Protected Species Survey of Farm Buildings off Church Lane, Lutton, Spalding, Lincolnshire PE12 9NU

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Report Prepared by Andrew Chick

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1 INTRODUCTION

Independent Ecologist and Protected Species Consultant, Andrew Chick MPhil, was commissioned by Mr T. Baker to undertake a protected species survey of farm buildings off Church Lane, Lutton, Spalding, Lincolnshire PE12 9NU. The survey is required in connection with a future planning application with South Holland District Council.

This report details the methods used, describes the habitats and species found on the site, discusses the results and makes recommendations for further work. The common English names are used for all species referred to throughout the text. The Latin name is also given following the common name the first time the species is referred to.

1.1 Accurate lifespan of ecological data

The majority of ecological data remains valid for only short periods of time due to the inherently transient nature of the subject. Where the species/group being surveyed for is present within the site, the data is considered to be accurate for two years. However, an update may be needed in order to obtain a European Protected Species licence, if such a licence is required. Where absent, although the data is considered accurate for two years, an update may be required if the habitats surrounding the site are of a quality that are likely to encourage the species to move into the site in the interim.

2 SITE DESCRIPTION

2.1 Site communities and habitats

The survey site is situated on the northern edge of the village of Lutton, approximately 2.5 km north of Long Sutton at National Grid Reference (NGR) TF 432 256. The site is a former farmyard containing two large steel framed agricultural buildings which at the time of the survey were empty and had not been used for a number of years.

The immediate plot of land surrounding the survey buildings is currently unmanaged and primarily consists of coarse grasses and rank perennial herbs, as well as areas of compacted hard standing and areas of brambles *Rubus fruticosus agg*. There are a number of self-seeded and sapling trees including alder *Alnus glutinosa*, silver birch *Betula pendula* and sycamore *Acer pseudoplatanus*. Within the site is a single Leyland Cypress *X Cuprocyparis leylandii* and a cultivated evergreen shrub possibly *Photinia spp.*

The extended site also contains a shallow winter-filled drainage ditch which runs along the western edge of the site. A general site location is given in Appendix 1 as Figure 1 and shows the approximate survey boundary (marked with a red line).

2.2 Survey buildings

The site contains two modern agricultural buildings which are described separately below:



Photograph 1: Representative views of Building 1 (left) and Building 2 (right).

2.3 Survey Building 1

A large modern agricultural building constructed in three elements. The central element consists of an open shed with lower walls that are constructed from solid brick, supporting a metal framed roof that is clad with corrugated fibre cement boarding. The building is open to the apex, with no roof voids and no form of underlining. There are eight large Perspex skylights, creating high levels of ambient light within the building. At the southern gable end is a large access door with is generally kept open allowing wildlife (bats and birds) general access into the building.



Photograph 2: Representative images showing the internal roof structure of the central element of Building 1.

On the eastern elevation of the main central element is an open-fronted lean-to of similar design. On the western elevation is a large open fronted livestock building, with solid brick walls. The floor surfaces of both sections are covered with a dense carpet of common ivy. Associated with the western elevation of the building is a solid brick wall which is assumed to be part of an older farm buildings located on the site.



Photograph 3: Representative images of Building 1, showing western open-fronted section (left) and the eastern open-fronted lean-to (right).

2.4 Survey Building 2

A modern steel-framed agricultural building constructed of pressed steel sheeting, with corrugated fibre cement boarding at eaves level. The building is constructed from a metal frame and supports a pitched roof clad in corrugated fibre cement sheeting. The building is open to the apex, with no roof voids and no form of underlining. At the ridge apex, fine metal mesh has been fitted to prevent access into the building by birds. Internally, the building contains a number of large metal grain silos and grain handling equipment. There are large metal doors on the northern elevation, which are normally kept closed and locked. Externally, there are large growths of common ivy at all corners and at the exposed stanchions.



Photograph 4: Representative images of Building 2, showing internal roof structure and the metal grain silos.

2.5 Associated buildings and surrounding habitats

Immediately south of the site is the church of St Nicholas, a large traditional brick built church with clay tiles and lead roof coverings. To the north of the site is an open landscape of intensively farmed arable agriculture, with numerous drainage ditches and a general lack of mature hedgerows and mature trees.



