

Extended Phase 1 Ecology and Bat Survey Report For Bovill's Farm Barn Osyth Road Little Clacton

For Strutt and Parker LLP

11th July 2014

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	Extended Phase 1 Ecology and Bat Survey Report for Bovill's Farm Barn, St. Osyth Road, Little Clacton	

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Summary

Conservation Constructions Ltd undertook an extended phase 1 ecology and bat survey report at Bovill's Farm Barn, St Osyth Road, Little Clacton CO16 9NT. The site comprises a traditional farm barn in a yard of hard-standing that also includes a more modern farm barn. The survey was undertaken to update an earlier report undertaken in 2010 and to inform a planning application to convert the traditional barn to a dwelling.

A data search on Magic revealed two statutory protected biological sites within a 3 km radius. Within the same area are a number of non-statutory wildlife sites. The nearest Biodiversity Action Plan habitat is adjacent to the east boundary and is deciduous woodland; there are a number of other similar habitats within a 2 km radius. Conversion of the barn to a dwelling is unlikely to impact on these sites most of which will not have public access.

The site is adjacent to existing moated Bovill's Farmhouse also a listed building and other farm buildings. In the wider landscape are other dwellings and high-density holiday accommodation as well as woodland and farmland.

Sometime after the last survey in 2010 the traditional barn has been occupied by a large number of feral pigeon. These birds are breeding in the barns and it is probably why barn owl and bat foraging activity has ceased since the earlier survey. There has also been a slight deterioration in the fabric of the traditional barn which has allowed the pigeons access and will impact on internal temperature. The barn owl box should be retained as the birds might return once the pigeons have gone and the redevelopment complete.

The hedgerow and trees on site should be retained and protected to the British Standard BS5837 Trees in relation to construction during the building conversion. Other vegetation includes no notable or protected species. 'Russian vine' is present on the site and this needs to be eradicated as soon as possible as it is very fast growing and will have an adverse impact on the fabric of the traditional barn.

The site is still not suitable for herptiles due to the lack of suitable habitat.

Development of the site is not considered likely to impact on the brown long-eared bat roost associated with Bovill's Hall and gardens provided that external security lighting is not used and any external lighting for access is directional and operated by PIR. Additional landscaping of the site associated with the development should use native species and this will provide a small, localised benefit.

In compliance with the National Planning Policy Framework conservation gain may be achieved by:

 A weatherboard bat roost will be built into the east gable. This type of roost is most frequently used by pipistrelle species although it may also be used by other small and medium sized bats



 Provision of six bird boxes in the garden to the property on completion of the conversion. These should be located out of direct sunlight and mindful of the potential for predation by cats



1. Introduction

Conservation Constructions Ltd (CCL) undertook an extended phase 1 ecology and bat survey at Bovill's Farm Barn, St Osyth Road, Little Clacton CO16 9NT. The survey was undertaken to inform a planning application to convert the barn for residential use.

The report includes:

- · Magic data search for protected habitats within a 3 km radius
- a review of previous ecological surveys and their findings
- habitats and species identified on site during the survey
- recommendations on habitats that should be retained within the proposed development
- recommendations for conservation gain in compliance with the National Planning Policy Framework (NPPF)

2. Site location

The site lies off St Osyth Road to the south-west of Little Clacton and approximately 2.5 km north-west from the centre of Clacton-on-Sea (NGR TM158180), Figure 1. Tourism and farming is the dominant economies in the area.

To the north and west of the site is St Osyth Road while to the east is an area of amenity woodland associated with Bovill's Hall. The woodland comprises mown paths between irregular shaped areas of trees of no more than 25 years of age. The woodland occurs on the Magic inventory as deciduous woodland and biodiversity action plan (BAP) priority habitat. On the south-east boundary is Bovill's Hall garden which is predominantly mown lawns, shrubs and trees but does include a moat. Bounding the south of the site is the access drive to the Hall and other farm buildings unaffected by the planning proposals.

