will be briefed on the legal protection afforded to bats and their places of shelter and on how to proceed if a bat is discovered during the course of the work. A procedure to follow in the unlikely event of discovering bats on site is given as Appendix 1.
- Install two bat roost units or bat boxes on new buildings within the development in order to create potential roost niches when the site is redeveloped. These should be placed on the northern and southern elevations respectively. Examples of bat roost units and bat boxes which could be used are given as Appendix 2.

5.2 Birds

5.2.1 Legal protection

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built
- Take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

5.2.2 Recommendations for common species

Since the site is used for nesting by species of common bird, any site development work should commence outside the active nesting season which typically runs from March through to late August. If work commences during the bird breeding season, a search for nests should be carried out before they begin, and active nests should be protected until the young fledge.

The site supports nesting tree sparrows. Erecting some terrace boxes for sparrow species would be good a conservation measure and it is strongly recommended that this forms the basis of a planning condition. Details of nest boxes/features for a range of bird species can be obtained from Wildcare, Eastgate House, Moreton Road, Longborough, Gloucestershire GL56 0QJ (01451 833181).

5.2.3 Recommendations for Schedule 1 species

As no evidence of breeding by barn owls or other Schedule 1 species was found, the planned works would not cause disturbance to a specially protected species and no further work is legally required, however the survey indicates that barn owls are using the barn for day roosting. Although not legally protected, such roosts are very important to the breeding success of a pair and the continual loss of such sites can have a detrimental effect on the local population. It is therefore recommended that at least one nest box/feature is erected for use by the owls to compensate for the eventual loss of the buildings. The type of provision and recommendations for location/installation are given below:

- Tree mounted boxes – no suitable locations occur on site.
- Pole mounted boxes – these can be difficult to erect but if used they are best placed along a hedgerow or tree line overlooking open countryside, for this site it would be recommended to place the box on the southern boundary facing south.
- Barn owl tower – (preferred option) a brick built structure which should be constructed to overlook open countryside, again the ideal location for this site would be on the site boundary.

Appendix 3 provides further details on some of these boxes/features. Further information about barn owl nest box designs and advice on installation can also be sourced from The Barn Owl Trust, Waterleat, Ashburton, Devon, TQ13 7HU (e-mail: info@barnowltrust.org.uk).

6 REFERENCES

Eaton M A et al 2009. *Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man*. British Birds 102, pp296-341.

Mitchell-Jones A J 2004. *Bat Mitigation Guidelines*. English Nature.

Mitchell-Jones A J and McLeish A P, 2004. *Bat workers manual*. Joint Nature Conservation Committee.

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APPENDIX 1

Procedure to follow in the event of finding bats on site

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Procedure to follow if bats are discovered during works

- If at any point during the works, bats are discovered then contractors must stop work immediately and telephone Scarborough Nixon Associates either Helen Scarborough on 01526 344726 or 07979833524 or Ian Nixon on 01205 723342 or 07833 674500.
- Scarborough Nixon Associates will either provide an appropriately licensed bat worker to the site or provide a member of staff who will liaise directly with Natural England. Actions will then be taken following advice given. This may include removal of bats, but only where direct written or verbal permission is gained from Natural England.
- Only when Natural England is satisfied that there is no further risk to bats will works recommence.
- Should it transpire that the operation being carried out is of more risk to bats than was originally thought, then works will be stopped until they can be supervised by an appropriately licensed bat worker.
- If a bat is found under a tile or any other aperture, works will stop immediately (as above). If the bat does not voluntarily fly out, then the aperture will be carefully covered over to protect the bat(s) from the elements, leaving a small gap for the bat to escape voluntarily. Any covering should be free from grease or other contaminants, and should not be a fibreglass-based material.
- Any injured bats should be gently placed in a secure ventilated box in a cool, quiet dark place (e.g. cardboard box with a sealed lid) by the contractor for the bat's protection whilst awaiting the arrival of the licensed person.

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APPENDIX 2

Bat roost units/boxes

3 Boxes for Bats

BAT ACCESS PANEL 1FE

This maintenance-free access panel can be installed in the outer skin of most cavity wall constructions due to its slim 80mm depth. The open rear also allows access into the building cavity so that bats can continue to use an existing roost space.