Photograph 5: Representative views of the nearby church (left) and track leading north to open farmland (right).

2.6 Survey constraints

There were no constraints to the survey, with full access available to the buildings and the survey site. The dense areas of ivy (engulfing some parts of the buildings) and some brambles around the building prevented a detailed inspection of small sections of the site.

2.7 Proposed work

The proposed work entails the demolition of both buildings and the construction of a single dwelling.

3 METHODS

The site was surveyed on 29th March 2016 by Andrew Chick (Natural England bat licence number 2015-15161-CLS-CLS and 2015-15162-CLS-CLS (Class 1 & 2) and great crested newt licence number 2015-8470-CLS-CLS). All habitats and plant communities within and adjacent to the site were recorded and mapped. Representative photographs were taken.

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

- Bats
- Common species of birds
- Schedule 1 Species of bird – Barn Owls
- Badgers

The methods used to survey for these species are detailed below.

3.1 Data search

The NBN (National Biodiversity Network) Gateway website was consulted to check for records of protected species from the area.

3.2 Bats

Aided where necessary by the use of a powerful torch ('Clulite CB2' 1,000,000 candlepower) and ladders, a visual search was made internally and externally of all cracks and fissures in the walls and the undersides of the roofs of all structures on site for bats. Where accessible, all undisturbed surfaces were inspected for evidence of past and present occupation by bats in the form of: droppings, urine or fur staining, feeding remains, scratch marks and the bodily remains of bats.

3.2.1 Bat activity survey

A bat activity and emergence survey could not be carried out as late-March is outside of the bat active season (which runs from April until late-September). During the colder months of the year bats spend their time in hibernation, with intermittent activity coinciding with milder weather.

3.3 Common species of birds

All habitats were assessed for their potential to support nesting birds. All bird species seen or heard were noted. All disused and active nests were recorded.

3.4 Schedule 1 species of birds (Barn Owls)

An inspection was made of the buildings for the presence of barn owls and the signs indicative of their past or present use. These signs include:

- Regurgitated pellets
- Faecal deposits
- Feathers
- Discarded prey items

The places that could potentially be used as breeding locations, including roof voids and horizontal surfaces at first floor level, were also checked for any signs of current or former nesting attempts. These signs included brooding adult birds, concentrations of accumulated flattened pellet nest debris, faecal encrustation, eggs or eggshell remains, surplus prey items, bodily remains of chicks or infant down feathers.

3.5 Badgers

The survey site and within a 30m distance of the survey site boundary were searched for signs of the presence of badger setts, footprints, padways, feeding signs and latrines.

3.6 Other statutorily protected species

As part of the extended walkover of the site and its environs, a search for signs of use by other statutorily protected species was also undertaken. Particular attention was focused on the habitats and plants and the presence of any ponds.

4 RESULTS

4.1 Data search

The National Biodiversity Network (NBN) www.nbn.org.uk was searched for records of protected species within the 10km OS grid square TF42. The church located to the south of the survey site is known to support roosting bats including common pipistrelle *Pipistrellus pipistrellus* and brown long-eared bats *Plecotus auritus* (Lincolnshire Bat Group, *pers. Comm*). The local area is known to support breeding barn owls (Lincolnshire Birc Club, *pers. Comm*).

4.2 Habitats and plant species

The habitat types and plant species recorded within the site during the survey on 29th March 2016 are common in the local context and the region as a whole, with no plants of local importance or significance found. None of the plant species recorded on site appear on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended).

There are a small number of self-seeded sapling and semi-mature trees, particularly associated with the southwest corner of the site.