A farm pond is located south of the extensive farm buildings, approximately 300 m from the timber barn. The pond was created some 20 years ago when the piggeries were demolished. It is fed by rainwater and drainage from the farmyard. It is bounded by a box hedge on two sides and self-set willow. In summers of low rainfall the pond dries out, otherwise water is abstracted from it for spraying. Mallard use the pond as a roost. Picker's Ditch a local stream is less than 0.5 km north-east of the site.



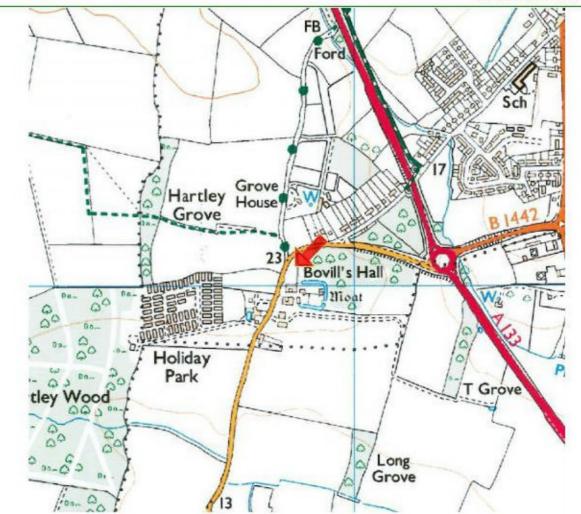


Figure 1 Site location shown by the red arrow (Ordnance <u>Survey@Crown</u> Copyright. All rights reserved, licence number 100048215)

Using Magic it was possible to identify two statutorily protected wildlife sites (SSSI) within 3 km of the site and a number of woodlands that are either BAP habitats, on the National Inventory of Woodland and Trees, or are identified as ancient and seminatural woodland.

Riddles Wood, ancient woodland 2.5 km at its nearest point west of the site is one of the SSSI's and Weeleyhall Wood, also ancient and semi-natural woodland, is 2.7 km to the north. Other areas of ancient woodland in the area of St Osyth, and designated County Wildlife Sites include Martin's Grove, Milton Wood, Stockets Grove and Hartley Wood. The latter is the closest to the site being less than 1 km to the west.

The River Colne, its estuary and tributaries, the closest point of which is approximately 5 km to the site, is an SSSI. Sections of the estuary are also internationally designated Essex Estuaries SAC and Colne Estuary Ramsar. Magic maps showing the locations of some of these sites relative to Bovill's Farm Barn are provided in the appendices.



3. Survey methodology

The extended phase 1 ecology and bat surveys were undertaken on 20th June 2014 by Rebecca Barrett holder of Natural England (NE) class survey licence for bats (WML-CL18 level 2) and great crested newt (class licence WML-CL08 level 1), a former bird ringer and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The survey took into consideration the standing advice on protected species issued by Natural England to Planning Authorities, regarding ecological assessments in support of planning applications. The survey comprised:

- a survey of the buildings and any suitable trees looking for evidence of bats or their roosts, including:
 - o faeces, urine staining, feeding remains, dead animals
 - fur oil staining or scratch marks on timbers that may indicate a roost location
- breeding bird survey
- · other mammals particularly badger
- mapping of vegetative habitats
- habitat suitability assessment for amphibians and reptiles

Reference was also made to the second edition of the Bat Conservation Trust's *Bat Surveys – Good Practice Guidelines*. However, in addition to the standard survey equipment (high powered torches, an endoscope, mirrors, binoculars and a camera); Conservation Constructions Ltd use full length ladders (5.4 m) to permit thorough surveys of high-level areas, where bats are most likely to roost, including roof timber joints; behind sarking and at roof ridges; in wall cavities; on wall-plates and other horizontal high-level surfaces which are otherwise invisible from the ground.

Surveys conducted using a ladder will identify:

- cavities used by other species such as mice and birds but not bats
- evidence of bat activity on high-level horizontal surfaces; this may be the only remaining evidence of bats in buildings that have recently been emptied or cleaned
- hibernation roosts where emergence surveys are inappropriate, and when other evidence such as bat droppings are infrequent

The barn survey was undertaken in five man hours.