Size: 300x300x80mm
Weight: 7.8kg



BAT TUBE 1FR

The Bat Tube 1FR requires no maintenance or cleaning, the sloping entrance area allows droppings to simply fall out of the chamber. The 1FR mimics the cavities that species such as the pipistrelles favour and the wooden back panel helps maintain the optimum climatic conditions and also provides surface on which the bats can cling. The depth of this box (125mm) makes it ideal for use in 9" solid walls or where the outer skin of a property is of stone. The box can also be recessed into the wall and rendered over, just leaving the access section clear.

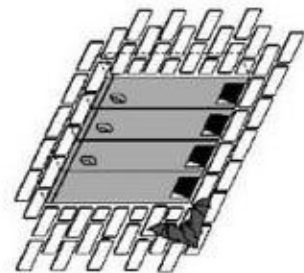
Size: 470x200x125mm
Weight: 9.5kg



BAT TUBE 2FR

This is a slightly updated version of the 1FR and several can be installed next to each other to create a larger roost. The tubes include an internal panel to increase the roost space and also an optional passage at the rear allowing access into existing cavities.

Size: 470x200x125mm
Weight: 9.5kg



BAT BRICK TYPE 27

The Type 27 Bat Brick is designed to be built into the structure of buildings and includes a removable front panel for monitoring purposes. An internal roughened wood panel increases the available roost space.

Size: 255x180x240
Weight: 9.5kg



BAT ROOST 1FQ

This is the latest in bat boxes. Designed to fit to the outside of buildings, the shape and design of the box make it equally attractive as a roost or nursery.

Size: 600x350x90mm
Weight: 15kgs

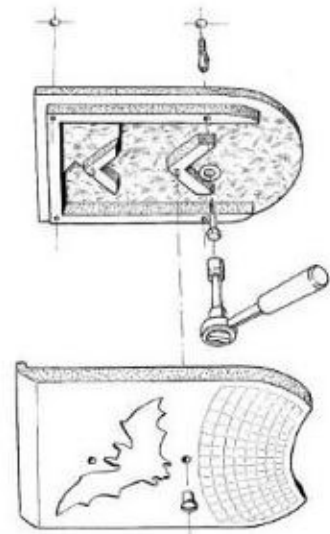


WINTER BAT ROOST 1WQ

Based on the successful 1FQ, this box has better insulation properties for use as a winter roost by bats

Size: 580x380x115
Weight: 21kg

Both of the above boxes are easily fixed to the outside of a building with two screws and a galvanised bracket as shown below.





contact numbers

sales office: 0202 903 4070
 design advice: 0819 903 4074
 technical services: 0820 303 4017
 literature and samples: 0870 903 4030

ideas into action
 eco habitats for bats



Features & Benefits

- Enclosed bat box (A & B)**
- Designed with the Ropplele Bat in mind
 - Available in all 3 UK types
 - Attractive motif
 - Durable home for bats
 - Load up bats
 - Several roosting areas are created inside the box
 - Bats are contained within the bat box roof
 - Maintenance free as the entrance is at the bottom
 - Ideal for new build & conservation work
- Free Access Option (C)**
- Durable Single Bat Brick
 - Easy to install
 - Allows bats to create a natural home habitat within the cavity of the building

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 eco habitats for bats



Eco Habitats for Bats - Technical Data A	
Size	120mm x 120mm x 120mm x 120mm
Durability	40/10 - 40/10 Free Access



Eco Habitats for Bats - Technical Data B	
Size	120mm x 120mm x 120mm x 120mm
Durability	40/10 - 40/10 Free Access



Eco Habitats for Bats - Technical Data C	
Size	120mm x 120mm
Durability	40/10 - 40/10 Free Access



CAVITY BAT ROOST

Wild-x

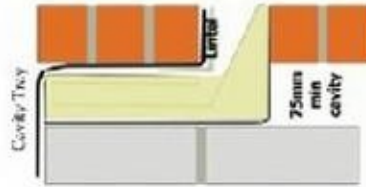


Dimensions
 A Height 440mm
 B Width 425mm
 C Depth (at base) 170mm

Weight:
 12kg

KEY FEATURES

- Incorporates into structures using standard face materials
- Supplied with ureth and DPM for the cavity tray
- Creates a permanent bat roost that cannot be removed by subsequent occupants
- Unobtrusive "pill-box" entrance makes little impact on building appearance
- Suitable for a wide range of bat species