A list of botanical species recorded on site on 29th March 2016 is given below:

Acer pseudoplatanus	Sycamore
Alnus glutinosa	Alder
Anthriscus sylvestris	Cow Parsley
Arrhenatherum elatius	False Oat-grass
Bellis perennis	Daisy
Betula pendula	Silver Birch
Buddleja davidii	Butterfly-bush
Cardamine hirsuta	Hairy Bitter-cress
Chamerion angustifolium	Rosebay Willowherb
Cirsium arvense	Creeping Thistle
Cirsium vulgare	Spear Thistle
Crataegus monogyna	Hawthorn
X Cuprocyparis leylandii	Leyland Cypress
Dactylis glomerata	Cock's-foot
Epilobium spp..	Willowherb
Erophila verna	Common Whitlowgrass
Euphorbia peplus	Petty Spurge
Festuca rubra	Red Fescue

Galium aparine	Cleavers
Geranium robertianum	Herb-Robert
Hedera helix	Common Ivy
Heracleum sphondylium	Hogweed
Lamium album	White Dead-nettle
Lamium purpureum	Red Dead-nettle
Lonicera periclymenum	Honeysuckle
Narcissus spp..	daffodils
Plantago lanceolata	Ribwort Plantain
Ranunculus repens	Creeping Buttercup
Rosa canina	Dog-rose
Rumex obtusifolius	Broad-leaved Dock
Salix spp..	Sallow
Sambucus nigra	Elder
Senecio jacobaea	Common Ragwort
Taraxacum officinale agg.	Dandelion
Taxus baccata	Yew (self-seeded sapling)
Veronica persica	Common Field-speedwell

4.3 Bats

No bats or signs of bats were found in the survey buildings. **The construction and fabric of the buildings was considered to offer limited potential to support roosting bats.**

The survey site is considered likely to be used generally for foraging by bats. Roosting by bats is additionally likely to occur in the surrounding buildings (particularly the nearby church) given the presence of moderate feeding habitat in the form of open countryside. No assessment was made for the presence of any foraging bats as March is outside of the bat active season (which occurs between April and late-September). During the colder months of the year bats spend their time in hibernation, with only intermittent activity coinciding with milder weather.

4.4 Birds

A typical assemblage of common British birds was recorded on the site and in the immediate environs of the site. A total of 8 species were noted; these are listed below:

English Name	**Latin Name**
Woodpigeon	*Columba palumbus*
Jackdaw	*Corvus monedula*
Wren	*Troglodytes troglodytes*
Blackbird	*Turdus merula*
Robin	*Erithacus rubecula*
Dunnock	*Prunella modularis*
Chaffinch	*Fringilla coelebs*
Goldfinch	*Carduelis carduelis*

Old nests of feral pigeon were found in the main element of Building 1. No active nests were located during the survey work undertaken on 29th March 2016. Areas of thick brambles and rough grassland are found within and adjacent to the site, providing suitable nesting and foraging habitat for breeding birds.

Schedule 1 species of birds (Barn Owls)

No barn owls were seen during the course of the daylight survey, but low-level evidence of recent roosting by this species was found throughout parts of Building 1 - in the form of pellets (numbering c10-15), three areas of faecal deposits and a single discarded feather.

Pellet age varied from those that were completely degraded and in excess of a year in age to others that were less than a few month old, no totally fresh pellets were found.



Photograph 6: Representative view of faecal splashing on the floor below a metal beam (left) and small concentrations of barn owl pellets (right) within Building 1.



Photograph 7: Representative view of barn owl feather (left) and area of faecal splashing of floor within open fronted section of Building 1.

A full inspection found no suitable location for barn owls to breed within the buildings.

4.5 Badgers

No evidence of badger was found within the actual survey area. There were some tracks in the rough grassland, which may be attributed to badger, but may also be the grazing animals within the site. Evidence of both rabbit *Oryctolagus cuniculus* and muntjac deer *Muntiacus reevesi* were found onsite during survey work on 29th March 2016. No setts were found within the survey area, and none were found in the land adjacent.

4.6 Other statutorily protected species

No ponds were found in the immediate environs of the survey site. No ponds were located on the local Ordnance Survey 1: 25 000 scale map.

If the proposed development involves disturbance only within the current buildings and hard standing then no further survey is considered necessary. Given all of these findings, overall the potential for other statutorily protected species likely to be affected by the development is considered to be very low and no further work is recommended.

