ECOLOGICAL CONSERVATION MANAGEMENT PLAN
HOLLAND PARK, SPALDING, LINCOLNSHIRE

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ECOLOGICAL CONSERVATION MANAGEMENT PLAN
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1 INTRODUCTION

Full planning permission has been granted by South Holland District Council to develop an area of land on the outskirts of Spalding, Lincolnshire as a residential site. The site is known as Holland Park and is a continuation of an existing residential development.

A protected species, ecology and Phase 2 survey was undertaken as part of the planning process; a small number of statutorily protected species were recorded. Overall the ecological value of the site was considered to be low. As part of this work suggestions were made for habitat creation and enhancement.

As part of the planning process, a condition (number 75) was attached which required the preparation of a Conservation and Ecological management Plan in order to ensure that suggestions for enhancing and protecting the ecological resource on site were fulfilled. The following document aims to address the requirement of the condition by providing a management plan which details and prescriptions required in order to fully implement the concepts and ideas provided in the original ecology survey report.

2 SCOPE OF THE MANAGEMENT PLAN

This Management Plan refers to the site referred to as 'Holland Park' – it covers the area included in the original 2008 ecology surveys.

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It provides a management plan for the area with prescriptions and a table for ensuring delivery. It is intended to cover a five year period after which it will be necessary to re-survey the site and update the management plan. The implementation of the plan required the appointment of a project ecologist who will provide three monthly updates and ensure that the objectives and prescriptions of the plan are signed off. A full time 'clerks of works' is not considered necessary – however a suitably qualified ecologist will be required in order to undertake the necessary checks and provide advice relating to habitat creation and enhancement.

3 CURRENT ECOLOGICAL RESOURCE

A description of the current site, together with an outline of the species found on site is given in the original protected species and Phase two ecology report which was undertaken in 2008 by EDP (The Environmental Dimension Partnership).

The site comprises arable fields intersected by drainage ditches. There is a brown field area in the northern section (a former nursery), occasional scattered scrub along the drain banks, hedgerows (with and without trees) and a railway embankment which traverses the southern section of the site. The majority of the hedgerows, trees and scrub occur in the southern section of the site.

There are three main drains on the site; South Drove Drain (former SNCI) which forms the western boundary, Fantail Drain which occurs in the central area of the southern section and Hill Drain which forms the northern boundary of the southern section of the site.

Overall the habitats, plant species and species recorded on site were common and widespread. The only statutorily protected species recorded were water voles, grass snakes and bats; the bats were using areas of the site for commuting and foraging – there are few habitats suitable for use by roosting bats.

A walkover survey of the site was undertaken by Clare Schofield on the 27th August 2013. The purpose of this survey was to ascertain that the site had not altered significantly since the original Phase 2 and ecology survey was undertaken and also to characterise the site.

Representative photographs (taken during this walkover) are provided below.



Photograph 1: Representative views of the site



Photograph 2: Further representative views of the site

4 EVALUATION AND OBJECTIVES

4.1 Ideal Management Objectives and Rationale

The ideal management objectives for the site are as follows:

1. Enhance the biodiversity of the site through appropriate habitat management, protection and enhancement post construction
2. Increase nesting and foraging opportunities for a range of common farmland and urban birds
3. Increase roosting and foraging opportunities for bat species
4. Retain and enhance habitats for water voles
5. Retain and enhance habitats for common reptiles (particularly grass snakes)
6. Increase the sites value for invertebrate species through appropriate landscaping and planting
7. Protect statutorily protected species during construction (particularly common reptile

species, water voles and nesting birds)

8. Review the management plan after five years

4.2 Rationale for Management Objectives

4.2.1 Objective 1: Enhance the biodiversity of the site through appropriate habitat management, protection and enhancement post construction

The habitats at present are predominately arable. Overall the site has low conservation interest. The proposed development has potential to deliver positive benefits for the habitats on site via appropriate management and enhancement.

Enhancement of the habitats could increase the structure and ecological diversity of the site and in turn increase foraging opportunities for species which feed on invertebrates and also those species which forage for berries/fruits

Owing to the requirement for flood attenuation, a number of water bodies will be created on site in areas of Public Open Space (POS). This creates an ideal opportunity to create additional habitats such as reed bed, wet/marshy grassland and open water.

The drainage network across the site is a habitat which has local value for biodiversity – it creates habitats for a range of species and creates good connectivity across the arable landscape. Habitat management and protection should focus on these key linear features.

As part of the development, 1.4km of new hedgerows will be planted. This also creates opportunities to create new habitat and link existing habitats.

4.2.2 Objective 2: Increase nesting and foraging opportunities for a range of common farmland and urban birds

A number of common farmland and urban birds were recorded during the post construction surveys. Management which increases foraging opportunities i.e. provision of berry bearing/catkin species within landscape proposals and increasing invertebrate biomass across the area will in turn benefit a range of birds. The provision of some berry/fruit bearing species will increase the diversity of the woody species on site and therefore create opportunities for species which feed on berries and fruit. Many thrush species value fallen fruit and berries in the autumn and early winter.

The provision of berry/fruit bearing species will also increase the number and range of invertebrates using the site which in turn offers another food source for bird species which forage for invertebrates.

Many species recorded are BAP (Biodiversity Action Plan) species (dunnock, house sparrow, and yellowhammer) and management to benefit these species would assist in meeting local BAP targets and assist in halting the decline of these species. Many species recorded (including house sparrows) are included on the UK Biodiversity Action Plan and on the Red List under the criteria set out in Birds of Conservation Concern 3, as their breeding populations have suffered greatly in the last 25 years.