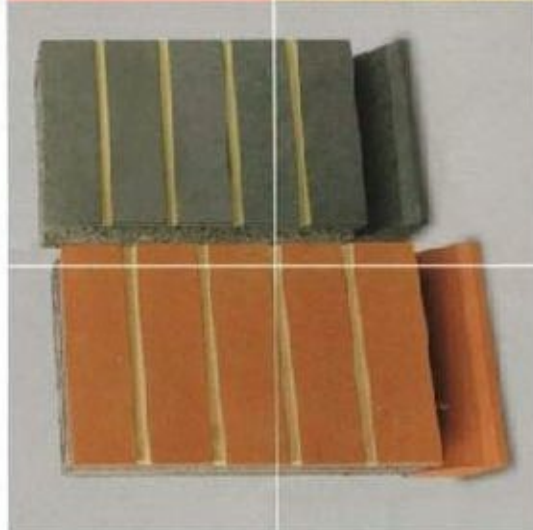
Distributor:



The entrance is 420mm wide by 60mm high which is basically the width of 2 normal house bricks. The gap at the top of the entrance ramp is approx. 20-22mm which is ideal for the smaller bat species.

Wienerberger
 Balfara Nabeo

Bat Boxes.
 To protect
 and conserve.



Wienerberger has worked to help us to further the conservation of our native bat species. Designed to assist bat boxes on the market, the Wienerberger bat box is larger and features an innovative entrance structure which makes installation to your building as simple as fitting a brick.

The bat box is designed to encourage bat roosts in a safe and secure location. It is made from high quality materials and is available in a range of colors to match your building.

It is a key part of our conservation strategy. The bat box is designed to protect bat colonies and their habitats. It is now being used in the UK for the first time. It is a large and secure bat conservation structure for your building project. Where bats may live.

Our bat boxes are made from high quality materials and are made to meet the requirements of the Code for Sustainable Homes.

Our bat boxes are currently available in a range of colors. Contact us to see the full range of colors available for your building project.

Further detailed information on Wienerberger bat boxes and bat conservation is available at www.brick.co.uk/batbox or contact Design Services on 0161 401 8000



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APPENDIX 3

Barn owl roosts/nest features

The Barn Owl Trust
 Waterleat, Ashkerton
 Devon TQ13 7HU
 Tel 01364 653026
 email info@barnowltrust.org.uk

Nestboxes for use on vertical tree trunks



LEAFLET No 2

Reg. Charity No 295835

This leaflet describes how to make and erect a Barn Owl nestbox suitable for erection on a vertical tree trunk. This box design can also be used on the outside wall of a building or on a tall pole, but this is not recommended unless there is no other option available.

The information includes plans, dimensions, materials and safety advice.

Suitability of the area

The Barn Owl is not a woodland bird. It hunts mainly by flying over areas of rough grassland, ditches, hedgerows, young tree plantations etc. that support a high population of small mammals. In areas with an abundance of food but a shortage of suitable sites, nestboxes can be of great benefit. They should always be placed in areas with some good Barn Owl habitat or they are unlikely to be used. For further information, see *Habitat Management* (leaflet no.1).

Most nestboxes for Barn Owls are provided within buildings; see *Nestboxes for use in Bams and other Buildings* (leaflet no.3). However, where a suitable location for an indoor box is not available, outdoor nestboxes are often the next-best option.

Construction

The basic box should be built using rot-resistant or treated sheet material. The Barn Owl Trust uses 9 of 12mm tanalised ($\frac{3}{8}$ "- $\frac{1}{2}$ "") softwood ply, 25 x 50mm (2" x 1") tanalised batten and 30mm (1 1/4") rust resistant screws. Please avoid using hardwood ply, unless it is stamped "FSC Approved". You may use any type of preservative on the box where tanalised ply is not available, but always follow the product instructions and **always ensure the box is completely dry before erection**. The dimensions are given as a guide, variations of + or -10% are quite acceptable.

The front of the box should have an access panel to enable nest debris to be cleared out periodically. Under the Wildlife and Countryside Act 1981, it is an offence to disturb breeding Barn Owls so nestboxes should only be cleaned out between November and January. The top of the box should be covered with heavy duty roofing felt and it is advisable to use a waterproof sealant in all the wood joints to increase weather protection. Do ensure that large drainage holes (20mm - 3/4" diameter) are drilled in the floor of the box. The front, back and sides **MUST** overhang the floor of the box.

