

*Biodiversity Compensation &  
Enhancement Strategy for Protected &  
Priority Species*

for

*Wilby Manor, Wilby,  
Suffolk*

Prepared for:

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## **Executive Summary**

Abrehart Ecology Ltd was instructed by Beech Architects, on behalf of Lee Gooderham, to produce a Biodiversity Compensation and Enhancement Strategy for Protected and Priority Species to support a planning application to convert an existing barn into a residential dwelling and associated infrastructure.

This document was required to satisfy Condition 17 of the planning approval granted by Mid Suffolk District Council - planning application reference DC/21/04312. Condition 17 states: “*Prior to the commencement of works, a Biodiversity Compensation and Enhancement Strategy for Protected and Priority Species shall be submitted to and approved in writing by the local planning authority, following the details contained within the Preliminary Ecological Appraisal (Abrehart Ecology Ltd, 2020) and the Bat Survey Report (Abrehart Ecology Ltd, 2021).*”

This document summarises the results gathered by previous survey effort and details recommendations, and plans/drawings of proposed enhancements.

Enhancements include the creation of bat roosting opportunities, the installation of bird nesting boxes, GCN sheltering opportunities, and native tree and shrub planting. An indicative plan of the locations of enhancements is shown in the Appendix.

# **1 Introduction**

## **Background**

- 1.1 Abrehart Ecology Ltd was instructed by Beech Architects, on behalf of Lee Gooderham, to prepare a Biodiversity Compensation and Enhancement Strategy for Protected and Priority Species to satisfy Condition 17 of a planning application to convert an existing disused barn into a residential dwelling and associated infrastructure Wilby Manor, Wilby, Suffolk - Grid Reference: TM 23772 72454 (hereafter referred to as the Site).
- 1.2 This document should be read in conjunction with the following documents for the Site:
- Preliminary Ecological Appraisal (Abrehart Ecology Ltd, 2020)
  - Bat Survey Report (Abrehart Ecology Ltd, 2021)
  - Great Crested Newt Survey Report (Abrehart Ecology Ltd, 2021)
  - GCN Reasonable Avoidance Measures Method Statement (Abrehart Ecology Ltd, 2022)
  - Natural England Low Impact Class Licence for Bats

## **Aims and Objectives**

- 1.3 In accordance with the above, this strategy aims to review existing ecological survey reports and use this information to advise on features that could improve biodiversity within the Site boundary. This is in effort to provide habitats within the Site that are suitable for use by protected species post development.

