

ECOLOGY AND PROTECTED SPECIES SURVEY
LAND OFF A151, HOLBEACH, LINCOLNSHIRE

AUGUST 2016



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ECOLOGY AND PROTECTED SPECIES SURVEY LAND OFF A151, HOLBEACH, LINCOLNSHIRE

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Land off A151, Holbeach, Lincolnshire

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The findings of these surveys will remain valid for a period of 12 months.

ECOLOGY AND PROTECTED SPECIES SURVEY LAND OFF A151, HOLBEACH, LINCOLNSHIRE

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ECOLOGY AND PROTECTED SPECIES SURVEY

LAND OFF A151, HOLBEACH, LINCOLNSHIRE

1 INTRODUCTION

Scarborough Nixon Associates Ltd has been commissioned by Julie Robinson of Robert Doughty Consultancy Ltd to undertake an ecology and protected species survey of land and associated buildings off the A151, Holbeach in Lincolnshire. The survey is required in connection with plans to redevelop the site.

The site was surveyed on 29th July 2016 in fine and warm conditions, by Gemma Watkinson and Celia Commowick.

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

- Bats
- Badger
- Water vole
- Common bird species
- Schedule 1 bird species

Certain protected species were scoped out of the survey due to lack of suitable habitat; in particular it was considered that great crested newt *Triturus cristatus*, common reptile species, white-clawed crayfish *Austropotamobius pallipes*, common dormouse *Muscardinus avellanarius* and otter *Lutra lutra* were highly unlikely to occur on the site due to lack of suitable habitat. The site comprises mainly arable land with buildings and hard standing; there are only small pockets of land which would be suitable for use by reptiles and amphibians. The site is also bordered by arable land and busy roads – overall the potential for herptiles to occur is considered to be very low.

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

2 METHODS

2.1 Data search

Lincolnshire Environmental Records Centre (LERC) was consulted and commissioned on 29th July 2016 to search for sites with statutory and non-statutory designations and records of protected species within 1km of the proposed development site.

2.2 Bats

A high powered torch and binoculars were used to investigate the buildings for any cracked tiles, gaps and dark corners with potential for roosting bats, where it was safe to do so. Where accessible, all undisturbed surfaces were inspected for evidence of past and present occupation by bats. This includes droppings, urine or fur staining around possible access points and roost areas, lack of cobwebs, feeding remains such as moth wings or other insect parts and the bodily remains of bats (English Nature, 2004).

The site and adjacent areas were also assessed for potential foraging and commuting habitats for bats. All trees on the site were assessed for their potential to support roosting bats. Any mature trees were visually checked with the assistance of binoculars for features such as woodpecker holes, broken limbs, snag ends and rot holes, dense ivy and flaking bark.

2.3 Badger

The site was searched for signs of use by badger *Meles meles* including setts, latrines, dung pits, pathways, hairs, footprints, snuffle holes and scratch marks on trees.

2.4 Water vole

All of the ditches on site were searched for signs of use by water vole *Arvicola amphibius* including burrow entrances, tracks, feeding stations and latrines.

2.5 Birds

2.5.1 Common bird species

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

2.5.2 Schedule 1 bird species

The buildings were inspected for the presence of barn owl *Tyto alba* and the signs indicative of their past or present use including regurgitated pellets, concentrated accumulations of flattened pellets indicative of a nest site, faecal encrustation, eggs or eggshell remains, surplus prey items, bodily remains of chicks or infant down feathers. The site was not considered to provide suitable opportunities for other Schedule 1 species.

2.6 Habitats and plant species

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

Plant species on site were assessed against the Vascular Plant Red Data List for Great Britain, and the site was assessed against the Local Wildlife Site (LWS) criteria for Lincolnshire.

3 SITE ASSESSMENT

3.1 Location and grid reference

The site comprises a house, warehouses and modern outbuildings in a yard, within a large area of predominantly arable land with some ditches and small areas of broadleaved woodland, located off the A151 near Holbeach in Lincolnshire - central grid reference TF 347257.

The site is described below and representative photographs are included in the text. An aerial view of the site is provided as Figure 1, a habitat map and a plant list for the site are provided as Appendices.

3.2 The modern warehouses

There are two large, modern warehouses on the site, both constructed of a steel frame with lower infill panels of solid blockwork and covered above with corrugated fibre-cement sheet panels and profiled metal sheeting on the pitched roofs. The warehouses are used for storage and office space, and no niches or gaps were noted. The warehouses both have high ambient light levels within and are in a good state of repair.



Photograph 1: Exterior view of one of the modern warehouses



Photograph 2: Interior of one of the modern warehouses

3.3 The open-sided building

To the north of the largest modern warehouse is a modern building which is open on all sides and is used for storage of machinery. It is constructed of a steel frame and covered with corrugated fibre-cement sheeting on the roof and upper sections of the sides. Light levels within the structure are high and there are no visible niches or roosting opportunities for bats.



Photograph 3: Interior view of the open-sided building



Photograph 4: Exterior view of the open-sided building

3.4 The modern outbuilding

In the north-west corner of the yard is a modern outbuilding, constructed of blockwork walls supporting a flat timber roof covered with metal sheeting. There are no gaps or niches either inside or outside the building. The building is in a good state of repair and is currently used for storage.



Photograph 5: View of the exterior of the modern outbuilding



Photograph 6: Interior view of the modern outbuilding

3.5 The portable buildings

There are three portable buildings on the site, in use as offices. These buildings offer negligible roosting opportunities for bats, and no suitable niches were identified.



Photograph 7: View of a portable building on the site



Photograph 8: Another view of one of the portable buildings on site

3.6 Amenity grassland

Adjacent to the yard is a car park and areas of amenity grassland, some with scattered trees. The grassland is dominated by perennial rye-grass, annual meadow-grass, dandelion, daisy, creeping buttercup and white clover, with common mouse-ear, common chickweed, cat's-ear, yarrow, selfheal, hawkbit species, cut-leaved crane's-bill and lesser trefoil. Tree species include laurel, hazel, rowan, cherry species, silver birch and poplar species.