4.2.3 Objective 3: Increase roosting opportunities for bat species

Bat populations in the UK have experienced declines in recent years mainly as a result of roost destruction and loss and fragmentation of foraging habitat. Three species of bat were recorded using the site pre development on a transient/occasional basis. It is considered that provision for bats within the new dwellings, together with habitat enhancement of the surrounding area to improve the shelter on the site and increase foraging opportunities, will improve the site for bats.

A small number of bats were recorded commuting and feeding over the site (particularly in the southern section). Improving connectivity across the site and implementing habitat management which will increase the abundance of their invertebrate prey will assist local bat populations.

4.2.4 Objective 4: Retain and enhance habitats for water voles

Water voles have undergone a national decline due to habitat loss and predation pressure from American mink. The legal protection extends to both the animals themselves and their habitats. Areas of Lincolnshire are a stronghold for this species and efforts must be made to retain and enhance the populations.

4.2.5 Objective 5: Retain and enhance habitats for common reptiles (particularly grass snakes)

During the reptile surveys grass snakes were recorded on site. The grass snake is classified as Least Concern (LC) on the IUCN Red List, is protected in the UK by Schedule 5 of the Wildlife and Countryside Act, 1981, and is listed under Appendix III of the Bern Convention. It

is a UK BAP priority species. Reptiles are a much maligned group of animals. Grass snakes are often an unwelcome visitor to gardens and potential basking and egg laying sites have been reduced. There is potential to assist the conservation of these animals by implementing some very simple measures as part of the development.

4.2.6 Objective 6: Increase the sites value for invertebrate species through appropriate landscaping and planting

The habitat structure at present is very limited; therefore the habitat niches which invertebrates can occupy are also limited. Increasing the habitat diversity and structure will offer a greater range of opportunities for a wider range of invertebrates. The fruit trees/berry bearing species are likely to attract a greater range of flies; the habitat piles/brash piles are likely to attract species which prefer dead and dying wood. Attracting a greater invertebrate assemblage will increase foraging opportunities for other species such as bats and birds.

Many of the other species found on site forage on invertebrate prey and increasing opportunities for insects on site will improve the overall value of the site for these species. Appropriate native planting and landscaping can contribute to improving invertebrate diversity and density.

4.2.7 Objective 7: Protect statutorily protected species during construction (particularly common reptile species, water voles and nesting birds)

A small number of statutorily protected species were recorded during the ecology surveys undertaken by EDP in 2008. These were common reptiles, water voles, foraging/commuting bats and nesting birds. The legal protection afforded to these species is provided below;

Common reptiles

All four of the common species of native reptile, that is common lizard, grass snake, slow worm and adder, are given partial protection under the Wildlife and Countryside Act (1981 and as amended) which prohibits the intentional killing, injury or taking of these species. There is no provision in the Act for licensing works which could give rise to an offence, but it does provide a defence where the otherwise unlawful act can be shown to be the incidental result of an otherwise lawful activity and could not reasonably have been avoided. Permitted development or a development which has received planning permission is clearly a lawful activity but the law does require that a reasonable effort is made to avoid killing or injury of these animals during the implementation of this permission.

Water voles

As of 6th April 2008 water vole *Arvicola amphibius* is now fully protected under section 9 of the Wildlife and Countryside Act 1981 (as amended). Legal protection makes it an offence to:

- Intentionally kill, injure or take (capture) a water vole
- Possess or control a live or dead water vole, or any part of a water vole
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place
- Sell, offer for sale or advertise for live or dead water voles

Bats

Studies have shown that populations of bat species in both Britain and continental Europe have seriously declined in recent times as the result of the reduction in habitats providing their insect food and the disturbance to, exclusion from, or total loss of their roosting and hibernation sites. For this reason, 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 bat 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.

Breeding birds (common species)

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

4.2.8 Objective 8: Review the management plan after five years

During the final year of the term of this plan a site visit by an ecologist will be required in order to assess whether the desired effects have been obtained, and the results of this assessment should be used to direct the new plan. The delivery mechanism table will have been completely signed off by the project ecologist by this point and a new plan will be required which focuses on the on-going management and monitoring of the newly created habitats and evaluates the success of the measures designed to protect and safeguard certain species and habitats.

5 MANAGEMENT PRESCRIPTIONS

5.1 Habitat management and creation

The main area for habitat creation will be within South Drove Park, an area of POS (over 20 Ha) which will occur adjacent to the South Drove former SNCI. This area will contain newly created water bodies, grasslands, trees and scrub. The following prescriptions are required as part of the development of the POS.

- All shrub and amenity planting on site should comprise locally appropriate and berry bearing species – species should include hawthorn *Crataegus monogyna*, midland hawthorn *Crataegus laevitaga*, rowan *Sorbus aucuparia*, native willow species *Salix spp*., whitebeam *Sorbus aria* and cherry species *Prunus spp*. In the long term this will improve foraging opportunities on site for the target species. These species are also berry bearing and therefore will be of benefit to foraging birds.

- Plant flower borders within the landscaped areas of the site which will include night scented flowers in order to attract moths and other night flying insects (which will provide foraging opportunities for bats). Species should include evening primrose, sweet rocket, honeysuckle species, lavender, white jasmine, sweetbriar, night-scented catchfly, night-scented stock and soapwort. The landscaped area of the POS

will incorporate some flower borders.

- All water bodies created should have a varied profile, gently sloping banks (with some steeper areas for water voles), a depth of >1m in the centre and be planted with local appropriate native species. A suggested specification (with appropriate species) is provided as Appendix 1. This specification is for guidance only - some variation is expected with ground conditions, spatial restraints etc.