Selecting a suitable tree

Having found a suitable area and gained the landowner's consent, you should carefully select the most suitable tree. Do not rush this. The success of your nestbox will depend partly on the size and shape of the tree, its position, and the position of the box when erected.

An isolated tree near an area of good habitat is ideal. Whenever possible, choose a tree with rough bark to enable owlets to climb back up to the box should they fall out. A tree on the outside of a copse is acceptable but avoid trees within woodland. Avoid siting your box within 1km (1/2 mile) of a dual-carriageway, motorway or similar modern road. If possible, choose a deciduous tree or a Scots Pine. Often there is no choice, but do have a good look around. Time spent in reconnaissance is seldom wasted.

The ideal tree is old and very big. Pick a tree where the box will be visible below the crown (twigs/leaves) of the tree so that Barn Owls can see it and can fly in and out from various directions without having to negotiate small branches in the dark. Old Oak trees and Scots Pines are particularly accommodating in this respect.

If ivy is growing on the tree, it will probably obscure the entrance hole to the box within a few years. Anything that makes the hole less visible will reduce the chances of the box being used.

Old-style boxes with a low entrance (such as that shown in leaflet no. 4) must be situated within the branches of the tree. The box design in this leaflet (with the entrance hole high above the nest level) has a number of advantages over the low entrance boxes, as they can be attached either within the tree branches or on the side of a vertical tree trunk.

The main advantage of the box described in this leaflet is that it's fairly difficult for the young to get out. This reduces the chances of them falling from the box before they can fly and dying as a result of neglect or predation.

Another advantage of this style of box over some other designs, is that it provides an exercise area outside the box for the young and the flat roof allows the young to hop from the tray to the roof and then to the tree to exercise, and the reverse if they fall and need to climb back up. Many nestbox designs are impossible for the young to get back into unless they are already able to fly.

Siting the nestbox

Having found an area of good habitat and a suitable tree for your box, again take your time in deciding where in the tree you are going to put it. Several factors need to be considered. The box must face open ground so that the entrance hole is obvious to a passing owl. Do not hide it behind the tree - if the hole cannot be seen the box is unlikely to be used. Try to avoid facing the entrance into the prevailing wind and rain. Generally this means avoiding the west or south-west. South-east is generally a good direction. If you have no option but to face the entrance to the west/south-west, try to find another tree!

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Barn Owls have used hollows entered from the top of the trunk down to ground level, so from the owl's point of view height may not be very important. However, an important consideration is that the nestbox is safe from interference by man. If a ladder is required in order to reach the box this will help deter the inquisitive passer-by. A height in the region of 4.5-7 metres (14'-24') may be achieved depending on the tree concerned. It is a good idea to ensure that, when erected, the box is slightly lower at the front. This will help prevent rain water splashing in through the entrance hole.

Although young Barn Owls do not start to fly until eight weeks old, they begin to walk at only three weeks. There is often an age difference of two weeks between the oldest and the youngest owlet. As the oldest ones become more and more mobile they emerge from the nestbox to stretch, flap their wings and attempt short flights within the tree. It is at this stage that an owlet is most likely to fall to the ground. The chances of this can be reduced by positioning the box so that the owlet can jump easily from the tray or roof of the box into nearby branches. The box may need to be inspected or cleaned out in future so position the box so that this can be done safely.

Erecting the box

An outdoor box is quite heavy to lift single-handed and using ladders is potentially dangerous. The most important thing when erecting the box is your own safety (for which you are responsible). Please do not work alone and consider using two ladders. Tanalised 50mm x 50mm (2"x2") timber and galvanised nails can be used to secure the box; often this is the only practical option. Alternatively you can drill holes and use nylon bolts.

A piece of tanalised timber 50mm x 50mm x 750mm (2" x 2" x 30") should be attached to the trunk of the tree, making sure that it is level and **VERY** secure. This should have 'hooks' made out of 25mm x 50mm (1" x 2") tanalised timber attached to each end. These should be approximately 75mm (3") long and the top 25mm (1") will protrude above the top of the ends of the 50mm x 50mm timber (see diagram). The purpose of this is to enable the box to be placed so that it is held in place by the hooks, allowing the person erecting the box to have both hands free whilst attaching it.