5 DISCUSSION AND RECOMMENDATIONS

All recommendations provided in this section are based on the current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

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 search of all of the internal areas and the exterior of the two buildings recorded no evidence of bat activity in any area. The buildings are exposed and well-lit which reduces the potential for a significant long term bat roost to occur within them. There were very few features which were considered to offer any potential for use by bats in the buildings. Consequently, it is considered that no mitigation is required ahead of work to redevelop the buildings and there is no requirement for a Natural England European Protected Species licence. With respect to these buildings, no further survey work is considered necessary and it is not considered necessary to work to a Method Statement.

The survey results indicate that the buildings are not key to the overall conservation status of bats in the local area and the development of the buildings would not alter the ability of bats to survive and reproduce; therefore there is no constraint on the development of the buildings and no requirements for any mitigation or further survey work. The 'ecological functionality' of bats in the local area will not be adversely affected by the development of the survey buildings.

Bats can occupy the smallest of spaces which cannot easily be inspected. It is recommended, as a **precaution,** that all contractors are warned of the possibility of finding bats and informed that they must stop work at once if they see bats or suspect that they are present. A procedure to follow in the unlikely event of finding a bat is given as Appendix 2.

Further, given that it was possible to survey the entire structure in fine detail, it was considered that there should be no requirement for any further survey effort, in the form of dusk emergence or dawn re-entry surveys, as these would not reveal any additional information of significance.

5.1.3 Recommended conservation measures

Bat populations generally have declined greatly over the last fifty years, so measures to incorporate potential roost niches into the building during development work could be of great benefit. The installation of features such as bat bricks and bat roost units or bat boxes during the development work could be of benefit to the conservation status of bats in the local area. There is no legal obligation to incorporate such features and there is no requirement for mitigation; however such provision would be of great benefit to local bat populations. Examples of roost units which could be used are given as Appendix 2.

Local Planning Authorities have an obligation to enhance ecological diversity and ensure no nett loss to biodiversity through the planning system. The provision of features for bats would ensure that this obligation is fulfilled. Such provision often forms the basis of a planning condition.

5.1.4 Recommendations - lighting

The ecological effect of artificial lighting in the countryside is a topic of increasing concern. Recent estimates have shown a 24% increase in light pollution in the UK between 1993 and 2000.

Lighting schemes can damage bat foraging habitat directly through loss of land and fragmentation, or indirectly by severing commuting routes from roosts. With the known bat roost within the church, it is important that any lighting does not affect bats leaving the roost and foraging close to the site.

It is recommended that any proposed lighting on site is placed as far from the boundary as possible, and that light spillage onto the surrounding landscape is avoided by using shields to direct the light. The impact on bats can be minimised by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps. The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. **A sensor should also be used, to provide some dark periods on site.**

5.2 Badgers

5.2.1 Legal protection

Badgers are legally protected under The Protection of Badgers Act 1992.
Under this piece of legislation it is an offence:

- To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
- To recklessly or deliberately interfere with a sett by damaging or destroying it;
- To recklessly or deliberately obstruct access to, or any entrance of, a badger sett;
- To disturb a badger when it is occupying its sett.

A badger sett is defined in the legislation as ‘any structure or place which displays signs of current use by a badger’. If a sett is clearly unused and has been so for a period of 12 months or more then it can be considered disused and it falls outwith the Protection of Badgers Act 1992.

Any sett disturbance/destruction must only be carried out under licence from Natural England, the Statutory Nature Conservation Organisation.

5.2.2 Requirement for further work

No badger setts or field signs were found on the site or within 30m of the survey site. No further survey work or specific mitigation will be required.

However, it is considered that badgers are likely to be present within the vicinity of the survey site, with the potential to be attracted to forage over the grassland to the rear of the site for earthworms, their primary food source. Therefore, good working practices should be adhered to during any future development work, with any trenches covered overnight and any pipes over 200mm in diameter capped off at night.

5.3 Birds

5.3.1 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.

5.3.2 Recommendations

Since the building is clearly used for nesting by species of common birds, any future redevelopment building work should ideally avoid the active nesting season. If work commences during the bird breeding season, a search for nests should be carried out before commencing work, and active nests should be protected until the young fledge.