Photograph 9: Area of amenity grassland adjacent to the car park



Photograph 10: Area of amenity grassland with scattered trees

3.7 The house and garden

To the east of the yard containing the modern warehouses and outbuildings is a derelict two-storey house, constructed of partially rendered brick walls and a roof that is mono-pitched on the southern elevation and covered with concrete tiles whilst from the ridge to the north is a flat roof. The interior of the house was not accessed during the survey. The house has modern, intact PVC doors and windows and two brick chimneys. There is a modern conservatory extension and small porch on the west elevation, a large porch extension on the south elevation and another small porch on the north elevation. There are no gaps or cracks visible in the rendering or in the exposed brickwork, but there are some lifted tiles by the eaves on the south elevation and on the front porch.



Photograph 11: South elevation of the house



Photograph 12: Lifted tiles on the front porch

The garden is overgrown, with two small ornamental ponds. Aquatic plants within the ponds included water lily species and pond weed species. The ponds are not considered suitable for great crested newts due to their isolation and poor water quality (there was a large amount of

green algae present). Due to the construction of the ponds it would be difficult for newts to leave the pond. There is a timber shed and a timber garage in the garden, neither of which offer any potential for roosting bats.

Within the garden a variety of native species were noted, including creeping-jenny, common couch, Yorkshire-fog, common sorrel, perennial rye-grass, feverfew, selfheal and white bryony. There is a small apple tree, a pear tree and a Leyland cypress hedge.



Photograph 13: Small pond in the garden



Photograph 14: Larger ornamental pond



Photograph 15: Timber shed and garage



Photograph 16: General view of the garden

3.8 The field margins

The arable fields that comprise the majority of the site area, have narrow field margins with common arable weed species such as creeping thistle, scentless mayweed, teasel, knotgrass, pale persicaria, common ragwort, fat-hen, swine-cress, pineappleweed, redshank, red dead-nettle, great lettuce, annual meadow-grass, red bartsia, field bindweed, good-king-Henry, mugwort, shepherd's-purse and groundsel.



Photograph 17: Field margin by a fallow field



Photograph 18: Further view of a field margin on site

3.9 The ditches

The numerous ditches on site were overgrown and dry at the time of the survey, with the exception of a small section to the north of the buildings, which appears to have been managed recently. Most of the ditches and bank-sides contain species such as common reed, willow species, elder, false oat-grass, rosebay willowherb, yarrow, hogweed, cock's-foot, creeping thistle, field horsetail, bramble and colt's-foot. A section along the north-eastern boundary was of slightly higher botanical diversity, with oxeye daisy, smooth tare, common valerian, wild carrot and bristly oxtongue noted. Along certain sections of the ditches, especially in the north-western corner and along the south-eastern boundary, there were high levels of invertebrate activity with numerous butterfly species seen, including meadow brown *Maniola jurtina*, peacock *Aglais io*, painted lady *Vanessa cardui*, small white *Pieris rapae*, small tortoiseshell *Aglais urticae*, comma *Polygonia c-album* and small skipper *Thymelicus sylvestris*. Cinnabar moth caterpillars *Tyria jacobaeae* and brown hawker dragonflies *Aeshna grandis* were also recorded.



Photograph 19: View of one of the overgrown dry ditches on site



Photograph 20: Section of wet ditch which has been managed



Photograph 21: Section of more botanically diverse bank-side

3.10 The broad-leaved woodland

Almost in the centre of the site, surrounded by arable fields, is a small copse of mature and semi-mature broad-leaved trees, including ash, beech, horse chestnut, willow, lime, hazel, oak species and field maple with a dense ground flora dominated by bramble, ivy, common nettle and creeping thistle. Along the western boundary of the site are further strips of broad-leaved woodland, with species such as field maple, alder, ash, hazel, cherry species, willow species, lime, elder, pedunculate oak, English elm and sycamore. Ground flora species include ivy, hogweed, bramble, meadow vetchling, false oat-grass, wood avens and herb-Robert.



Photograph 22: The broad-leaved copse



Photograph 23: Broad-leaved woodland along the western boundary

3.11 Site boundaries and surrounding habitats

The site is bounded on the north, north-east and south-east sides by dry ditches and the A151. The western boundary comprises a track and the strip of broad-leaved woodland. The southern boundary comprises timber panelled fencing with an outgrown hedgerow just beyond.

The site is surrounded on all sides by arable fields, with a small area of housing to the south and Holbeach lying to the east.



Photograph 24: Southern boundary fence



Photograph 25: Small arable field to the north of the site



Figure 1: Aerial view of the site outlined in red

4 RESULTS

4.1 Data search

The data search from Lincolnshire Environmental Records Centre (LERC) shows that there are no statutory sites, non-statutory sites or areas of priority habitat within 1km of the site.

There are records of 6 species of specially protected birds within 1km of the site; red kite *Milvus milvus* from 2013, hobby *Falco subbuteo* from 1999, marsh harrier *Circus aeruginosus* from 2000, Mediterranean gull *Larus melanocephalus* from 2000, barn owl *Tyto alba* from 2010 and whooper swan *Cygnus cygnus* from 2009. There are three records of pipistrelle bats *Pipistrellus sp.* from as recently as 2008, and a single badger record from 2002.

Full details of the records for within 1km of the development site are given as Appendix 2.

4.2 Bats

All of the buildings except the house are considered to have negligible potential to support roosting bats due to the lack of niches and gaps and the high ambient light and disturbance levels. The house is considered to have low suitability to support single/small numbers of bats on a transitional basis, due to some lifted tiles along the eaves and on the front porch.