The results of the survey with recommendations for any further surveys, timing constraints, or why species can be discounted as not present, has been explained in this report.



4. Results

4.1 Previous survey summary

Prior to the site survey a data search was undertaken using MAGIC and the National Biodiversity Network (NBN) websites.

Search criteria for the tetrad TM11 on the NBN website included mammal and herptile records between the years 1980 and 2009. The search revealed historical records for the two Biodiversity Action Plan (BAP) herptiles common lizard (*Zootoca vivipara*) and grass snake (*Natrix natrix*) in Little Clacton.

Mammals recorded in tetrad TM11 over the same time period include fallow deer (*Dama dama*), badger (*Meles meles*), common pipistrelle (*Pipistrellus pipistrellus*) and brown long-eared (*Plecotus auritus*) bats.

A bat survey conducted on 28th August 2007 by John Dobson found c.40 droppings, presumed to be of brown long-eared bats beneath four mortise joints in the south aisle and one in the north aisle; feeding remains of moths was also found beneath the ridge of the midstrey on the south side of the barn. An evening survey revealed one brown long-eared bat had probably been roosting in the barn and pipistrelle (*Pipistrellus sp.*) bat activity in and around the farm buildings in general, shortly after expected emergence from a roost, which was therefore likely to be close-by. The report also stated that in September 1995 six brown long-eared (*Plecotus auritus*) bats had been found in the roof of Bovill's Hall.

An extended phase 1 habitat survey had previously been undertaken by CCL on 26th May, 2010 by Rebecca Barrett, ecologist and holder of Natural England species licences for bats (20092509) and great crested newts (20102141) and a member of (the then) IEEM.

The bat survey was undertaken on 8th July 2010 by Rebecca Barrett and Maurice Webber (NE bat licence 20092950). The survey comprised:

- a daytime survey of the interior and exterior of the barn for evidence of bats particularly droppings, urine staining, feeding remains, fur staining and scratch marks as well as live and dead bats
- an emergence survey using two static bat detectors within the barn and two surveyors with detectors observing outside

The surveys revealed the occasional pipistrelle bat dropping in the dirt on the barn floor. Six, fairly fresh (2009/10) droppings were found in total, their single, scattered numbers typical of a foraging bat. No brown long-eared bat droppings were found as present in the 2007 survey, nor was there evidence of any feeding remains.



Although the interior of the barn was heavily cobwebbed there were some mortise joints in the timber frame that were cleaner than others, indicating that they could potentially be used by bats, although at least one contained a bird nest.

Birds observed during the extended phase 1 habitat survey were feral pigeon (*Columba livia*) in both barns and jackdaw (*Corvus monedula*) in the timber barn. Both species are likely to be breeding.

Thirteen fresh barn owl (*Tyto alba*) pellets and associated liming was found in the timber barn. No barn owl was present and it is likely that the barn is used as a night feeding roost.

During the bat building survey a breeding barn owl was found at the south end of the central shelter shed. Discussion with the Farm Manager revealed that barn owl had nested in this location in the past but the site had been subsequently occupied by jackdaw. This year the breeding pair has returned and was currently rearing three young. The male owl was also disturbed in the main barn and a further 20 fresh owl pellets and liming were noted on the floor of the barn.

The site contained no suitable habitat for amphibians or reptiles in 2010. There are no potential refuges or scope for animals to get under the edges of the concrete yard. Both barn floors were dry and dusty and there were no stored items in the yard that might have provided suitable refuges for these species.

As the yard is north facing it has little value as a basking site for reptiles. The only potentially suitable habitat is the garden and amenity woodland associated with Bovill's Hall, particularly as the garden includes a moat.

The moat was surveyed and found to be dry and apparently dries each summer. A newt habitat suitability index was undertaken and gave a result of 0.4 which is considered poor habitat for great crested newt.