- At least one area of the POS should include a 'marsh garden' with some woody debris and rubble piles adjacent to it. This creates ideal conditions for a range of species including invertebrates, amphibians and reptiles. A specification for a 'marsh/bog garden' is given as Appendix 2.

- One area of the POS and the grassy bunds in the north of the site will be seeded with a locally appropriate wildflower mix. A local supplier of wild flower seed (i.e. Growing wild in Boston, Lincolnshire) is recommended.

- The railway embankment which traverses the site will be planted with trees and scrub (including berry and catkin bearing species) to create a corridor for wildlife and a refuge area for nesting and foraging birds, commuting bats and a range of other species.

- Newly planted hedgerow will comprise locally appropriate species and include berry/catkin/nut bearing species such as holly, guelder rose and hazel.

- One area of the POS should be developed as a dedicated butterfly and bee garden. the following species should be planted: Butterfly bush *Buddleia davidii,* mallow species *Malva species,* Lavender *Lavandula app.,* evening primrose species *Oenothera spp.,* comfrey *Symphytum officinalis,* vipers bugloss *Echium vulgare ,* honeysuckle *Lonicera periclymenum,* foxglove *Digitalis purpurea,* kidney vetch *Anthyllis vulneraria,* heather *Calluna vulgaris* (or other *Calluna/ericaceous* species, Herbs: thyme, chives, mints, rosemary, garden species: goldenrod, honesty, forget-me-not species, wall flower species, stock species, hellebore species and globe thistle.

5.2 Installation of bird nest boxes and bat boxes

- Erect four terrace boxes for use by sparrow species. These should be placed at the eaves of buildings out of direct sunlight.

- Erect eight close hole nest boxes (four 28 and four 32mm) within the development on garages/sub stations and other suitable buildings. These should be erected at a height of over 3 metres.

- Erect one pole mounted barn owl nest box or kestrel nest box on the edge of the POS facing out over open countryside. Specifications for kestrel and barn owl boxes are provided in Appendix 3.

- Install twelve roost units suitable for use by pipistrelle bats within the fabric of the new dwellings. The design and installation of these features will be finalised by the project ecologist and the site contractor; however it is likely that Ibstock or Weinberger integral designs will be used dependent on the brick sizes and colours. Suitable locations for these roost units would be on the northern and southern elevations of the new buildings; these should be positioned away from windows and doors where the resultant droppings may become an issue. The specifications for these roost units are provided in Appendix 4.

5.3 Provision for reptile species

- A dedicated egg laying site for grass snakes should be installed near Hills Drain where most records of these species occurred. A specification for an egg laying site is given as Appendix 5.
- Provision of refugia and woody debris around the marsh/bog garden area will enhance the site for reptiles (and other species)
- Creation of wetland with areas of a steeper bank profile suitable for use by water voles

6 SAFEGUARDING PROTECTED SPECIES AND HABITATS

6.1 Pre-construction surveys and checks

The checks and surveys required ahead of construction mainly relate to breeding birds and water voles. Vigilance for the presence of bats was recommended in the original ecology report – however it is considered that the potential for roosting bats to occur on site is very low.

Details of the protective measures required are given below:

- In order to protect nesting birds, work which directly impacts drains, drain banks, brown field areas, trees, scrub and hedgerows 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 cordoned off and protected until the young fledge. It will be the responsibility of the contractor, through the project ecologist, to ensure that appropriate checks are undertaken.

- In order to protect water voles, dedicated surveys shall be undertaken in the active season (April to September) on water courses where direct impacts on the bank tops and sides will occur. The proposed development scheme does include a small amount of impact/culverting work on the seasonally wet drainage ditches on site. Appropriate advice and mitigation will be put in place in order to ensure legal compliance with respect to this species. It will be the responsibility of the contractor, through the project ecologist, to ensure that appropriate checks are undertaken.

- As a precaution, all contractors working on site will be informed of the procedure to follow in the event of discovering bats on site. The procedure to follow in the event of discovering bats on site is provided as Appendix 6. The risk is considered to be very low; mature trees and bridges are the only likely roosting places for bats.

6.2 Precautions during construction

Immediately ahead of construction commencing, a walkover survey of the site will be undertaken by the project ecologist. Searches will be undertaken in areas where reptiles, water voles and nesting birds have been recorded. The results of this walkover will be passed onto the site manager and an informal 'tool box talk' will be arranged for all personnel working on the site in order that all personnel are fully informed about the potential ecological constraint on the site.

During construction, protective hi-viz fencing will be placed alongside the drain banks to maintain a ten metre buffer zone along these habitats, particularly the Hills Drain, Fantail Drain and South Drove Drain.

During construction the project ecologist will undertake a site visit every three months in order to ensure that protective fencing is functional and that appropriate checks for nesting birds, water voles and common reptiles are being undertaken. The project ecologist will produce a short report following these visits; this report will provide further advice and measures required to protect habitats and species as the work progresses. It is the responsibility of the contractor to ensure that they have engaged the services of a project ecologist to keep a 'watching brief' and implement the ECMP throughout the development.

6.3 Post construction

Post construction measures concern the development of a bat sensitive lighting scheme on the site and also ensuring that buffer zones are maintained adjacent to drains and that POS is managed appropriately to ensure on-going benefits to local wildlife.

Areas along drains and where the railway traverses the site should not be lit by streetlights. These areas should be retained as dark, unlit habitat corridors for bats and other wildlife. Where streetlights are used in POS, they should be hooded where appropriate to reduce light spill behind them. Minimal lighting requirements will be implemented in areas of POS.