The buildings were assessed in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition (Collins J, 2016) Table 4.1 page 35. The results of the assessment appear in tabular form below:

Table 1: Assessment of survey site to support roosting, foraging and commuting bats

Building/ Feature	Description	Overall value for bats
The modern warehouses	No potential sites for roosting Light and draughty buildings with large open doorways	Negligible potential for long-term or transitional roosting
The open-sided building	Light and draughty barn with unlined roof No potential roost sites	Negligible potential for long-term or transitional roosting
The modern outbuilding	No potential roost sites Light building with large open doorway	Negligible potential for long-term or transitional roosting
The portable buildings	No potential roost sites	Negligible potential for long-term or transitional roosting
The house	Some gaps under lifted tiles on porch and mono-pitched roof	Low potential for transitional roosting
Surrounding habitats	Drains and mature trees along site boundaries Broad-leaved woodland copse Predominantly arable fields in surrounding area	Moderate foraging potential

None of the trees within the copse have any potential to support roosting bats; however, many

of the mature trees within the broadleaf woodland strip along the western site boundary have features that could be used by roosting bats such as woodpecker holes.

4.3 Badger

No signs of use by badger were noted during the survey, but the data search suggests that badgers do occur in the area. No further work or mitigation is required. It is recommended that vigilance is maintained for signs of badger activity. If badger presence is suspected at any time then it will be necessary to seek advice immediately by calling 07833 674500, in order to ensure legal compliance.

4.4 Water vole

No signs of water vole were noted during the survey. As the ditches were all dry except for one small and isolated section, it is highly unlikely that water voles are present on site.

4.5 Birds

4.5.1 Common bird species

All birds seen on and flying over the site were recorded. These are listed below along with their current status as BAP species or Birds of Conservation Concern 4 (Eaton et al, 2015):

Table 2: Common birds recorded on site

English name	Scientific name	BAP	BoCC
wood pigeon	<i>Columba palumbus</i>		Green
collared dove	<i>Streptopelia decaocto</i>		Green
swallow	<i>Hirundo rustica</i>		Amber
wren	<i>Troglodytes troglodytes</i>		Green
robin	<i>Erithacus rubecula</i>		Green
blackbird	<i>Turdus merula</i>		Green
house sparrow	<i>Passer domesticus</i>	Y	Red

Nests of several common bird species were found within the buildings on site; one active swallow nest and one disused swallow nest were noted in the modern outbuilding, two disused feral pigeon *Columba livia (domest.)* nests were noted in the open-sided barn and house sparrow nesting material was found in an exterior gap between the fibre-cement sheeting of the larger modern warehouse.



Photograph 26: Active swallow nest



Photograph 27: Old house sparrow nesting material

The trees on the site also have high potential for use by nesting birds.

4.5.2 Schedule 1 bird species

There was no evidence found to show that the buildings and surrounding habitats are being used by barn owl or any other Schedule 1 bird species.

4.6 Habitats and plant species

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

The plant species recorded on the site are not listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). There are no species on site that are listed as Near Threatened (NT), Vulnerable (VU), Endangered (EN), or Critically Endangered (CR) in the Vascular Plant Red Data List for Great Britain.

The site would not meet the required criteria to qualify as a Local Wildlife Site (LWS). There are no species classed as 'notable' for Lincolnshire.

5 DISCUSSION AND RECOMMENDATIONS

5.1 Bats

5.1.1 Legal protection

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

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

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

5.1.2 Recommendations

The survey indicates that the house has low potential for use as a transitional or day roost for single/small numbers of bats. A single evening emergence survey is required on the house in order to establish whether or not bat roost(s) are present and to confirm the numbers and species of bats using these roosts if applicable. This survey must be carried out during the bat active season (April-September) and the results will determine the extent and type of mitigation required for legal compliance.

The trees along the western boundary have features with potential for use by roosting bats. If any works are to be carried out to the trees along the western boundary, further advice from a suitably experienced ecologist should be sought, in order to remain legally compliant.

5.2 Birds

5.2.1 Legal protection

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

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

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

5.2.2 Recommendations for common bird species

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

Erecting some nest features for common bird species, including swallows, would be good conservation measures. Details of nest boxes/features for a range of bird species can be obtained from Wildcare, Eastgate House, Moreton Road, Longborough, Gloucestershire GL56 0QJ (01451 833181) www.wildcareshop.com.

5.3 Recommendations for ecological enhancement

In addition to the legislation which is in place to safeguard protected species, there is also legislation and policy which imposes duties to take account of statutorily protected species and also to undertake action to prevent loss of biodiversity and species/habitats which have been identified as priorities in the UK. In England and Wales, the Natural Environment and Rural Communities (NERC) Act 2006, imposes a duty on all public bodies (including Local Authorities and statutory bodies) to conserve biodiversity – including restoring and enhancing a population or habitat. In addition, government planning policy guidance throughout the UK, provided in the National Planning Policy Framework and OPDM Circular 06/2005, requires local planning authorities to take account of protected species issues prior to determination of planning applications.

In order to enhance biodiversity and provide some 'ecological gain' on site and fulfil the Local Planning Authorities obligations under the NERC Act 2006, the following measures are recommended:

- Removal of the existing trees and shrubs should be avoided where possible, and kept to a minimum if unavoidable. Any removal of trees should be compensated for by re-planting at least the amount that is lost, using native species such as common hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, field maple *Acer campestre*, wild cherry *Prunus avium*, holly *Ilex aquifolium* and bird cherry *Prunus padus*.
- Any new hedgerows should be planted using the above native shrub and tree species, and should be appropriately managed with traditional techniques where possible to maximise their benefit for wildlife, using hedge-laying rather than flailing or trimming. If trimming is necessary, ensure it is carried out every 2 to 3 years and in sections so that not all parts of the hedgerow are cut at the same time.
- Ensure that the site boundaries are unlit and can be used as dark corridors by foraging/commuting bats.
- Consideration could be given to the incorporation of wildflower area - wildflower matting or an appropriate seed mix could be used to increase the nectar sources for invertebrate species. Further information on wildflower matting and the benefits of its inclusion within developments can be found as an appendix or at <http://www.meadowmat.com/>.
- It is possible that hedgehogs occur on site, especially along the western boundary. Hedgehogs are a Biodiversity Action Plan (BAP) species, and their populations have declined dramatically in recent years. It is recommended that best practice within the development for hedgehogs is followed. This requires some consideration to the fencing types used in order to ensure that routes across the site are not severed and animals will not be forced out onto roads. If solid fence panels are used, making a small hole 13 x 13cm along each boundary will ensure that hedgehogs can still move around the site. It would also be a positive conservation measure to install a hedgehog house in the undergrowth along the western boundary of the site. A range of hedgehog houses can be found at www.wildcareshop.com.