A second piece of 50mm x 50mm tanalised timber should be attached **firmly** to the back of the box approximately 200mm (8") from the top (see diagram). This should be attached from the inside of the box through to the timber, not through the timber into the box. This joint will take all the weight of the box so it needs to be very secure. The piece that is attached to the box will rest on the piece that is attached to the tree. Holes should be drilled to enable the two pieces to be nailed or screwed together when the box is in position. Bear in mind that it will be difficult to get at some parts of the timber to hammer or screw once the box is in position so drill the holes close to each end.

Safety

Before you erect your nestbox take time to consider the hazards you might face and what steps you could take to minimise the risks. Hazards might include an injury at a remote location; falling from a ladder; injury from heavy

lifting; dropping a nestbox onto another person; or poor positioning of a box resulting in additional hazards for anyone monitoring the box at a later date. The following are examples of precautions you should take to reduce the risks:

- 1 Ideally take a companion. If erecting your nestbox at an isolated site alone, let someone know where you are going and when you expect to be back before you set off. Carry a mobile phone if you have one.
- 2 Time spent in reconnaissance and preparation is seldom wasted. Never carry a box up into position until all preparatory work is complete. Double-check your measuring to confirm that the box will fit.
- 3 Ensure that your ladder is secure before climbing it. If possible tie it off at the top and bottom before climbing up with a nestbox.
- 4 Avoid over-reaching - never attempt to carry out any task up a ladder if you cannot reach comfortably.
- 5 When planning how to position, support and fix a nestbox, try to create a situation where the box can rest in position without being held. This will allow you to have both hands free to fix it safely.
- 6 When carrying a nestbox up a ladder, ensure that it is kept low relative to your body (ideally not above waist height). This will keep your centre of gravity down. Try to keep the box in front of both you and the ladder so that it pulls you towards the ladder - never hold a nestbox behind or above you.
- 7 You are responsible for your own safety - assess all the risks and be careful.

Nestboxes on poles

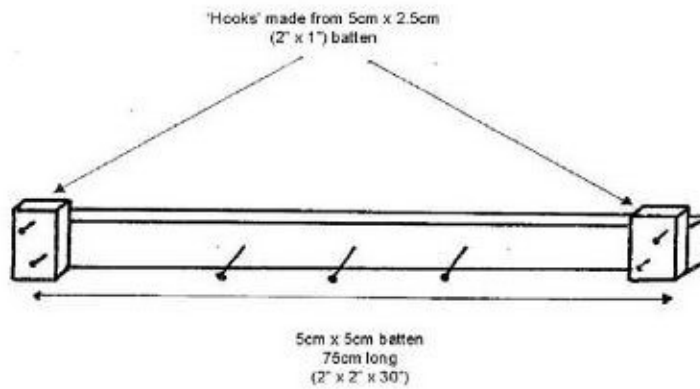
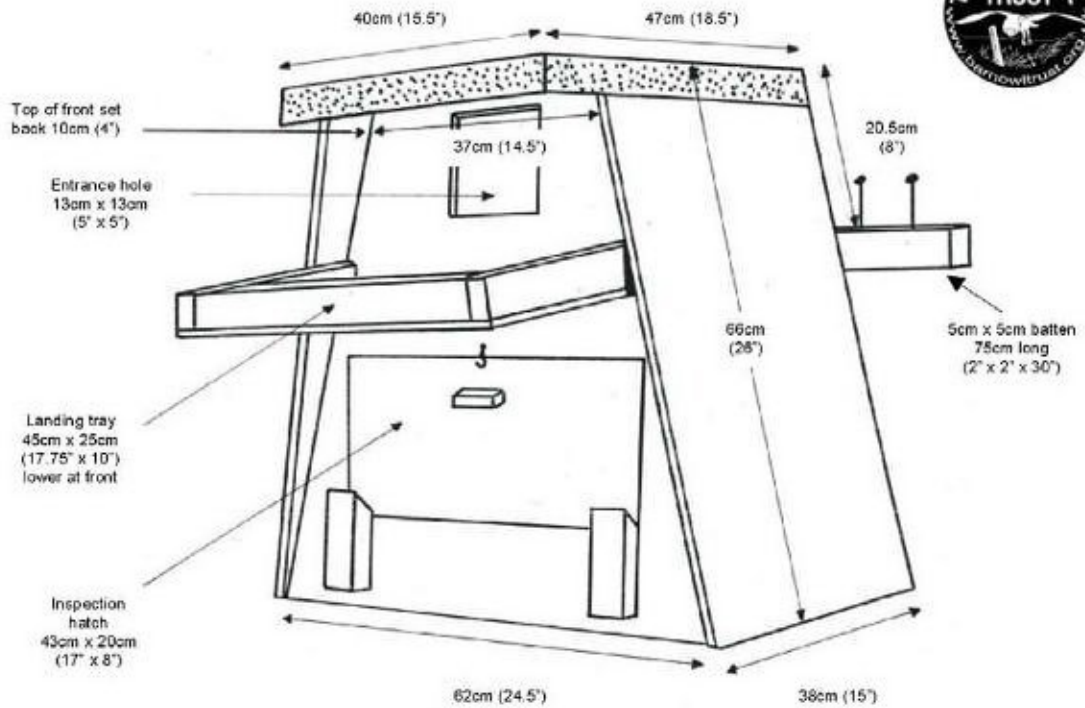
In areas with plenty of good habitat but no suitable trees or buildings it is possible to provide boxes on poles. It is illegal (and dangerous) to erect a box on an operational telegraph/electricity pole without the express permission of the pole owner. Erecting your own pole is a lot of work and can be expensive. With this type of project the boxes used are normally much bigger and of an entirely different design incorporating two separate cavities in one box.