To minimise any potential impact or disturbance to protected breeding birds, any site clearance (including the removal of the brambles and common ivy on the buildings) should be undertaken outside the bird breeding season, i.e. from late-August and be completed by March. If work is to be carried out in the breeding season then work will have to stop if breeding birds are found to be present.

5.3.3 Conservation measures – Barn Owls

The local area is known to support breeding barn owls although none were found on site during the March 2016 survey. The survey buildings have been used as a day roost by this species, but have no features that could potentially be used by barn owls for breeding.

Incorporating a barn owl nest box within the proposed development would be a positive conservation recommendation. Images showing different designs and methods are given in Appendix 4.

5.4 Enhancement recommendations

5.4.1 Habitat creation

Habitat creation could be carried out to compensate for the works and to enhance the site for nature conservation and wildlife. In particular BAP Priority Habitats should be considered. It is important that ecological 'corridors' are maintained along the site boundaries. Habitat creation could include planting of native species-rich hedgerows along the boundaries. A list of suitable native species for planting and sowing is provided in Appendix 3.

For the proposed habitats to provide some compensation for the works it is essential that native species suitable to the local area are used for planting and that they are designed to maximise their wildlife potential.

6 REFERENCES

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APPENDIX 1

FIGURE 1 Site habitat and location map

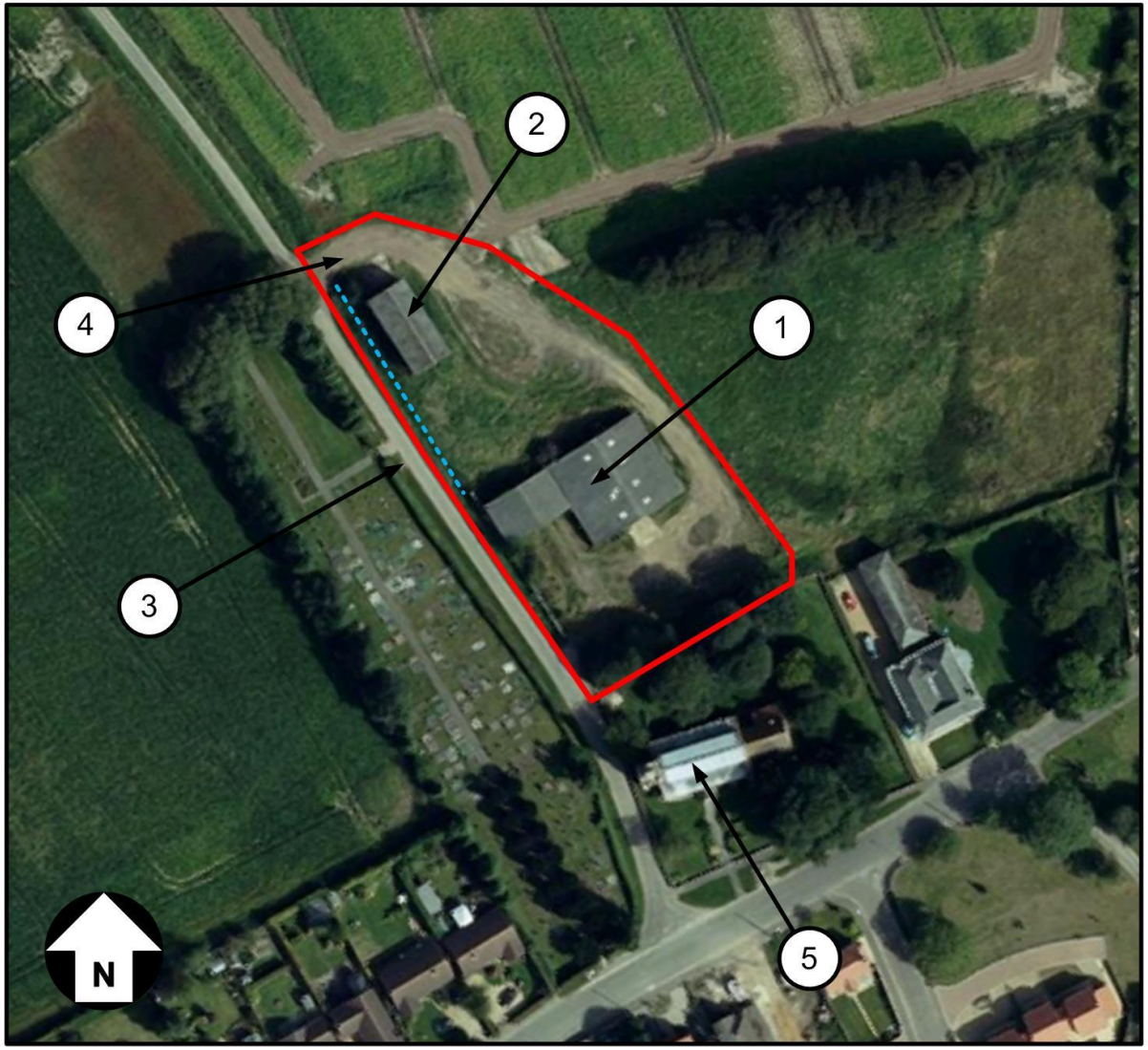


Figure 1. Site location and habitats

Key

Buildings

1 Building 1
2 Building 2

3 Church lane
4 Site entrance
5 Church (St Nicholas)

Approx. survey boundary

0 25 50

metres

Drawn by APC, 30th March 2016

Underlying image - Mapdata
Copyright © 2016 Google Earth

APPENDIX 2

Procedure to follow if bats are discovered during works

- If at any point during the works, bats are discovered then contractors must immediately stop work in the relevant area concerned and telephone Andrew Chick 0788 0700313.

- An appropriately licensed bat worker 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 in 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 while wearing gloves for the bat's protection whilst awaiting the arrival of the licensed person.

APPENDIX 3

Native Species Suitable for Planting and Sowing

The plants should be obtained from specialist nurseries and preferably be of local genetic stock.

1. Native Shrub and Tree Species

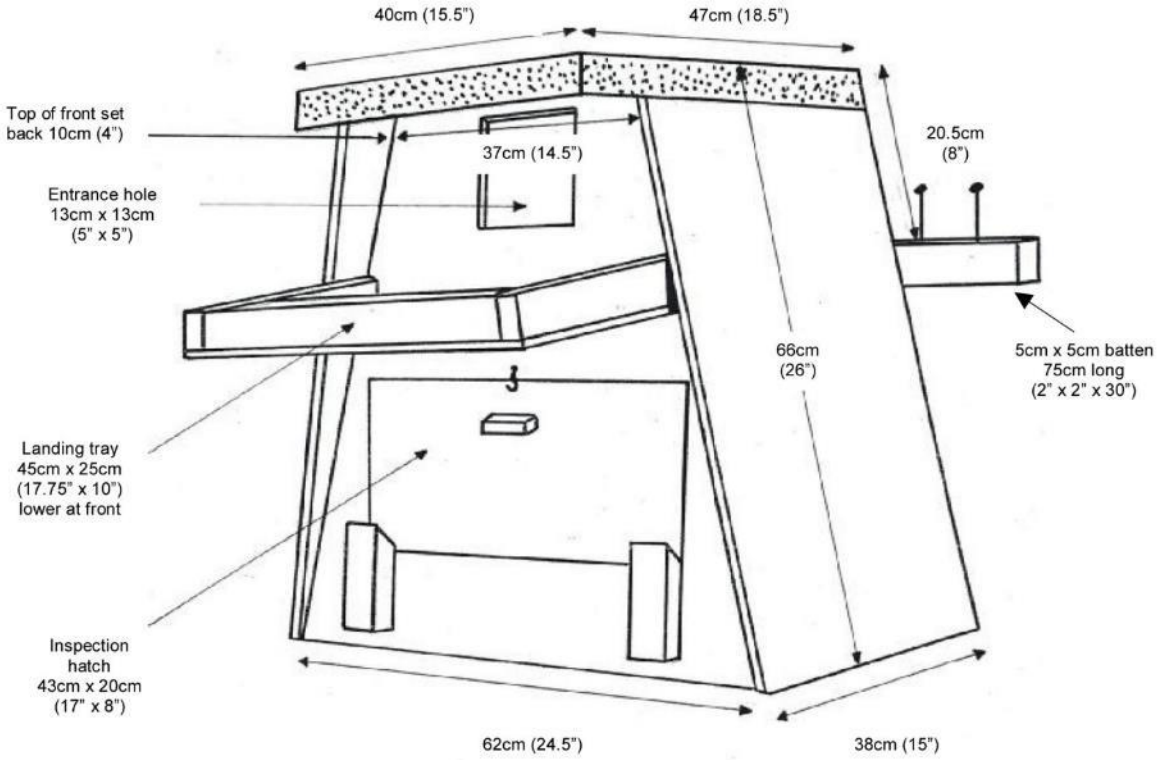
Shrubs	
Blackthorn	*Prunus spinosa*
Buckthorn	*Rhamnus catharticus*
Crab apple	*Malus sylvestris*
Dog rose	*Rosa canina*
Dog wood	*Cornus sanguinea*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Spindle	*Euonymus europaeus*
Wild privet	*Ligustrum vulgare*
Trees	
Ash	*Fraxinus excelsior*
Pedunculate oak	*Quercus robur*
Silver birch	*Betula pendula*
Wild cherry	*Prunus avium*