6 SUMMARY

The house is considered to offer low potential to support roosting bats. A single evening emergence survey is required. This must be carried out between April and September. Many of the trees along the western boundary have potential for roosting bats, and any removal or management of these trees will require further survey work to be carried out beforehand.

The buildings and trees on site have potential for common species of nesting bird, so any site preparation works should avoid the active nesting season where possible. If works in these areas are to take place during the bird breeding season, a search for nests should be undertaken, and any nests found are to be protected until the young have fledged.

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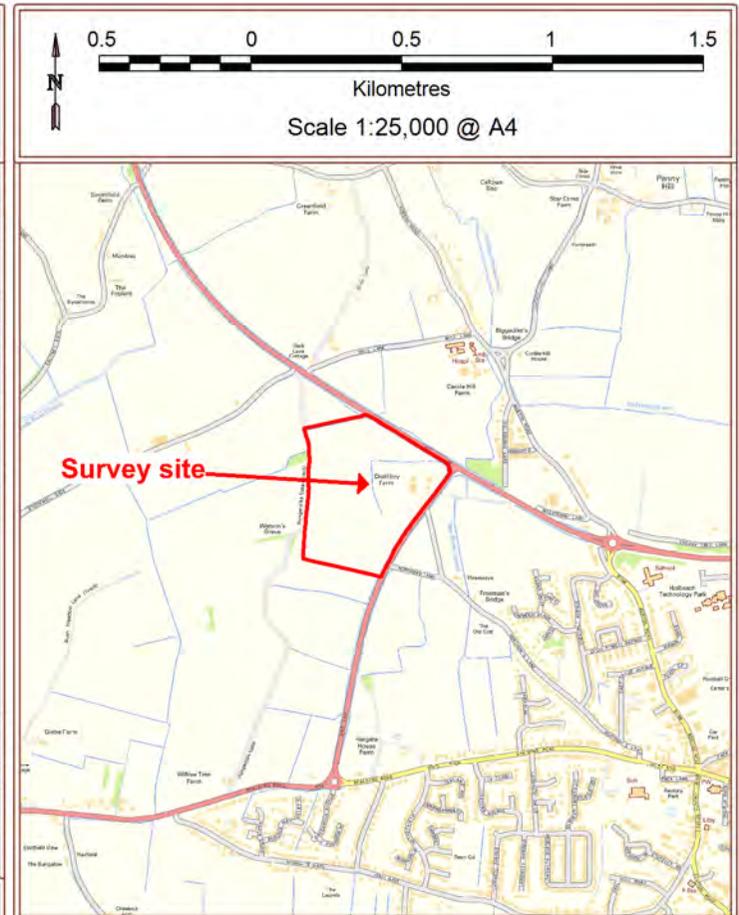
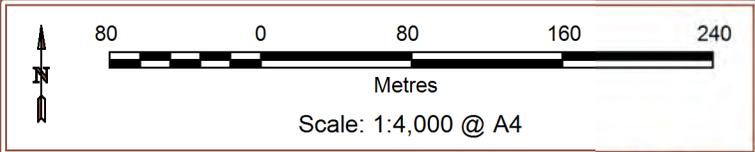
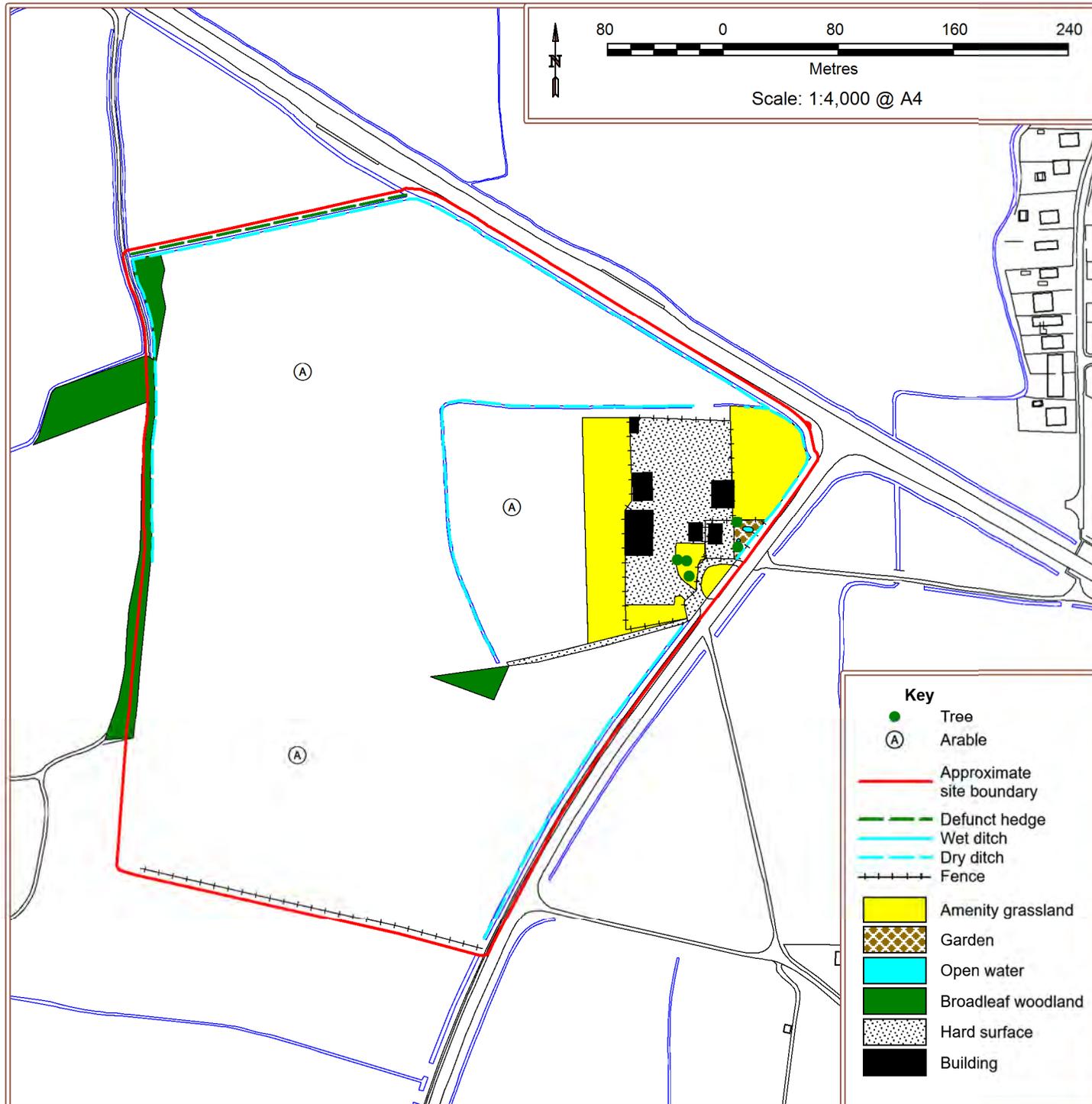
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**ECOLOGY AND PROTECTED SPECIES SURVEY
LAND OFF A151, HOLBEACH, LINCOLNSHIRE**