The 2010 bat building survey revealed no further evidence of roosting bats. There were still some clean mortise joints but these could be clean as a result of bird or mouse use. No aggregations of bat droppings were found on the floor or walls of the barn although five scattered pipistrelle droppings, of the current year, were found on the midstrey bay floor.

No bats were observed emerging from the barn. Common and soprano pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*) were recorded flying across the barn and yard, back and forth from the direction of Bovill's Hall garden and the adjacent wood to the woodland on the west of the road. This activity continued throughout the survey period with no more than two bats seen at any one time. During the course of the activity survey a single call from a Daubenton's bat (*Myotis daubentonii*), probably commuting, was heard to the south of the farm buildings.

Sonogram analysis revealed that a soprano pipistrelle was recorded flying within the barn at 2153 and 2155 hrs. This is too late in the evening for the bats to be emerging



from roosts in the barn (typically around sunset), but representative of bats entering the building to feed. No social calls were recorded; such calls are often heard prior to bats emerging.

The Farm Manager confirmed that the brown long-eared bat roost is still present in Bovill's Hall and the number of bats observed during recent, essential maintenance in the loft is indicative of a maternity roost.

4.2 Site description including flora

Access to the site is from St Osyth Road via a double metal gate. The roughly triangular site of 0.4 ha, has an open northerly aspect and comprises a concrete surfaced farm yard with a central, cement-fibre corrugated sheet clad barn. The site layout is shown in Figure 2.

The grade II listed, traditional, timber framed barn and associated outbuildings are along the south and south-east boundaries. The remaining boundaries generally comprise a grass verge with trees inside a well-managed hedge of box and hawthorn.

The mown grass verge is approximately 1.4 m wide and exists inside the west, north and most of the east boundaries, adjacent to the boundary hedge. In the verge along the north, west and part of the site has been planted with a row of trees, mostly elm (*Ulmus* sp.). Most of the trees are young standards; however, on the west boundary, opposite the barn is a row of mature horse chestnut (*Aesculus hippocastanum*) in a wider verge, and at the north-east end there are some oaks (*Quercus sp.*) of approximately 40 -50 years old and an apple (*Malus sp.*).

The verge close to the hedges and trees is managed by mowing but there are a variety of common ruderals are present, the dominant species being common nettle (*Urtica dioica*), bristly ox-tongue, ivy (*Hedera helix*) and cleavers (*Galium aparine*) but other species present include garlic mustard (*Alliaria petiolata*), creeping buttercup (*Ranunculus repens*), broad leaved dock (*Rumex obtusifolius*), cow parsley (*Anthriscus sylvestris*), dandelion (*Taraxacum officinale agg.*), spear thistle (*Cirsium vulgare*), yarrow (*Achillea millefolium*), ribwort plantain (*Plantago lanceolata*), cut leaved Crane's bill (*Geranium dissectum*) and occasional red dead nettle (*Lamium purpureum*), red campion (*Silene dioica*), mallow (*Malva sylvestris*), eyebright (*Euphrasia nemorosa*), hedge bindweed (*Calystegia sepium*) Arron's rod (*Verbascum thapsus*), daisy (*Bellis perennis*), willowherb (*Epilobium sp.*) and groundsel (*Senecio vulgaris*). Some of these plants have colonised the cracks in the concrete yard. Other plants include garden escapes; honesty (*Lunaria annua*) and periwinkle (*Vinca major*).

Some of these species are also found growing on organic material that has collected on the east side of the modern farm barn in the centre of the yard and between cracks in the concrete as a result of the site not being used.