Occupation by other species

The outdoor box described in this leaflet is designed specifically for Barn Owls but it is possible that jackdaws, stock doves, tawny owls, little owls or some other species could use it. Jackdaws can be a problem in some areas as they tend to take over all available sites, and can fill boxes with sticks. These should be cleaned out before the following February.

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Erecting your nestbox

LEAFLET No 45



Reg. Charity No 299 835

This leaflet provides information on how and where to place Barn Owl nestboxes, including advice on trees, buildings and safety.

Good Barn Owl habitat

Nestboxes are best placed close to areas of good habitat. Food supply and therefore habitat is one of the main factors governing Barn Owl numbers. The best habitat for Barn Owls is rough grassland supporting a high Field Vole population. Damp, tussocky grassland in fallow or lightly grazed pasture is ideal. Ditch sides, hedge banks, young tree plantations, forest rides and (unfortunately) roadside verges and railway embankments are often good hunting grounds. Some areas are good at certain times of year, such as hay meadows in summer.

The creation of new woodlands is beneficial to Barn Owls in the short term due to the rough grass which develops between the new plantings. However, some benefit is lost as the trees grow. The Barn Owl is not a woodland bird, so don't put your box in a wood.

Where do Barn Owls roost and breed?

Barn Owls will use both isolated buildings and barns in busy yards. The ideal building will have access high above the ground, have a level place for egg-laying and afford good shelter. Most modern barns are unsuitable for Barn Owls unless a nestbox is installed. Many traditional barns are also far from ideal and Barn Owls will benefit from a nestbox.

Tree hollows are also used by Barn Owls. Boxes can be placed in trees, but outdoor boxes are more likely to be used by other species than those in buildings. Barn Owls look for holes not boxes - when making an entry into a building or positioning a nestbox in a tree, make sure the hole is visible to any passing owl.

Privacy

Barn Owls like to roost out of sight of humans and are much less inclined to be flushed from a building if they have a box to hide in (it is amazing how much "disturbance" Barn Owls will tolerate at sites with a suitable nestbox). Almost any tall rural building can become an ideal roosting and nesting site when a nestbox is provided.

PLEASE NOTE that it is illegal to disturb wild Barn Owls whilst they are breeding. It is not even permitted for the provider of the nestbox or the site owner to look in a nest unless they have a current nest inspection licence (see *Safeguarding Wild Sites* leaflet no 28).

Positioning an indoor nestbox

1. Fix it up as high as possible; however, remember that fully enclosed modern barns with little ventilation can become very hot in fine weather - in this type of building the box should be placed below the apex but at least 3 metres above ground level. Bear in mind that you also need to place the box to allow removal of the lid.
2. Position the box so that an owl coming into the building using the most likely entrance will see the entrance hole and have an easy flight path to it.
3. If possible, position the box so that emerging nestlings can walk on beams or other flat surfaces.
4. Consider your own safety (for which you are responsible). Try to position the box where it can be easily and safely inspected at a later date.
5. The box must stay totally dry if it is to last for years.
6. It is generally best to avoid placing boxes within 1 km (½ mile) of a motorway, dual-carriageway or other modern A road with rough grass verges (due to the high risk of road mortality).
7. Avoid buildings subject to irregular loud disturbance, for example sheds used for night-time lambing in January/February are less favoured. Bales stores, covered yards, silage stores are normally OK.
8. For hygiene reasons avoid buildings used for grain storage.