**FIGURE 1
Site Location and Habitat Map**



HOLBEACH
LINCOLNSHIRE

- Key**
- Tree
 - Ⓐ Arable
 - Approximate site boundary
 - - - Defunct hedge
 - Wet ditch
 - - - Dry ditch
 - - - Fence
 - Amenity grassland
 - Garden
 - Open water
 - Broadleaf woodland
 - Hard surface
 - Building

Site Location
and
Habitat Map

Figure 1 August 2016

Scarborough Nixon
Associates Limited
www.scarboroughnixonassociates.co.uk

Brookfield House
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LAND OFF A151, HOLBEACH, LINCOLNSHIRE**

**APPENDIX 1
Plant species list**

ECOLOGY AND PROTECTED SPECIES SURVEY

LAND OFF A151, HOLBEACH, LINCOLNSHIRE

ENGLISH NAME	SCIENTIFIC NAME
alder	<i>Alnus glutinosa</i>
annual meadow-grass	<i>Poa annua</i>
apple	<i>Malus pumila</i>
ash	<i>Fraxinus excelsior</i>
barren brome	<i>Anisantha sterilis</i>
beech	<i>Fagus sylvatica</i>
bent species	<i>Agrostis sp.</i>
bramble	<i>Rubus fruticosus</i>
bristly oxtongue	<i>Helminthotheca echioides</i>
broad-leaved willowherb	<i>Epilobium montanum</i>
brome species	<i>Bromus sp.</i>
brooklime	<i>Veronica beccabunga</i>
butterfly-bush	<i>Buddleja davidii</i>
cat's-ear	<i>Hypochaeris radicata</i>
cherry species	<i>Prunus sp.</i>
cleavers	<i>Galium aparine</i>
cock's-foot	<i>Dactylis glomerata</i>
colt's-foot	<i>Tussilago farfara</i>
common bird's-foot trefoil	<i>Lotus corniculatus</i>
common chickweed	<i>Stellaria media</i>
common couch	<i>Elytrigia repens</i>
common field-speedwell	<i>Veronica persica</i>
common mallow	<i>Malva sylvestris</i>
common mouse-ear	<i>Cerastium fontanum</i>
common nettle	<i>Urtica dioica</i>
common ragwort	<i>Senecio jacobaea</i>
common reed	<i>Phragmites australis</i>
common sorrel	<i>Rumex acetosa</i>
common valerian	<i>Valeriana officinalis</i>
common vetch	<i>Vicia sativa</i>
cow parsley	<i>Anthriscus sylvestris</i>
creeping buttercup	<i>Ranunculus repens</i>
creeping cinquefoil	<i>Potentilla reptans</i>

ENGLISH NAME

creeping-jenny
 creeping thistle
 cut-leaved crane's-bill
 daisy
 dandelion
 dock species
 dog-rose
 dogwood
 dove's-foot crane's-bill
 elder
 English elm
 false oat-grass
 fat-hen
 fescue species
 feverfew
 field bindweed
 field horsetail
 field maple
 goat's-beard
 good-king-henry
 great lettuce
 great willowherb
 greater plantain
 groundsel
 hard rush
 hawthorn
 hawkbit species
 hazel
 hedge bindweed
 hedge mustard
 herb-Robert
 hogweed
 holly
 honeysuckle
 horse-chestnut
 ivy
 knotgrass
 laurel

SCIENTIFIC NAME

Lysimachia nummularia
Cirsium arvense
Geranium dissectum
Bellis perennis
Taraxacum agg.
Rumex sp.
Rosa canina
Cornus sanguinea
Geranium molle
Sambucus nigra
Ulmus procera
Arrhenatherum elatius
Chenopodium album
Festuca sp.
Tanacetum parthenium
Convolvulus arvensis
Equisetum arvense
Acer campestre
Tragopogon pratensis
Chenopodium bonus-henricus
Lactuca virosa
Epilobium hirsutum
Plantago major
Senecio vulgaris
Juncus inflexus
Crataegus monogyna
Leontodon sp.
Corylus avellana
Calystegia sepium
Sisymbrium officinale
Geranium robertianum
Heracleum sphondylium
Ilex aquifolium
Lonicera periclymenum
Aesculus hippocastanum
Hedera helix
Polygonum aviculare
Prunus sp.