The drainage ditches, where possible, will be managed in accordance with best practice to ensure the water vole population is not adversely affected by management/cutting operations. The scope to control this is limited as the main drainage ditches fall under the remit of the local Internal Drainage Board (IDB). Where possible liaison with the local IDB (through the project ecologist) may assist in ensuring that linear water bodies are managed in a way that assists biodiversity.

Post construction, the ECMP will require updating and reviewing. It is recommended that the POS (South Drove Park) is assessed against the Local Wildlife Site (LWS) criteria in order to assess its success as an area of importance for local wildlife.

7 DELIVERY MECHANISM

The following table details the actions required to implement this Conservation management plan at the pre, during and post stages of construction. In order to fully comply, all elements of the table must be signed off by the project ecologist. Where applicable this requires photographic evidence to be submitted to the LPA.

Table 1 – Delivery mechanism table for the ECMP (Ecology and Conservation Management Plan)

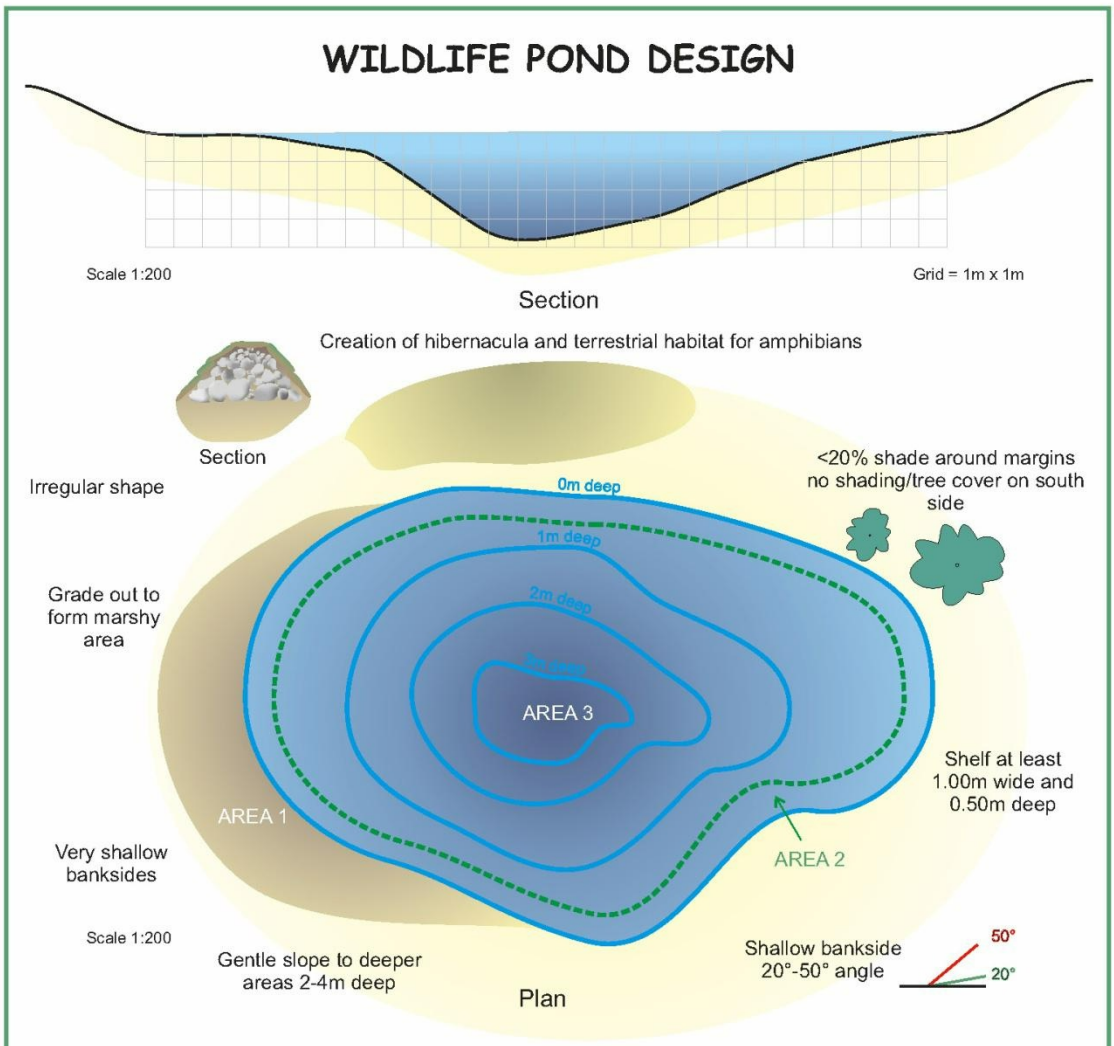
*** denotes that photographic evidence is required**

Pre-Construction		
Objective	*Action*	*Signed off and date*
Protection of statutorily protected species	Walkover survey and update on status of water voles on site	
	Walkover survey and update on status of common reptiles on site	
	Walkover survey and update on status of nesting birds on site	
During Construction		
Protection of species and habitats	Tool box talk to key personnel	
Habitat enhancement	Creation of wetlands (including habitats for water voles)*	
	Creation of marsh garden/grassland*	
	Planting of scrub/trees on POS and railway embankment*	
	Wildflower seeding on bunds and within POS*	
	Dedicated butterfly/bumble area within POS*	
Bat/bird boxes	Installation of bird boxes*	
	Installation of integral bat boxes*	
Grass snake enhancements	Creation of an egg laying site on banks of Hill Drain*	
Protection of reptiles, water voles and nesting birds	Appropriate checks and three monthly walkover surveys – including nest checks in the breeding season	
	Maintenance of high-viz fencing to protect ten metre buffer zone around drainage ditches	