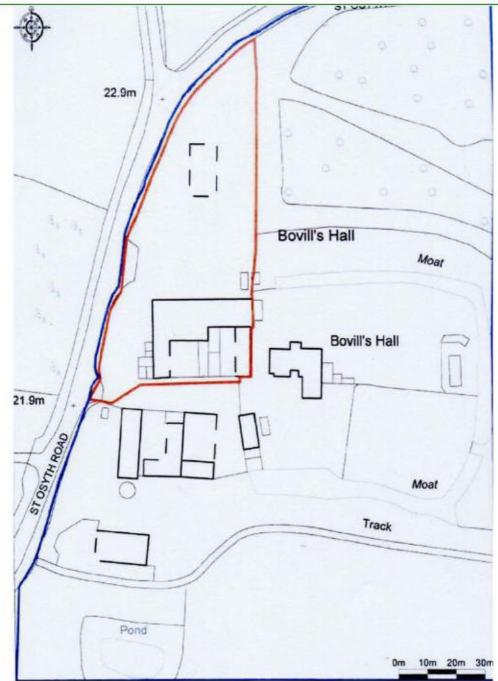


Figure 2 Site layout

Modern barn

This building is located in the middle of the concrete yard and when not used for storing cereal is empty. There are two large halogen lights on the south facing elevation, above the doorway.

Traditional barn

This is an aisled, eight bay, gabled, timber barn with a gabled midstrey to the south (doorway bricked up), and a dormer double door to the north where the second midstrey was once. The barn has a conventional timber frame (arcade posts, plates



and tie-beams braced back to the posts, collar beams and ridge board) forming the nave with rafters sweeping down to cover the aisles. The rafters continue down to the wall plates which are carried on a series of outer posts and supported on a brick wall (rendered or replaced with concrete in places) to form the outer walls. Horizontal ties run from these posts to the arcade plates. The barn is clad externally in weatherboard, portions of which have been replaced and repaired. Much of the studwork and timber cladding has been lime washed.

Alterations to the building include some of the south elevation being replaced by brick; and windows have been fitted in both the north and south elevations. The steep roof has been recovered with asbestos sheet and the roof timbers replaced, although from the tie beam down the timber frame appears mostly original. There are three, large, single storey, open fronted outbuildings (traditional shelter sheds) built out from the south elevation. These buildings are mostly of solid brick, or lapped timber construction with a roof covering of the original unlined slate or asbestos sheet. Between each pair of buildings is a fold yard which is walled along the south boundary.

Off the most westerly of these shelter sheds are two brick pig sties with a monopitched, asbestos clad roof that has collapsed and is part of the building that is becoming overgrown with 'Russian vine' (Fallopia baldschanica).

In the recent past the timber barn has been used as a modern granary with storage bins and associated plant occupying the majority of the nave and rising up into the roof. It may have been for this purpose that some of the braces had been removed, leaving open mortise joints. The interior of the building is very dusty with extensive cobwebs while the concrete floor is covered with dirt, including leaves that have blown in under doorways.

The shelter sheds on the south side of the barn comprise a mix of stabling and general storage areas that are open fronted. The east and west buildings have asbestos sheet roofing, while the central, double pitched roof section is covered in unlined slate; both roof types are supported by predominantly machined timbers.

Some of the building fabric has deteriorated since the 2010 survey with slipped or missing slates and missing weatherboard.

There are halogen security lights on the south elevations of the shelter sheds, although during the July survey it was noted that these are not in use and the road has street lighting.





Modern farm barn within the concrete yard





Horse chestnut beside the west gable of the timber barn and shielding it from street lighting



West boundary of the concrete yard



West elevation of the shelter sheds and the piggery covered in Russian vine



East side of the modern barn and colonization of the concrete by ruderal



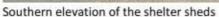
South-west corner of the barn and shelter shed



Southern gable of the shelter shed with the barn owl box









One of the shelter sheds and fold yard

4.3 Mammals

There was still no evidence of large mammals, (deer species, badger (*Meles meles*) and fox (*Vulpes vulpes*)) on site since the 2010 survey. Although all these species are likely to be common in the area, the site offers little in suitable habitat or foraging opportunities. Small mammals such as (voles (field), wood mice and shrews) may be present in the verges. No evidence of hedgehog (*Erinaceus europaeus*) was observed although the adjacent habitat within Bovill's Hall is suitable for this species. The site is not suitable for harvest mouse (*Micromys minutus*) or common dormouse (*Muscardinus avellanarius*). The adjacent amenity woodland is not considered suitable for common dormouse due to the relatively young age of the trees and their lack of connectivity with more mature woodland. However, the amenity woodland does support brown hare (*Lepus europaeus*) and could support harvest mouse although their presence would not be affected by the proposed development. The timber barn has a thriving population of both brown rat (*Rattus norvegicus*) and house mouse (*Mus musculus*) in the timber barn, with no evidence of any pest control.