MAGiC

Magic Map

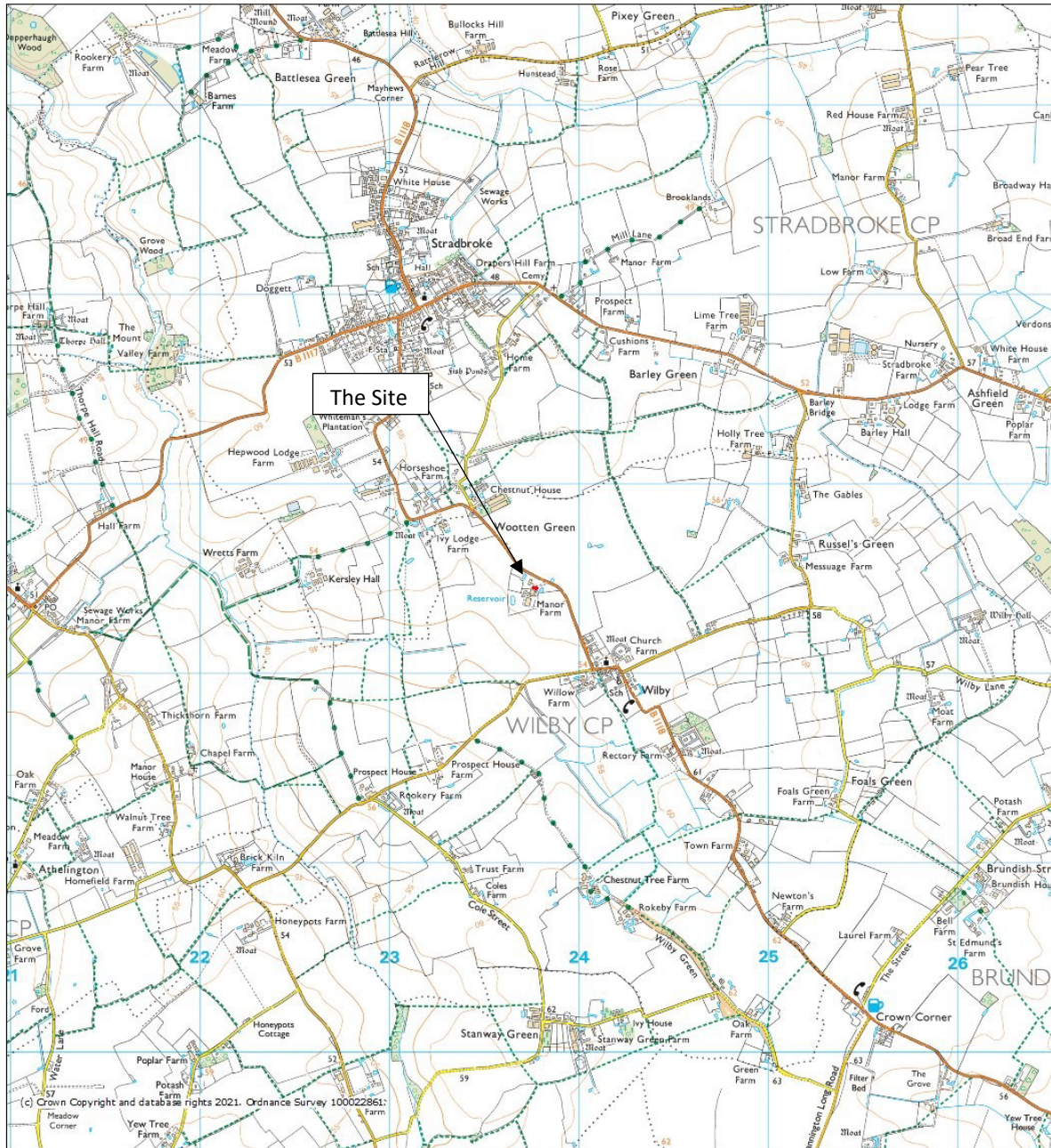


Figure 1. Site location

## **2 Previous Survey Results**

### ***Bats***

- 2.1 An initial habitat appraisal was carried out by Alister Killingsworth BSc (Hons) MSc Grad CIEEM (Natural England Great Crested Newt Class Survey Licence WML-CL08; Natural England Bat Class Survey Licence WML-CL17) and Abbie Montgomery BSc (Hons) MRes on the 4<sup>th</sup> of March 2021.
- 2.2 Habitats surrounding the Site provided foraging habitat for bats, with mature trees, ponds, and hedgerows. There was a small area of woodland to the South and West within a residential property further pocket of woodland creating foraging habitat at 936 m and 1000 m Southeast of the site and a pocket of woodland 785 m North of the Site. The landscape has multiple water bodies nearby creating foraging habitat including two adjacent to the Site at 67 m, 192 m and one on site at 28 m. To the West of the building was a large dead oak tree which could provide roosting potential for bats, and pollard willows lining the driveway to the East of the building provided foraging habitats.
- 2.3 The buildings were found to have potential roost features, and so was further surveyed for roosting bats in the summer of 2021.
- 2.4 Two survey visits were undertaken by ecologists Duncan Sweeting (Natural England Level 2 Bat Class Survey Licence WML-CL18), Thomas Jordan BSc and Ana Pino-Blanco BSc, MSc, (Natural England Bat Class Survey Licence WML-CL17), Alister Killingsworth BSc (Hons) MSc Grad CIEEM (Natural England Great Crested Newt Class Survey Licence WML-CL08; Natural England Bat Class Survey Licence WML-CL17) and Abbie Montgomery BSc (Hons) MRes, and Chris Strachan (see Table 1 for dates and weather details). The surveys were conducted following methods described by The Bat Conservation Trust (Collins, 2016).
- 2.5 The desk study returned 45 bat records within a 2km radius of the Site; the nearest record was approximately 132 m east of the Site, these records relate to serotine, soprano pipistrelle, brown long-eared, western barbastelle, Natterer's, and common pipistrelle with the most recent record from 2019. Records include a breeding colony and roosts.
- 2.6 A single soprano pipistrelle was observed emerging from the north face of the roof on Building 1. Other bat species recorded passing during the surveys were common pipistrelle, serotine, Daubenton's, and Natterer's pipistrelle. These species were recorded foraging and commuting only.
- 2.7 A low impact class licence is required as part of this development and will contain separate mitigation measures.