	Provision of three monthly reports with appropriate advice relating to protection of statutorily protected species	
Post construction		
Protection of bats	Appropriate lighting scheme	
Habitat management and monitoring	Update survey after five years and preparation of a new management plan for the POS and other areas of open space (including linear corridors)	

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Appendix 1
Guideline specification for newly created water bodies



PLANTING SCHEDULE

(ideally between April and September)

AREA 1	
Cuckoo flower	*Cardamine pratensis*
Marsh marigold	*Caltha palustris*
Ragged robin	*Lychnis Flos-cueuli*
Creeping Jenny	*Lysimachia numularia*
Gipsywort	*Lycopus europaeus*
Purple loose strife	*Lythrum salicaria*

AREA 3	
Rigid Hornwort	*Ceratophyllum demersum*
Water starwort	*Callitriche* spp.
Curled pondweed	*Potamageton crispus*
Spiked water milfoil	*Myriophyllum spicatum*

AREA 2	
Water mint	*Mentha aquatica*
Water plantain	*Alisma plantago-aquatica*
Water forget-me-not	*Myotis scorpioides*
Water speedwell	*Veronica aquatica*
Amphibious bistort	*Persicaria amphibia*
Soft rush	*Juncus effusus*
Hard rush	*Juncus inflexus*
Yellow iris	*Iris psuedocorus*
Brooklime	*Veronica beccabunga*

PLANTS TO AVOID	
New Zealand pygmy weed/stonecrop	*Crassula helmsii*
Water fern	*Azolla filiculoides*
Parrots feather	*Mynophyllum aquaticum*
Floating pennywort	*Hydrocotyle rununculoides*
Bulrush	*Typha latifolia*
Himalayan balsam	*Impatiens glandulifera*
Curly pondweed	*Lagarosiphan major*

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Appendix 2
Specification for bog/marsh garden

Pond Alert!

Create your own bog garden

Common frog (*Rana temporaria*)

Put yourself in the frog's shoes
The bog garden provides a crucial link between the pond and the surrounding dry land for many animal and plant species, as well as being a natural visual feast for humans. If you think about your garden from the perspective of a frog (or a dragonfly, or a shrew) you will start to work out whether you have enough feeding, travelling and hiding places for the varied wildlife. The colourful and attractive flowers of the bog garden plants will also prove popular with more traditional terrestrial invertebrates such as butterflies and bumblebees.

Create your own bog garden

Common Valerian (*Valeriana officinalis*)

Pendulous Sedge (*Carex pendula*)

▲ **Common Valerian** (*Valeriana officinalis*)
Description: A medium height plant of around 1m, with clusters of small pink flowers produced from June to August.
Growing conditions: Happy in sunny or shady spots and from the edge of the water through to damp grassland.
Native range: Throughout Scotland.

▶ **Pendulous Sedge** (*Carex pendula*)
Description: An architectural treat, with the long sedge flowers forming a delicate arch at the pond side, up to 2m tall.
Growing conditions: Widely available as a plug plant or larger for direct planting into the bog garden. Prefers clay soils.
Native range: Across the Central Belt and scattered locations along the north east coast.

Keeping control
Many bog garden plants will establish quickly, and you might find that one or two species start to take over. Thin out, gently, if necessary during the summer and autumn, and then have a good clearance session early the following spring. Add these thinnings to your compost heap. This will allow room for the less dominant species to keep growing, and give you space to add new species if you fancy a bit more variety.

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A pond on its own is good, but making a bog garden alongside your pond can really add to the appeal your garden has for local wildlife.

When to start your bog garden
The best time of year to start creating a bog garden is in the autumn. Most of the animals that live in and around the pond should have left for the winter and the soil will still have some warmth but not too much water in it, so will be easier to work. The new bog garden area will then have the winter to settle down and water can collect before the growing season begins in the spring.

Where to put your bog garden
Choose which side of the pond you would like to develop for your bog garden. This will depend on your garden layout, taking into account the location of flower beds and paths. It is sensible, and makes life easier, to pick an area where water generally lies during rainy periods. You can also decide whether to have a little island area between the pond and bog garden or a smooth gradient from the water out to the dryer area.

Dig shallow
Mark out the area for the bog garden and lift off the soil to a depth of 20cm. Make sure the edges of the area are level, using pegs and a spirit level. Prepare the ground as you would for the pond itself, removing any stones or other debris and, ideally, pre-lining the area with sand and old carpet or newspapers as a protective underlay. Then add your standard butyl liner, making sure it overlaps with the pond liner so that any overflow water from the pond can soak into the bog garden. Puncture the liner a few times with a garden fork, to allow some very slow drainage to take place, as this will mimic natural bog conditions.

Refill the area with soil (not topsoil), and some more sand if possible. As with the pond itself, you don't want too many nutrients in the bog area or it will soon become overgrown with nettles and docken. With the liner in place, the area should become waterlogged naturally over the winter, ready for some moisture loving plants to be added in the spring.

Good bog species to use
The really fun part of a bog garden is choosing the species to plant. Many native species for this habitat have colourful flowers or interesting architectural structure. As well as being great for wildlife, your bog can be an eye-catching part of the garden for human visitors too.

Some species to consider using are:

▼ **Marsh Marigold** *(Caltha palustris)*
Description: Clusters of yellow flowers, in April and May, giving strong spring colour, attractive leaves – heart sized and heart shaped. Grows in manageable clumps, 30-40cm high.
Growing conditions: Plant in a clump at the side of the pond. Grows in sun or shade and doesn't need to be contained in a basket. This is a well-behaved plant, but if there is too much you can pull some out during the summer.
Native range: Widespread throughout Scotland.