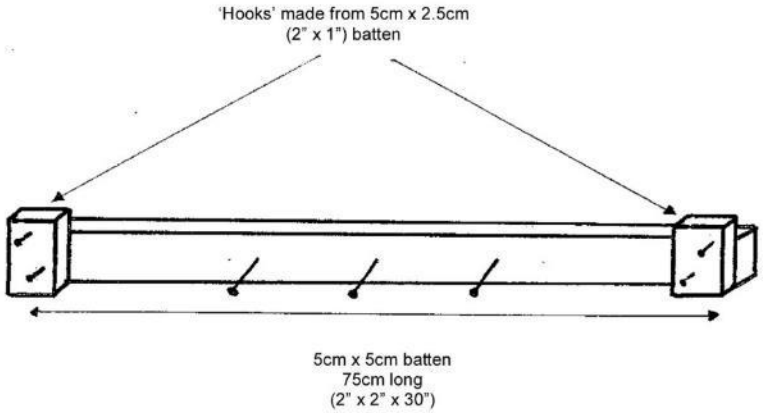
2. Native Wildflower Species

Grasses	
Common bent	*Agrostis capillaris*
Crested dog's-tail	*Cynosurus cristatus*
Meadow fescue	*Festuca pratensis*
Red fescue	*Festuca rubra*
Rough meadow-grass	*Poa trivialis*
Small timothy	*Phleum bertolonii*
Smooth meadow-grass	*Poa pratensis*
Sweet vernal-grass	*Anthoxanthum odoratum*
Yellow oat-grass	*Trisetum flavescens*
Herbs	
Bird's-foot trefoil	*Lotus corniculatus*
Black knapweed	*Centaurea nigra*
Common cat's-ear	*Hypochoeris radicata*
Common sorrel	*Rumex acetosa*
Common vetch	*Vicia sativa*
Cowslip	*Primula veris*
Field scabious	*Knautia arvense*
Lady's bedstraw	*Galium verum*
Meadow buttercup	*Ranunculus acris*
Meadow vetchling	*Lathyrus pratensis*
Oxeye daisy	*Leucanthemum vulgare*
Red clover	*Trifolium pratense*
Selfheal	*Prunella vulgaris*
Yarrow	*Achillea millefolium*

APPENDIX 4
Examples of barn owl nest boxes.

Design Type 1 – Recommended by the Barn Owl Trust





2/3

Design Type 2 – Wooden A-frame design

Approximate Owl Box Dimensions: H700 x D470 x Base W790mm



Photograph 8: A-frame barn owl nest box.

Barn owl nest boxes can be installed on the site of building or on a pole.

The basic box should be built using rot-resistant or treated sheet material. The use of 9 or 12mm tanalised softwood ply, 25 x 50mm (2” x 1”) tanalised batten and 30mm (1¼ ") rust resistant screws is recommended. Hardwood ply should be avoided, unless it is stamped “FSC Approved”.