The only trees of sufficient age on site to harbour a bat roost are the horse chestnut. However, these trees had no evidence of suitable features (splits or holes) that could be exploited by bats. There are other suitably large trees that may have bat potential are in Bovill's Hall garden, although only roosts in the trees close to the boundary of the proposed development site are likely to be affected by the change of use.

The walls, cobwebs, in the dirt on the floor and on all horizontal surfaces of the timber barn, particularly those at height, there was no evidence of any bat droppings or feeding remains.

Mortise joints in the timber frame that had been cleaner than others in 2010 were now cobwebbed or contained nesting material indicating that they are no longer used by bats.



4.4 Birds

The dominant bird on site is feral pigeon. During the 2010 survey these birds were breeding in the modern barn but on the recent visit numbers had increased dramatically and the birds now occupy and breed in the traditional barn.

Possibly as a result of the pigeon there was no evidence of the barn being used by the off-duty barn owl as found in the earlier surveys. The barn owl box is also no longer being used.

No other bird species were recorded on site.

4.5 Other species

The site is still considered unsuitable for herptiles due to lack of habitat.



The interior of the barn was very dirty



Pigeon nest remains at the ridge



The roof area was still cobwebbed in areas



Rat droppings between the silos





Pigeon guano was beginning to occur in quantity on areas of the floor

5. Discussion and conclusions

Conversion of the listed barn, demolition of the modern farm barn will not impact on the nearby SSSI's or ancient woodland, partly because the designation of these sites does not infer public access and partly because of the distance between the sites.

The wildlife interest since the last survey in 2010 has been lost probably due to the increase in feral pigeon that appear to have driven the breeding barn owl and foraging bats away. No further species surveys are considered necessary and the conversion will not require a European Protected Species licence in relation to bats.

However, the feral pigeon are protected by the *Wildlife and Countryside Act 1981* (as amended) when breeding. Therefore it is recommended that a suitably qualified person is employed to deal with the birds outside the bird breeding season. For pigeons the breeding season can be quite long and it will probably not be till the winter that they can be humanely destroyed.

The barn owl box should be retained as the birds may return once the feral pigeon have been dealt with and the development completed.

The site has no amphibian or reptile interest and no further surveys are required. No rare or protected plants were found on site. 'Russian vine' has established on the piggeries and its removal is recommended as soon as possible as this plant grows at tremendous speed and will damage the fabric of the building. The existing trees have landscape value and should be retained.

Development of the site is not considered likely to impact on the brown long-eared bat roost associated with the adjoining Bovill's Hall and gardens provided external security lighting is not used and any external lighting for access is directional and operated by PIR. Additional landscaping of the site associated with the development should use native species and this will provide a small, localised benefit.

In compliance with the NPPF conservation gain may be achieved by:



- A weatherboard bat roost of the design shown in Figure 3 will be built into the east gable (Figure 4). This type of roost is most frequently used by pipistrelle species although it may also be used by other small and medium sized bats
- Provision of six bird boxes in the garden to the property on completion of the conversion. These should be located out of direct sunlight and mindful of the potential for predation by cats