▲ **Great Willowherb** *(Epilobium hirsutum)*
Description: Produces spikes of pink flowers, in July and August, with long and pointed leaves. The plant can reach a stately 1.5m tall.
Growing conditions: Plant one or two plants in the mud at the side of the pond. Grows very quickly and thinning out by dividing into clumps in spring or autumn may be necessary. Prefers neutral or slightly alkali soils.

▼ **Purple Loosestrife** *(Lythrum salicaria)*
Description: Another striking plant, up to 1.2m tall with spikes of stunning purple flowers in July and August. A real attraction for many insect species.
Growing conditions: Grows in sun or partial shade and doesn't mind if the ground dries out a bit.
Native range: Argyll, the Central Belt and south-west Scotland.

▲ **Ragged Robin** *(Lychnis flos-cuculi)*
Description: Growing to 50cm in height, this plant produces delightfully tattered looking pink-purple flowers from May to August.
Growing conditions: Will grow from seed or as a plug plant, in sun or semi-shade. Can also grow on damp grassland and be cut as part of a summer meadow, so gives an option for extending the bog garden into a grassland habitat, or even wet woodland areas.
Native range: Widespread throughout southern and central Scotland, and all but the highest ground in the north.

▼ **Cuckooflower** *(Cardamine pratensis)*
Description: A dainty harbinger of the new growing season, with pale pink flowers (March to June) which attract the orange-tip butterfly. Grows up to 60cm tall.
Growing conditions: Grows well in sun or partial shade and can also be part of a damp spring meadow.
Native range: Throughout Scotland.

ECOLOGICAL CONSERVATION MANAGEMENT PLAN
HOLLAND PARK, SPALDING, LINCOLNSHIRE

Appendix 3
Specifications for barn owl and kestrel pole mounted boxes

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

Nestboxes for use on vertical tree trunks

LEAFLET No 2

Reg. Charity No 299 835

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 Barns 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 or 12mm tanalised (⅜"-½") softwood ply, 25 x 50mm (2" x 1") tanalised batten and 30mm (1¼ ") 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 - ¾" - 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 (½ 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!

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"x 2") 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.

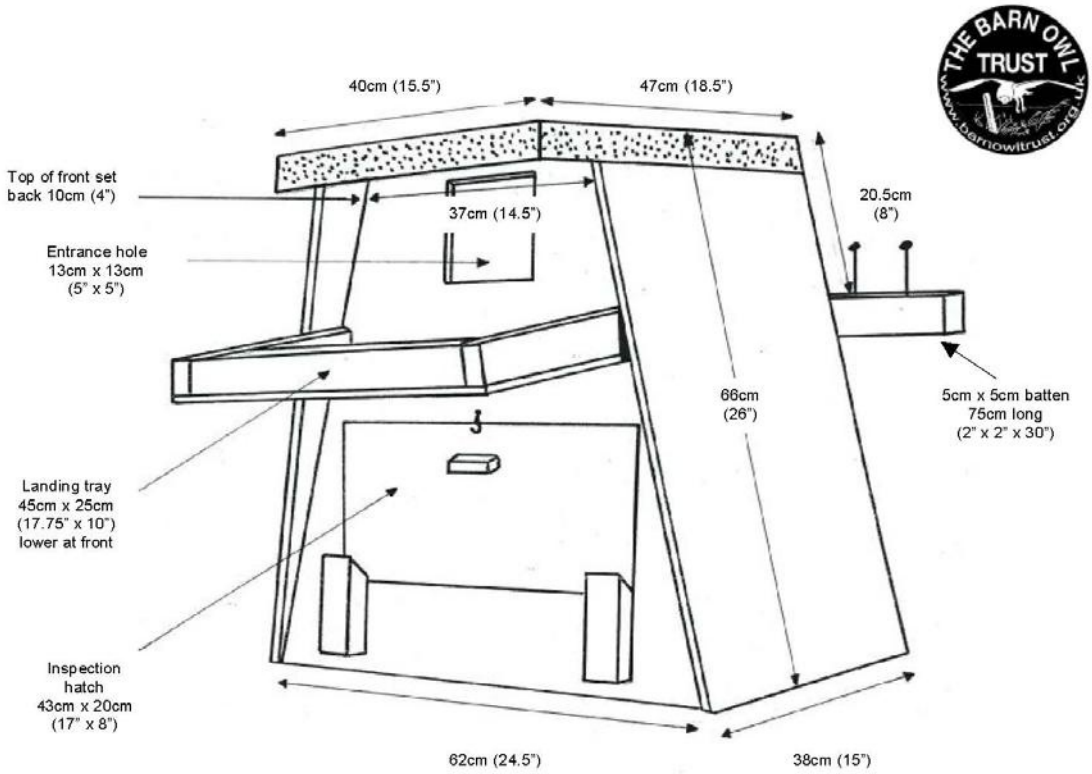
Occupation by other species

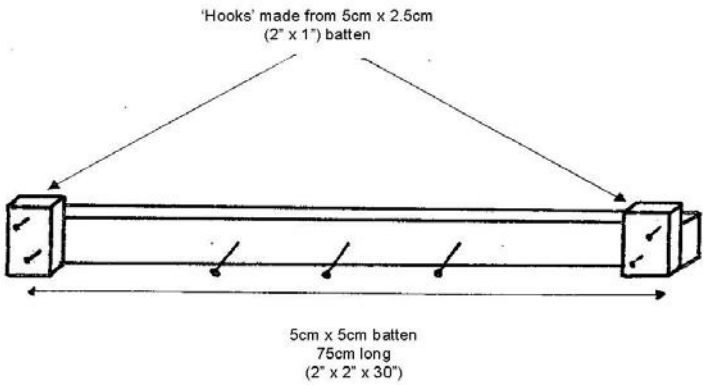
The outdoor box described in this leaflet is designed specifically for Barn Owls but it is possible that jackdaws, stock doves, tawny owls, little owls or some other species could use it. Jackdaws can be a problem in some areas as they tend to take over all available sites, and can fill boxes with sticks.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

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You can become a **Friend of the Barn Owl Trust** and support our work by making a regular donation. **Friends** receive our biannual magazine Feedback, our Annual Report, a car sticker and a badge.