ENGLISH NAME

lesser trefoil
 Leyland cypress
 lime species
 meadow-grass sp.
 meadow vetchling
 mugwort
 nipplewort
 oak species
 oxeye daisy
 pale persicaria
 pedunculate oak
 perennial rye-grass
 pineappleweed
 pondweed species
 poplar species
 prickly sow-thistle
 purple toadflax
 red bartsia
 red clover
 red dead-nettle
 redshank
 ribwort plantain
 rosebay willowherb
 rough meadow-grass
 rowan
 scentless mayweed
 selfheal
 shepherd's-purse
 silver birch
 small nettle
 smooth sow-thistle
 smooth tare
 soft-brome
 spear thistle
 spurge species
 sycamore
 swine-cress
 wall barley

SCIENTIFIC NAME

Trifolium dubium
X Cupressocyparis leylandii
Tilia sp.
Poa sp.
Lathyrus pratensis
Artemisia vulgaris
Lapsana communis
Quercus sp.
Leucanthemum vulgare
Persicaria lapathifolia
Quercus robur
Lolium perenne
Matricaria discoidea
Potamogeton sp.
Populus sp.
Sonchus asper
Linaria purpurea
Odontites vernus
Trifolium pratense
Lamium purpureum
Persicaria maculosa
Plantago lanceolata
Chamerion angustifolium
Poa trivialis
Sorbus aucuparia
Tripleurospermum inodorum
Prunella vulgaris
Capsella bursa-pastoris
Betula pendula
Urtica urens
Sonchus oleraceus
Vicia tetrasperma
Bromus hordeaceus
Cirsium vulgare
Euphorbia sp.
Acer pseudoplatanus
Lepidium coronopus
Hordeum murinum

ENGLISH NAME

water lily species
white bryony
white clover
white dead-nettle
wild carrot
wild-oat
wild privet
wild teasel
willowherb species
willow species
wood avens
yarrow
Yorkshire-fog

SCIENTIFIC NAME

Nymphaea sp.
Bryonia dioica
Trifolium repens
Lamium album
Daucus carota
Avena fatua
Ligustrum vulgare
Dipsacus fullonum
Epilobium sp.
Salix sp.
Geum urbanum
Achillea millefolium
Holcus lanatus

**ECOLOGY AND PROTECTED SPECIES SURVEY
LAND OFF A151, HOLBEACH, LINCOLNSHIRE**

**APPENDIX 2
Data search results**



Lincolnshire Environmental Records Centre data search report

Land off A17, Holbeach
1 August 2016

Achieving more for nature



GLNP
GREATER LINCOLNSHIRE
NATURE PARTNERSHIP

Report details

Produced for	Gemma Watkinson, Scarborough Nixon Associates Ltd
Produced by	CB
Produced on	01/08/2016 (expires 01/08/2017)
LERC reference	1617-150
Aspects included in this report	Non-statutory sites <input checked="" type="checkbox"/> Statutory sites <input checked="" type="checkbox"/> Habitats <input checked="" type="checkbox"/> Species <input checked="" type="checkbox"/>
Search area (all aspects combined)	 <p>Centre of search area: E: 534549 N: 325849</p> <p><small>© Crown Copyright and Database Rights (2015) Ordnance Survey (100025370)</small></p>

Terms and conditions

1. Copyright of all records remains with the recorder, and of the collated data with LERC.
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4. LERC shall be acknowledged in any report relating to data supplied, and one copy of any such report will be supplied free of charge.
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6. Data provided is as held by LERC. Past records of presence of a species or habitat do not guarantee continued occurrence.

Any reuse of the GIS layers must include the relevant attribution statement.

About the Lincolnshire Environmental Records Centre

The Lincolnshire Environmental Records Centre (LERC) collates wildlife and geological information for Greater Lincolnshire from various sources and makes it available for various uses. This data is crucial to aid conservation management of sites, to help organisations prioritise action, and to understand the distribution of species and trends over time. For more information on LERC or to request a data search, visit the website at <http://glnp.org.uk/partnership/lerc/>



*Lincolnshire Environmental Records Centre is an ALERC accredited LRC, meeting the standard level criteria
For more information on accreditation, see the ALERC website at <http://www.alerc.org.uk/accreditation.html>*

Non-statutory sites

Site citation sheets are available for Local Wildlife Sites, Local Geological Sites, Sites of Nature Conservation Interest and Regionally Important Geological and Geomorphological Sites. GIS boundaries are available for Local Wildlife Sites, Local Geological Sites, Sites of Nature Conservation Interest, Regionally Important Geological and Geomorphological Sites, Lincolnshire Wildlife Trust nature reserves and Roadside Nature Reserves. Distance is given as the shortest distance in kilometres from the centre of the search to the site.

Local Wildlife Sites (LWSs)

LWSs, along with biological Sites of Special Scientific Interest (SSSIs), are the most important places for wildlife at a local level. The GLNP seeks to identify every site that satisfies the selection criteria presented in the LWS guidelines, thus recognising a comprehensive suite of sites. Sites are selected by the Nature Partnership, based on recommendations made by its expert working group known as the LWS Panel and then submitted for inclusion within local authority planning policy. Identifying these sites helps local authorities meet their obligations under legislation and government guidance, including reporting on the number of sites in positive management for Single Data List Indicator 160-00.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Local Geological Sites (LGSs)

LGSs, along with geological Sites of Special Scientific Interest (SSSIs) are the most important places for geodiversity and heritage in the county. They have substantive geoconservation value and their function is to protect and manage such interest and, where possible, provide educational opportunities. The GLNP seeks to identify every site that satisfies the selection criteria presented in the LGS guidelines. Sites are selected by the Nature Partnership, based on recommendations made by its expert working group known as the LGS Panel and then submitted for inclusion within local authority planning policy. Identifying these sites helps local authorities meet their obligations under legislation and government guidance, including reporting on the number of sites in positive management for Single Data List Indicator 160-00.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Sites of Nature Conservation Interest (SNClS)

The LWSs status supersedes that of Sites of Nature Conservation Importance (SNClS), which were identified on the basis of local knowledge and were selected without consideration of any formal criteria. In Greater Lincolnshire, the GLNP aims to assess all existing SNClS using the criteria outlined in LWS guidelines. To avoid confusion, until sites have been assessed against the LWS criteria they retain their SNClS status.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Regionally Important Geological and Geomorphological Sites (RIGSs)