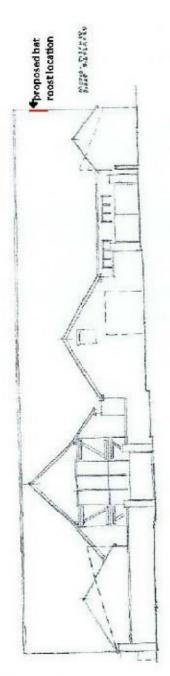


Figure 3 Proposed bat roost location on the east gable



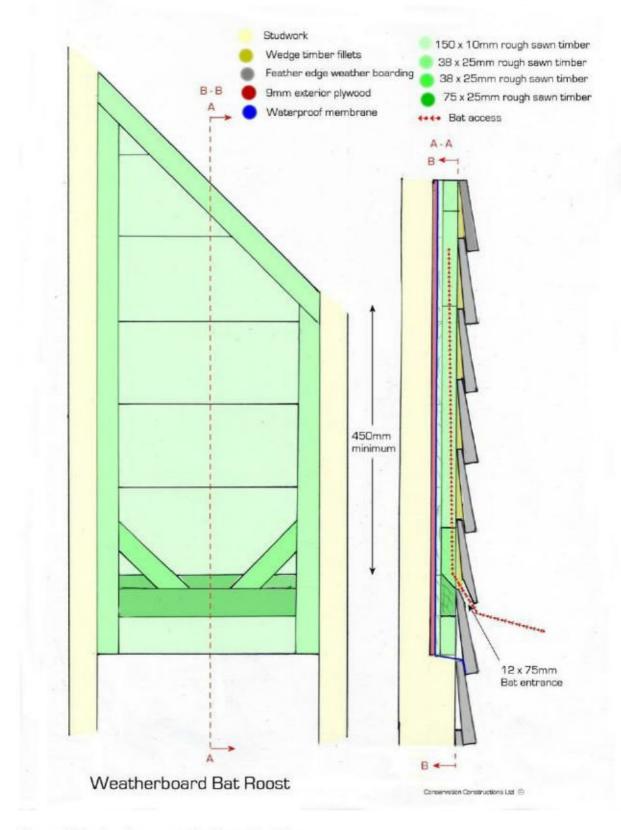


Figure 4 Design for a weatherboard bat box



6. References

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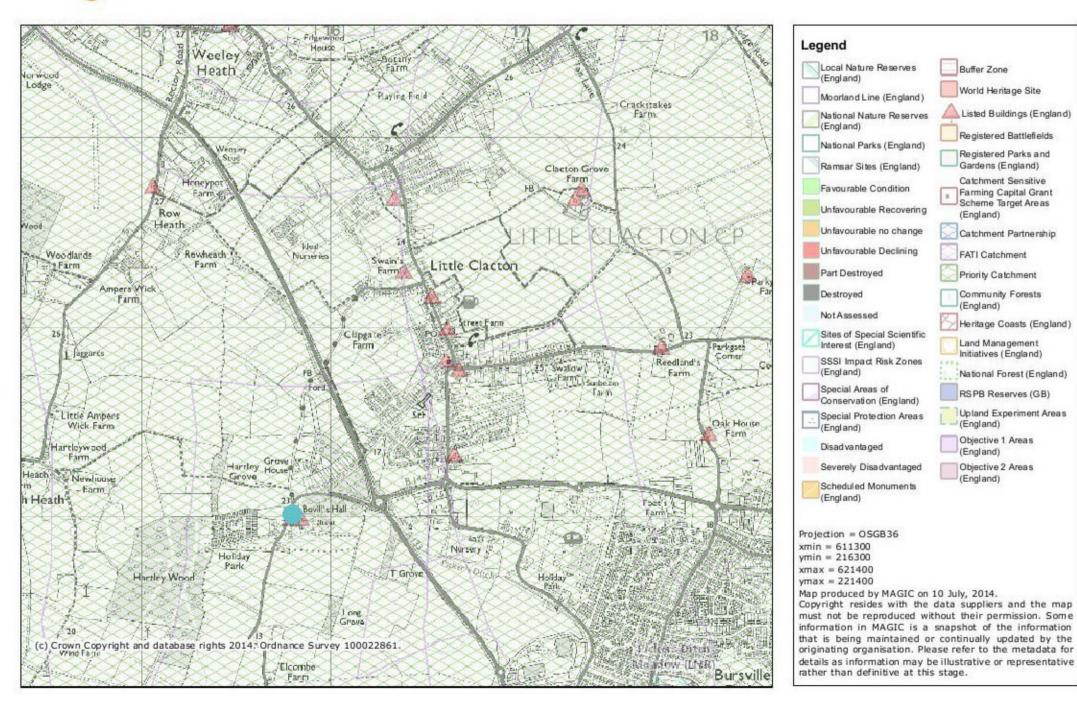