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tel 01364 653026 - email info@barnowltrust.org.uk
web-site www.barnowltrust.org.uk

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40cm (15.5")
47cm (18.5")
Top of front set back 10cm (4")
37cm (14.5")
20.5cm (8")
Entrance hole 13cm x 13cm (5" x 5")
66cm (26")
5cm x 5cm batten 75cm long (2" x 2" x 30")
Landing tray 45cm x 25cm (17.75" x 10") lower at front
Inspection hatch 43cm x 20cm (17" x 8")
62cm (24.5")
38cm (15")


'Hooks' made from 5cm x 2.5cm (2" x 1") batten
5cm x 5cm batten 75cm long (2" x 2" x 30")

2/3

The Barn Owl Trust
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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 1km (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!

Permenant 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.

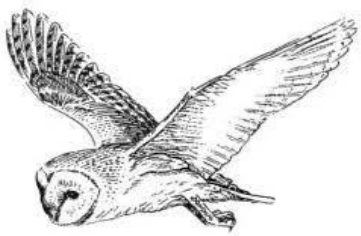
The following are examples of precautions you should take to reduce the risk of accident.

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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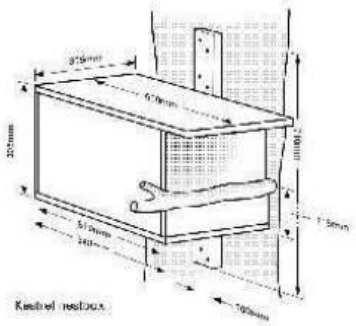
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KESTREL NEST BOX

Kestrels are falcons that usually eat voles, mice and beetles, although town kestrels may live mostly on small birds. These are pigeon-sized but longer-winged, with long, narrow tails that may be broadly fanned as they hover in mid-air, looking for prey.



They may nest in tree holes, on cliff ledges or on buildings. The box should be large and solid, of 19mm or 22mm or 9mm exterior ply, with a perch across the entrance made from a small branch. It can be fixed directly to the side of a tree or in a large fork, at least 6m high, or on top of a tall, secure pole. It must be free from disturbance, in an area where nobody will interfere with the young birds. The entrance must have a wide, open space for good visibility and easy access for the birds. Drill some 5mm drainage holes in the floor and spread wood chips or straw over it. Check the box once the breeding season is over and replace the floor if it shows signs of rotting. Clean out the accumulated debris to open up the drainage holes.

© The Raptor Foundation



Some examples of Kestrel boxes

Kestrels do not construct nests of their own, but lay their eggs either in the old nests of crows, or in cavities in trees, or ledges on cliffs and buildings.

A nestbox of the following design is best sited about 20 feet (6 m) high on a solitary tree in farmland, using a stout batten, firmly screwed to the box, attached directly to the trunk by means of galvanized nails, 4 inches (100mm) or longer. The entrance should face east, and the box tilted back slightly to keep the eggs and young to the rear.

It may be possible to wire the box to a branch, or to use a horizontal batten and wedge it into the fork of two branches. If there is dense foliage, prune away a few branches to give a clear flight-path to the box.

The nestbox should be constructed from 0.75 inch (19mm) thick timber or resin-bonded exterior ply, and the dimensions below will produce a box of minimum acceptable size:

2 sides :-	12 x 20 inches	300 x 500mm
1 floor :-	12 x 21.5 inches	300 x 537.5mm
1 roof :-	12 x 26 inches	300 x 650mm
1 back :-	12 x 12 inches	300 x 300mm
1 front :-	12 x 4.5 inches	300 x 112.5mm

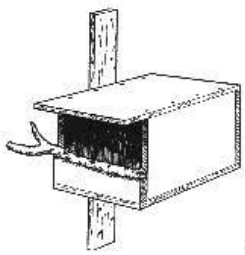
Thicker timber can be used, but adjust the sizes to give the same internal dimensions.

The box is assembled using waterproof glue and 2 inch (50mm) screws or galvanized nails. The fixing batten should be about 28 inches (700mm) long, or 4 x 1 inch (100 x 25mm) timber.

A small branch about 1 inch (25mm) diameter should be fixed at the front as a perch, since both young and adult Kestrels spend a large amount of time perching at the nest entrance.

About a dozen drainage holes should be drilled in the floor, about 0.25 inch (6mm) diameter, and a layer of wood shavings or straw scattered over the floor.

This is a heavy nestbox and will require at least two people to erect it, using ropes and a ladder.