### ***Great Crested Newts***

- 2.8 Habitats on Site were assessed during a Preliminary Ecological Appraisal.
- 2.9 Habitats recorded on the Site were suitable to support amphibians, including great crested newts (GCN), during their terrestrial and breeding phases. The hedgerows, bare ground, grassland, and accumulated piles of materials and rubble offered potential foraging, commuting, and shelter opportunities.
- 2.10 There were six potential breeding ponds highlighted within the local area during the desk study, including within immediate adjacent residential garden habitats.
- 2.11 Four survey visits were undertaken by ecologists Toby Abrehart (Natural England great crested newt licence WML-CL08) and Thomas Jordan BSc (Hons) on the 26<sup>th</sup> of April, the 6<sup>th</sup> of May and the

12<sup>th</sup> of May, and the 1<sup>st</sup> of June 2021. The surveys were conducted following methods described by Natural England; Table 1 details the methods used during the surveys.

- 2.12 Great crested newts were recorded in one of the surveyed ponds (Pond 4). Adult newts and eggs were recorded.
- 2.13 A peak count of 147 adult newts was recorded whilst torching on the 6<sup>th</sup> of May 2021, indicating that an exceptional population exists in the local area.
- 2.14 Surveying was not continued beyond this, as it was not considered appropriate to risk harm / excessive disturbance to GCN as any further data gathered would not alter recommendations or metapopulation status within the ponds / local landscape.

### **3 Compensation and Enhancements for Biodiversity**

#### ***Bat Boxes***

- 3.1 The inclusion of bat boxes / roost features will be required to satisfy mitigation as part of the Natural England Low Impact Class Licence.
- 3.2 Additional boxes / features will be included within the construction of the building to enhance the local area for roosting bats post-development.
- 3.3 The development will include the installation of the following enhancement features:
- Specialist roof tiles (on the cart lodge) designed to allow bats to crawl into the void between roof tile and felt.
  - A bat box to be sited on the western gable end wall of the main house at suitable height. Box shown below is a Vivara Pro WoodStone Bat Box available from NHBS.
- 3.4 Should bat access be encouraged within roof or beneath tiles then it is recommended that bituminous roofing felt is used. Breathable Roofing Membranes (BRMs) can create an entanglement threat to bats.
- 3.5 Below are images of enhancement features. Boxes should be sited at least 3m from ground level and be clear of obstructions – allowing for a clear flight path to the box entrance i.e., not obscured by tree limbs or foliage. All features shown below do not require maintenance as the design encourages droppings to fall out of the bricks or access features. Bat roosts are protected from disturbance and so should be left undisturbed once installed – unless maintenance/remedial works are carried out by a suitably licenced ecologist at correct times of year – this should be discussed with an ecologist prior to being undertaken.



#### ***Native Planting***

- 3.6 New planting – in the form of bushes, shrubs, and trees – will provide opportunity to increase foraging and sheltering potential for a range of wildlife, including birds, invertebrates, and mammals.



- 3.7 Any planting should be of local provenance and of native species.
- 3.8 Trees and shrubs can provide year-round habitat for wildlife; the dense canopy formed by shrub beds offer protection from predators and foraging opportunities for butterflies, birds, and mammals; and trees provide additional nesting and foraging for birds – including resident and migratory bird species.
- 3.9 Trees – these should be planted 2-3m apart and avoid planting within 4m of buildings. Further details on planting can be found online (such as the RSPB website (<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-trees/>) or from the supplier of the trees. Trimming should be avoided throughout the bird nesting season (March to end of August) to prevent disturbing nesting birds or harming eggs/young birds.
- 3.10 Shrubs – should be planted 0.5-1.2m apart and to specifications/details provided by the supplier or found on the RSPB website (<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/shrubs-for-gardens/>). Management of shrub growth should take place in winter months – both avoiding the nesting bird season and ensuring greatest benefit to local wildlife, as species detailed below will provide berries and seeds for animals to forage on.
- 3.11 Suitable species for shrub beds and tree planting include:
- Birch (*Betula* spp.)
  - Holly
  - Rowan
  - Crab apple
  - Berberis
  - Spindle
  - Dogwood
  - Guelder rose
  - Hawthorn
  - Cornelian cherry