The LGS status supersedes that of RIGS, which were identified on the basis of local knowledge and were selected without consideration of any formal criteria. In Greater Lincolnshire, the GLNP aims to assess all existing RIGSs using the criteria outlined in LGS guidelines. To avoid confusion, until sites have been assessed against the LGS criteria they retain their RIGS status.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Lincolnshire Wildlife Trust Reserves (LWT)

The Lincolnshire Trust for Nature Conservation, formed in 1948, (and now known as the Lincolnshire Wildlife Trust) is a charity dedicated to safeguarding the countryside and wildlife of the historic county. It is one of a network of Wildlife Trusts that together form the largest voluntary organisation in the UK devoted to all aspects of wildlife protection.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Roadside Nature Reserves (RNRs)

A scheme for the protection and management of roadside verges was set up in 1960 by the Lincolnshire Wildlife Trust and sites were originally termed "Protected Roadside Verges" (PRVs). Run in cooperation with Lincolnshire County Council, the Highways Division provides financial and advisory support with management is carried out by the Lincolnshire Wildlife Trust. There are 65 Roadside Nature Reserves, which total a distance of over 80 kilometres (50 miles). For each verge, the Trust appoints a voluntary 'Wayside Warden' to help look after the biological interest in liaison with the Divisional Surveyors and landowners.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Non-statutory sites within the search area



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Space restrictions on the map may result in some sites not being labelled. Please refer to the GIS layers or site citations for details.

- | | | | |
|---|---|--|-------------------------------------|
|  | Local Wildlife Site |  | Lincolnshire Wildlife Trust Reserve |
|  | Local Geological Site (mine entrance) |  | Roadside Nature Reserve |
|  | Local Geological Site |  | Search area |
|  | Site of Nature Conservation Interest |  | LERC boundary |
|  | Regionally Important Geological/Geomorphological Site | | |

Statutory sites

Distance is given as the shortest distance in kilometres from the centre of the search to the site.

Sites of Special Scientific Interest (SSSIs)

SSSIs are part of the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations, and are currently designated under the Wildlife and Countryside Act 1981 (as amended in the Countryside Rights of Way Act 2000).

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

National Nature Reserves (NNRs)

NNRs represent many of the finest wildlife and geological sites in the country. They are selected from the Sites of Special Scientific Interest (SSSIs) and so each NNR has at least two designations.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Local Nature Reserves (LNRs)

LNRs are areas designated by the local authority, and protected through the Local Plan as of special wildlife interest that enhance public enjoyment of wildlife. The local authority either has ownership or a legal interest in the land.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Special Protection Areas (SPAs)

SPAs are areas of the most important habitat for rare (listed on Annex I of the Birds Directive) and migratory birds within the European Union. SPAs, together with SACs, form the Natura 2000 network. SPA designation is underpinned by SSSI designation in the UK.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Special Areas of Conservation (SACs)

SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II of the Habitats Directive. SACs, together with SPAs, form the Natura 2000 network. SAC designation is underpinned by SSSI designation in the UK.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Ramsar Sites (Ramsars)

Ramsar Sites are wetlands of international importance designated under the Ramsar Convention. Most Ramsar Sites are also classified as SPAs, with all terrestrial Ramsar Sites also notified as SSSIs.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Areas of Outstanding Natural Beauty (AONBs)

AONBs were created by legislation within the National Parks and Access to the Countryside Act of 1949. In Greater Lincolnshire there is one AONB, which is the Lincolnshire Wolds.

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CODE	NAME	STATUS	EASTING	NORTHING	DISTANCE

no sites found in the search area

Statutory sites within the search area



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Space restrictions on the map may result in some sites not being labelled. Please refer to the GIS layers or site citations for details.

- | | | | |
|---|-------------------------------------|---|------------------------------------|
|  | Site of Special Scientific Interest |  | Ramsar |
|  | National Nature Reserve |  | Area of Outstanding Natural Beauty |
|  | Local Nature Reserve |  | Search area |
|  | Special Protection Area |  | LERC boundary |
|  | Special Area of Conservation | | |

Habitats

Ancient Woodland Sites

The Ancient Woodland Inventory (AWI), maintained by Natural England, is a provisional list of woodland sites over 2ha in size that have had continuous woodland cover since at least 1600AD. This includes ancient semi-natural woodland (ASNW) and ancient replanted woodland (ARW - also known as plantation on ancient woodland sites or PAWS).

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HABITAT	Area (ha)

no polygons found in the search area

Priority Habitats

Priority habitats are those identified as being the most threatened and requiring conservation action in the UK. The data presented is the most up-to-date of the data collated by the GLNP; further historic data and non-Priority habitat data may also be available.

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HABITAT	Area (ha)

no polygons found in the search area

Habitats within the search area



Species

Lincolnshire Environmental Records Centre holds records on the following species within or overlapping the search area. Data shown is as held by LERC; past records of presence of a species does not guarantee continued occurrence and absence of records does not imply absence of a species, merely that no records are held. Depending on the parameters of the data search, additional records may be available. Confidential data, data at poorly defined geographic resolutions and data pending validation and/or verification may also be excluded from this report.

Grid references are limited to 100m accuracy, although higher resolutions may be available. Location data for the following record types are further limited to avoid environmental harm: badger setts, bat roosts. Release of enhanced data is dealt with on a case-by-case basis and confidential records are provided separately.

The following organisations have contributed data to this report:

- Greater Lincolnshire Nature Partnership
- Lincolnshire Bat Group
- Lincolnshire Bird Club

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The results of the species search have been broken down into 1 separate data output(s), which are summarised on the following pages. Zero abundance records are excluded from these summaries, but are included in the spread sheets (these can be identified by having abundance values of '0 Present (Count: Exact)').