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ECOLOGICAL CONSERVATION MANAGEMENT PLAN
HOLLAND PARK, SPALDING, LINCOLNSHIRE

Appendix 4
Specifications for integral bat boxes

IBSTOCK
innovators in clay
ideas into action
eco habitats for bats
Eco Habitats for Bats - Technical Data: A
Sizes
215mm x 215mm or 215mm x 290mm
Durability
F2 S2 - Fully Frost Resistant
Eco Habitats for Bats - Technical Data: B
Sizes
215mm x 215mm or 215mm x 290mm
Durability
F2 S2 - Fully Frost Resistant
Eco Habitats for Bats - Technical Data: C
Size
215mm x 65mm
Durability
F2 S2 - Fully Frost Resistant
IBSTOCK
innovators in clay
ideas into action
eco habitats for bats
Features & Benefits
Enclosed bat box (A & B)
• Designed with the Pipistrelle Bat in mind
• Available in all brick types
• Attractive motif
• Discrete home for bats
• Various sizes
• Several roosting zones are created inside the box
• Bats are contained within the Bat Box itself
• Maintenance free as the entrance is at the bottom
• Ideal for new build & conservation work
Free Access Option (C)
• Discrete Single Bat brick
• Easy to install
• Allows bats to create a natural home habitat within the cavity of the building
www.ibstock.com
contact numbers
sales office 0870 903 4010
design advice 0870 903 4018
technical services 0870 903 4017
literature and samples 0870 903 4030

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: 265x180x240
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

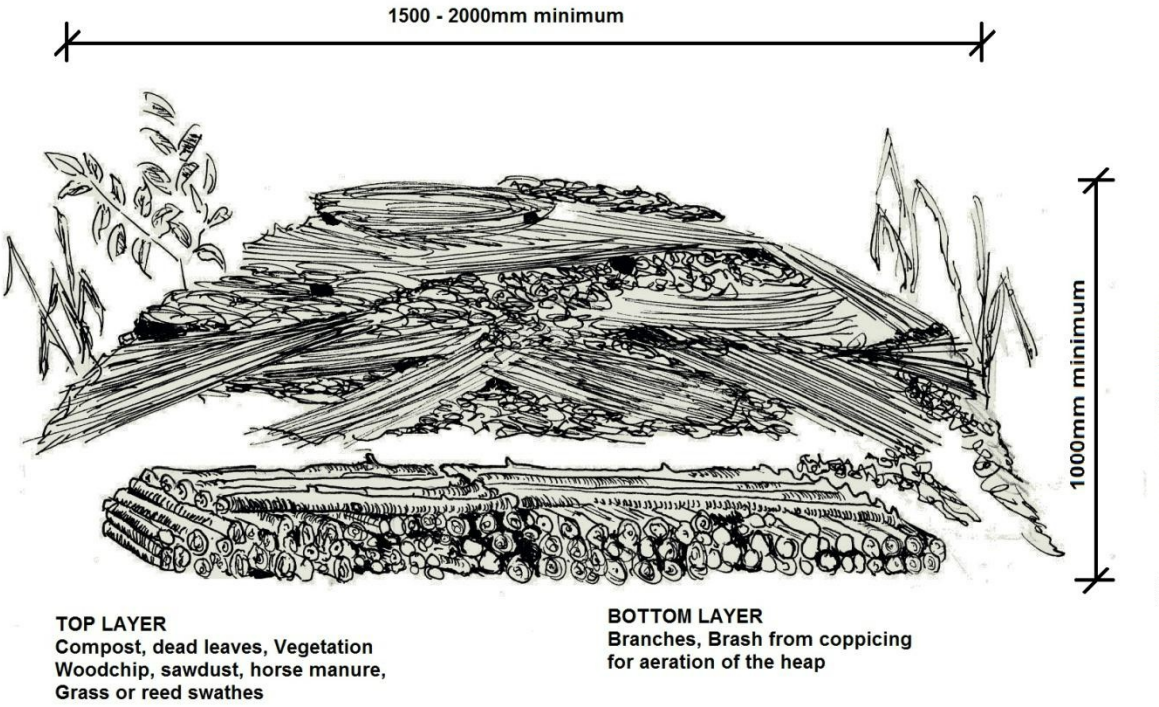
Size: 580x380x115
Weight: 21kg

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

CAVITY BAT ROOST
Wild-x
Dimensions
A Height 440mm
B Width 420mm
C Depth (at base) 120mm
Weight: 12kg
Material:
Cement/wood/grit mix
Internal:
Internally there is approx 3500 square centimetres of roosting space. This space is divided up to form crevices ranging from 1cm to 2.5cm which also creates places to hide and spots where it is warmer or cooler.
Distributor:
KEY FEATURES
Incorporates into structures using standard face materials
Supplied with lintel and DPM for the cavity tray
Creates a permanent bat roost that cannot be removed by subsequent occupiers
Unobtrusive "eyebrow" entrance makes little impact on building appearance
Suitable for a wide range of bat species
Cavity Tray
Lintel
75mm min cavity
The entrance is 420mm wide by 60mm high which is basically the width of 2 normal house bricks. The gap of the top of the entrance ramp is approx 20-25mm which is ideal for the smaller bat species.
Wienerberger
Building Value
Bat Boxes. To protect and conserve.
Further details information on Wienerberger bat boxes and bat conservation is available at www.brick.co.uk/batbox or contact Design Services on 0161 491 8200

ECOLOGICAL CONSERVATION MANAGEMENT PLAN
HOLLAND PARK, SPALDING, LINCOLNSHIRE

Appendix 5
Specifications for a grass snake egg laying site



Example of an 'egg-laying pile' for grass snakes

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Appendix 6
Procedure to follow in the event of finding bats on site

ECOLOGICAL CONSERVATION MANAGEMENT PLAN
HOLLAND PARK, SPALDING, LINCOLNSHIRE

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 Ltd either Helen Scarborough on 01526 344726 or 07979833524 or Ian Nixon on 01205 723342 or 07833 674500.

- Scarborough Nixon Associates Ltd 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.