There is no need to line the nestbox. The eggs are normally laid on a layer of the birds' own pellet debris which is a wonderfully absorbent material - much better than anything people can provide!

Permanent access into the building for the owls is obviously essential. If there is no hole you can create one using the following guidelines:

1. Make the entrance hole about 12cm (5") wide x 25cm (10") high (minimum 4" x 6").
2. The hole should be at least 3 metres (10 feet) up and as visible as possible to any passing owl rather than screened by trees or other buildings.
3. When making access into an attic of an occupied dwelling or barn undergoing conversion please refer to *Barn Conversions* (leaflet no. 22) or our booklet *Barn Owls On Site - A Guide for Developers and Planners*.
4. In the case of an occupied house, converted barn or busy farmyard, the entrance hole into the building should, if possible, be situated on the side of the building with the least disturbance, with direct access to an open area of good habitat. Avoid facing the entrance hole into the prevailing wind.

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Positioning an outdoor nestbox

1. Carefully select the best tree. A large, old and isolated tree near an area of good habitat is ideal. Choose a tree that has little or no foliage in the lower part so that the box entrance is very likely to be noticed by any passing owl (rather than screened by foliage).
2. Try to avoid facing the box west or southwest (avoiding the prevailing wind and rain).
3. Place the box so as to deter interference by inquisitive passers-by. A height of 4.5-7 metres (14'-24') may be achieved depending on the tree concerned.
4. Ensure that, when erected, the box is slightly lower at the front. This will help prevent rain water running or splashing in through the entrance hole.
5. It is preferable for the nestbox to be within the body of a rough-barked tree so that any nestlings that fall down have a better chance of being able to climb up and get back inside. Bear in mind that the box may need to be inspected or cleaned out in future so position the box so that this can be done safely.
6. It is generally best to avoid placing boxes within 1km (½ mile) of a motorway, dual-carriageway or other modern A road.
7. Tanalised 50 x 50mm (2" x 2") timber and galvanised nails can be used to secure the box. If you don't wish to nail into the tree you can try lashing timber onto the tree using rot-proof cord and nailing the box to that. Alternatively, you can drill holes and use nylon bolts.

What are the chances of my box being used?

This depends upon what is limiting the species in your area. If there is an ample food supply but a shortage of suitable roosting and breeding sites then your box could be occupied very quickly. Conversely, if there are plenty of potential sites but a severe shortage of food then your box may never be used. Providing that habitat in your area is reasonably good or there is potential for improvement in the future it is always worth erecting a box. If you own land, think about creating Barn Owl habitat yourself. Habitat in any area may well improve in years to come as public demand leads to more wildlife-friendly food production.

Safety

Before you erect your nestbox take time to consider the hazards you might face and what steps you could take to minimise the risks. Hazards might include an injury at a remote location; falling from a ladder; masonry falling from unsound buildings; injury from heavy lifting; dropping a nestbox onto another person; or poor positioning of a box resulting in additional hazards for others using the building or monitoring the box at a later date.

The following are examples of precautions you should take to reduce the risk of accident.

1. If possible take a companion. However if erecting your nestbox at an isolated site on your own, let someone know where you are going and when you expect to be back before you set off. Carry a mobile phone if you have one
2. Time spent in preparation is seldom wasted. Never carry a box up into position until all necessary preparatory work is complete. Double-check your measuring to confirm that the box will fit
3. Ensure that your ladder is secure before climbing it. If possible tie it off at the bottom and always tie the top before ascending with your nestbox
4. Avoid over-reaching - never attempt to carry out any task up a ladder if you cannot reach comfortably
5. When planning how to position, support and fix a nestbox, try to create a situation where the box can rest in position without being held. This will allow you to have both hands free to fix it safely
6. When carrying a nestbox up a ladder, ensure that it is kept low relative to your body (ideally not above waist height). This will keep your centre of gravity down. Try to keep the box in front of both you and the ladder so that it pulls you towards the ladder - never hold a nestbox behind or above you
7. You are responsible for your own safety - assess the risks and be careful.

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