Search #1

Search parameters

Designations:	Taxonomic groups:	Geographic area:
<i>all designations</i>	Badgers Bats Great Crested Newts Water Voles WCA Sch 1 Birds	

Summary

Bird (3 taxa)	Number of records	Date range recorded	Designations
Hobby, <i>Falco subbuteo</i>	1	1999 - 1999	Bern2, CITESA, CMS_A2, LBCSchedule1, ScotBL, WCA1i
Mediterranean Gull, <i>Larus melanocephalus</i>	4	1999 - 2000	BAmb, BD1, Bern2, BoCC4-Amber, CMS_A2, CMS_AEWA-A2, LBCSchedule1, WCA1i
Whooper Swan, <i>Cygnus cygnus</i>	1	2009 - 2009	BAmb, BD1, Bern2, BoCC4-Amber, CMS_A2, CMS_AEWA-A2, FEP7/2, GBNSIP, Non-native, ScotBL, WCA1i, WO1i

Terrestrial Mammal (3 taxa)	Number of records	Date range recorded	Designations
Bats, Chiroptera	24	1992 - 2011	
Eurasian Badger, <i>Meles meles</i>	1	2002 - 2002	Bern3, PBA, ScotBL, WO5
Pipistrelle Bat species, <i>Pipistrellus</i>	3	1989 - 2008	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b

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**ECOLOGY AND PROTECTED SPECIES SURVEY
LAND OFF A151, HOLBEACH, LINCOLNSHIRE**

**APPENDIX 3
Hedgehog information**

Hedgehogs will travel through a number of gardens in one night looking for food and nest sites. To allow a hedgehog access into the gardens, all it takes is a 130mm - 130mm square gap in a fence panel, under a gate or alternatively using native hedges in place of fences.

Having a series of hedgehog gaps across the site will encourage the creation of hedgehog friendly routes between gardens and other habitat, removing the need for hedgehogs to wander out onto our busy roads.

Ensure that garden ponds have at least one side that slopes gently, to allow any hedgehog to get out, or form a ramp to create an escape route.



Gap under a gate



Hole in a timber fence panel



Hole in a plastic fence panel

A nesting option for hedgehogs can also be provided, by creating a natural feature such as a compost heap or log pile. Artificial hedgehog houses may also be used by hedgehogs, and are widely available. Choose a shady, quiet area of the garden to site the hedgehog house, and ensure that there are plenty of leaves near to the box, or leave out straw and hay which can be used.



Wooden hedgehog house



Schwegler hedgehog dome

More information on how you can make your garden hedgehog-friendly can be found on the Hedgehog Street campaign website, run by the People's Trust for Endangered Species (PTES) and British Hedgehog Preservation Society: www.hedgehogstreet.org

**ECOLOGY AND PROTECTED SPECIES SURVEY
LAND OFF A151, HOLBEACH, LINCOLNSHIRE**

**APPENDIX 4
Wildflower matting**



Parks, green spaces and urban planting – CUT COSTS while meeting valuable strategic goals by improving:

- Local biodiversity
- Essential wildlife corridors
- Local educational and recreational resource

Introducing Meadowmat

Meadowmat is an instant wild flower meadow on a roll!

Delivering fantastic ROI, Meadowmat is easy to install, self-perpetuating year on year, and extremely LOW maintenance. Why not improve your local environment while slashing the costs of upkeep?

At last there is a simple and cost-effective way to respond positively to the many growing pressures for more sustainable land management. And the benefits to your communities are visible and measurable too. Just look at these advantages:

1. Cutting costs

In one move you can slash routine mowing requirements, eradicate expensive herbicides – and let nature do all the hard work creating beautiful floral displays!

With today's financial restraints, maintaining an elaborate planting scheme is simply not realistic. From formal parks to planted roundabouts, even routine grass cutting is becoming an unaffordable luxury.

With Meadowmat wild flower areas, you only need ONE major mow per year! And by allowing the area to self-seed, you reduce that costly nursery-plant bill too. You don't even need expensive ground preparation – natural meadows thrive best on poor soil!

Meadowmat has to be the most cost-effective and high ROI spending choice you can make.

We're here to help you

We're not just passionate about restoring Britain's essential wild flower meadows; we're dedicated to helping YOU to do it too. So we can provide advice on:

- Type of Meadowmat
- The best location
- Size and shape of meadow
- Installation
- Simple maintenance
- Trouble shooting

So, call us NOW and let's get planning! Alternatively, visit the website to learn more about the different types of Meadowmat and the easy installation and maintenance.

www.meadowmat.com
0800 061 2653

2. Enhancing green credentials

Buglife, RHS, Plantlife, Britain in Bloom and Wildlife Trusts – all these and more are ready to give credit and kudos to any council able to support their vital biodiversity initiatives. And when it saves you money as well, it's a win-win for everybody!

Parks and green spaces are high-visibility beacons advertising your environmental successes. Simple information boards can be used to explain and show off your initiatives (including wildlife corridors, increased biodiversity, and preserving indigenous flora and fauna for the community) – earning you valuable public endorsement.

Green Flag and other awards: by introducing Meadowmat wild flower areas to your public spaces, and involving local communities in the planning, you are eligible for all kinds of official recognitions.



3. Improving neighbourhoods

Natural enhancement of the neighbourhood environment is one of the simplest and most effective legacies you can make.

We've already seen how hands-on interaction with nature has become a central part of the school curriculum. Now, research is revealing the benefits throughout our life-span, and particularly for the elderly and the vulnerable.

From as little as 2 square metres, an area of wild flower meadow:

- Enhances visual and aesthetic properties
- Focuses community pride and respect
- Reduces stress and anti-social behaviour.

BENEFITS

Easy to install and incredibly low maintenance!

Traditionally, new planting schemes are slow and costly projects. Not any more!

Meadowmat is delivered ready to unroll and install, with grasses and flowers already growing. Depending on when you lay it, you may see flowers within just a few weeks in the very first year! And of course you have an instant living feature – no waiting with fingers crossed for seeds to germinate on bare soil.

Maintenance is as simple as one major cut per year, and some light mowing in the autumn.

It's even chemical-free!

A wild flower meadow is FAR greener than a flower bed or even an area of lawn.

Wild flower turf actually discourages unwanted plants and weeds. So you won't have to resort to chemical herbicides and pesticides and instead will be protecting the natural environment – another green credential to boast about!

www.meadowmat.com

0800 061 2653