### ***Bird Boxes***

- 3.12 Little owls (*Athene noctua*) were recorded using the barn, with frequent activity noted throughout all three bat survey visits and a high number of little owl pellets were found in upper levels of the barn during the preliminary ecological appraisal.
- 3.13 The proposed development is likely to result in the loss of nesting and/or roosting opportunities for a range of bird species, including little owls. Use of artificial nesting sites by little owls can be variable; however, records from Lincolnshire and Wiltshire indicate boxes can be readily occupied, and studies in Germany have shown boxes to help increase population numbers. A species-specific design is required (including narrow entrance and baffle system) as this prevents other, predatory species, taking over the box and creates preferred nesting conditions.
- 3.14 Below is an example of a little owl nest box, taken from the NHBS ([www.nhbs.com](http://www.nhbs.com)). The box should be sited on top of a branch, wall, or beam (between 2m and 5m from ground level), which would allow owlets to walk in and out of the box prior to fledging. As the species appears to prefer open fronted barns or buildings, and the proposed new dwelling is likely to be fully enclosed, it is recommended that the box is sited within a mature tree. The box should be cleared after two or three years of occupation, with clearance taking place in autumn or winter months. This is important to prevent young birds from leaving the box prematurely. Installation guides can be found on the Barn Owl Trust, BTO, and NHBS websites (links provided within Section 5 - References).



### *Amphibians (including Great Crested Newts)*

- 3.15 To mitigate for the loss of sheltering and hibernation habitat, the development will include the creation of log piles, both adjacent to retained ponds and within created planted areas. As well as providing shelter, the rotting wood attracts invertebrate prey for GCN. Allowing grasses and other vegetation to grow over the log pile will increase the variety of invertebrates attracted to it and provide more shelter.
- 3.16 Log piles near ponds create damp habitats immediately adjacent to breeding habitat and safe habitat for young animals as they first leave the water. This helps protect them from predation, increases abundance of prey, and helps prevent desiccation during dry months.
- 3.17 Below is an example of a log pile, surrounded by grassland, and an image of GCN found beneath rotting wood (taken from the ARC Amphibian Habitat Management Handbook).



Male and juvenile great crested newt sheltering under decomposing dead wood (ARC)

### *Invertebrates*

- 3.18 New planting – in the form of bushes, shrubs, and trees – detailed above would increase opportunities for a range of invertebrates, including pollinator species.

- 3.19 The addition of a 'bug hotel' within garden areas will provide excellent sheltering opportunities for invertebrates, along with small mammals and amphibians. Made from garden waste and excess from construction, this will be constructed on site to recommendations/guidelines on the RSPB website (<https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/build-a-bug-hotel/>).



## **4 Conclusions**

- 4.1 Recommendations within this report are based upon the results collected as part of the Phase 1 surveys at the Site (see Section 2) and proposed layouts and planting. The recommendations have been made to increase the availability of habitat for protected species post-development within the Site boundary.
- 4.2 The development has potential to include bat roosting features, bird nest boxes, features for invertebrates, and native tree and shrub planting. Details on these can be found in Section 3 and on websites detailed within the report.
- 4.3 It is the responsibility of the Site manager and Developer to ensure the above points are adhered to/followed.

## 5 References

Abrehart Ecology Ltd (2021a). Great Crested Newt Survey Report of Wilby Manor, Wilby, Suffolk. Carried out on behalf of Lee Gooderham.

Abrehart Ecology Ltd (2021b). Preliminary Ecological Appraisal for Wilby Manor, Wilby, Suffolk. Carried out on behalf of Lee Gooderham.

Abrehart Ecology Ltd (2021c) Bat Survey Report for Wilby Manor, Wilby, Suffolk. Carried out on behalf of Lee Gooderham.

Baker, J., Beebee T., Buckley, J., Gent, A. and Orchard, D. (2011). Amphibian Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

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### Web references

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<https://www.bto.org/sites/default/files/little-owl-nest-box-plan.pdf>

<https://www.nhbs.com/>

<https://www.nestbox.co.uk/products/eco-house-martin-nest>

<https://www.nestbox.co.uk/products/eco-sparrow-tower>

<https://www.nestbox.co.uk/products/sparrow-terrace-nest-box>

<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-trees/>

<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/shrubs-for-gardens/>

# Appendix – Indicative plans of biodiversity compensation and enhancement