Photograph 9: Detail of A-frame barn owl nest box.

Any type of preservative on the box can be used where tanalised ply is not available, but the product instructions should always be followed and it should be ensured that the box is completely dry before erection. The dimensions are given as a guide, variations of + or - 10% are quite acceptable.

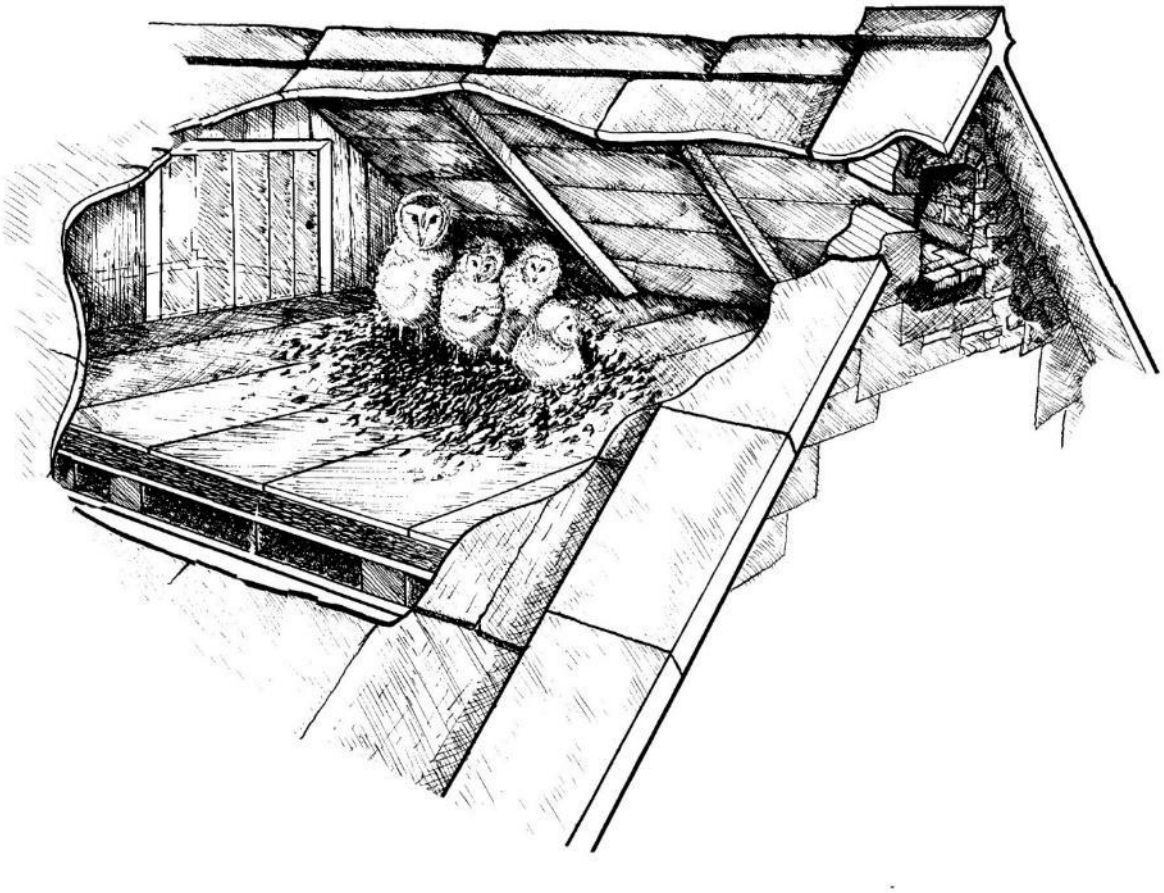


Photograph 10: A-frame barn owl nest box – installation.

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.

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.

Design Type 3 – Incorporation of barn owl nest box within building



Example of provision for Barn Owls within a small loft area of a converted building/barn (Copyright Barn Owl Trust - http://www.barnowltrust.org.uk).



Photograph 11: Detailed images showing access points to buildings for barn owls (all images from Barn Owl Trust - http://www.barnowltrust.org.uk).