Appendices

Data search results

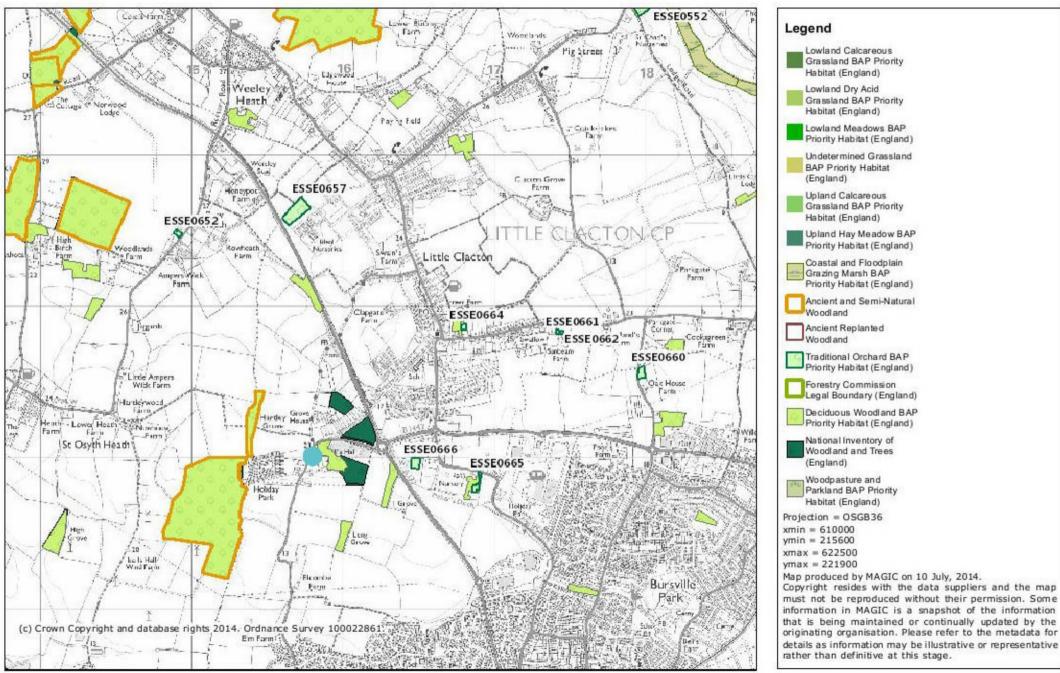


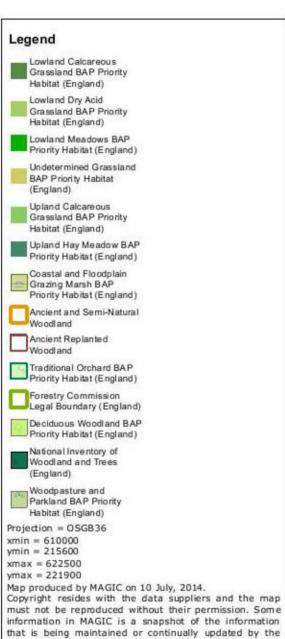
Magic Protected Sites





magic Protected Habitats







Summary of relevant wildlife legislation Legislation relating to birds

All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- intentionally kill, injure or take any wild bird
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built
- intentionally take or destroy the egg(s) of any wild bird

Special penalties are available for offences related to bird species listed on Schedule 1 of the Act, for which there are additional offences of disturbing these birds at their nests, or their dependent young.

A number of bird species are listed as being of principal importance for the conservation of biodiversity in England, in Section 74 (known as the UK BAP Priority Habitats/Species) of the *Countryside and Rights of Way Act 2000*.