



**Hoe Moor House, Dodwell Lane, Bursledon, SO31
1AB**

Ecological Assessment

Report Number: 0079

Issue Number: 01

Date of Issue: 18th August 2016

Peach Ecology
9 Elizabeth Road
Wilton
Wiltshire
England
SP2 0JH

COPYRIGHT: Peach Ecology disclaims any responsibility to the Client and others in respect of any matters outside the scope of this document. This document has been prepared with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The report has been prepared for the exclusive use of the Client and Peach Ecology accepts no responsibility of whatever nature to third parties to whom this report, or any part thereof, may be made known. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole and do not, in any way, purport to include any manner of legal advice or opinion. No part of this document may be reproduced without the prior written approval of Peach Ecology.

Contents

	Page
1.0 Summary	1
2.0 Introduction	2
3.0 Methodology	3
4.0 Results and Analysis	6
5.0 Requirements and Recommendations	22

Appendices

- Appendix A: Site location
- Appendix B: Existing site plan
- Appendix C: Existing elevations and layout
- Appendix D: Proposed plans
- Appendix E: Bat DNA results
- Appendix F: Bat survey results
- Appendix G: Bat mitigation
- Appendix H: Landscape enhancements
- Appendix I: Protected species legislation

1.0 Summary

The proposal is to demolish a small section of the existing house and construct a new swimming pool with pool room and garage, this will involve the clearance of shrubs and trees on a section of land within the garden, new tennis courts have also been proposed on an area of lawn which was previously a tennis court. A reptile survey was undertaken of the section of land where the pool is proposed and no reptiles were recorded although habitat for stag beetles was noted. Brown long-eared bat droppings were found in the small room proposed to be demolished to make way for the pool room and therefore bat emergence surveys were undertaken, these recorded a single common pipistrelle bat emerging and what is likely to have been a brown long-eared bat emerging from the building through the gap between the garage door and its surround, indicating a day roost for two common species of bat. Mitigation has been proposed in the attic of the new proposed garage with direct flight access into it, mimicking what is being lost. A European Protected Species licence will be needed for the construction work once planning permission has been granted. Additional measures have been recommended to mitigate for the loss in trees and shrubs and to enhance the landscaping on site in line with local and national policies.

2.0 Introduction

Background

- 2.1 Peach Ecology was commissioned to carry out an Ecological Assessment of the proposed development at Hoe Moor House, Dodwell Lane, Bursledon, SO31 1AB, Grid Reference: SU 49006 10969, as shown in **Appendix A/B/C** in May 2015. This report will contribute to a forthcoming planning application being submitted to Eastleigh Borough Council for permission to extend the existing property and construct a new pool, garage and tennis courts as shown in **Appendix D**.
- 2.2 This report describes the existing ecology on site based on the findings of several site visits, a reptile survey of the land where the pool is proposed, a bat survey of the building being demolished, DNA analysis of bat droppings, protected species and habitats data searches and review of local and national policies. The results set out within this report are valid for one year from the issue date. A follow up site visit will be required to determine if there are any changes to the ecological status of the site after a year if planning permission has not been granted or if construction has not commenced.

Description of site and surrounding area

- 2.3 The site is composed of a residential dwelling set within a large well maintained mature garden over different levels with lawn, two ornamental ponds, mature trees and mature shrub planting. The site is located on the edge of an area of woodland in a fairly rural area to the north-east of Bursledon.
- 2.4 The site is situated in the South Hampshire Lowlands (NE543), described by Natural England as follows¹:

'The South Hampshire Lowlands National Character Area (NCA) is a lowlying plain between the chalk hills of the Hampshire and South Downs and Southampton Water. The bedrock geology is mostly open marine, estuarine and freshwater tertiary deposits. The NCA is dominated by the city and port of Southampton and its adjoining towns and suburbs – 29 per cent of the area is urban. In the more rural areas, it is a mixture of farmland, particularly pasture, and woodland. Some 18 per cent of the land cover of the NCA is woodland, of which almost half is designated ancient woodland, a legacy of the Forest of Bere, a Royal Hunting Forest that once covered the area. Today the most significant blocks of woodland are West Walk near Wickham, Botley Wood at Swanwick and Ampfield Wood near Romsey. Although a high percentage of the area is urban, the NCA has considerable biodiversity interest. Southampton Water is internationally recognised for its importance for breeding and overwintering waterfowl and waders and for its wetland habitats such as mudflats and salt marshes. Three Natura 2000 designations cover parts of the area – Solent and Southampton Water Ramsar site, Solent and Southampton Water Special Protection Area and Solent Maritime Special Area of Conservation.'

Brief

- 2.5 To carry out an Ecological Assessment of the site and inform the clients of any ecological implications associated with the current proposals, this included additional phase 2 bat and reptile surveys.

¹ Natural Areas are defined by Her Majesty's Stationery Office as 'biogeographic zones which reflect the geological foundation, the natural systems and processes and the wildlife in different parts of England, and provide a framework for setting objectives for nature conservation' (Biodiversity: The UK Steering Group Report, HMSO, 1995).

3.0 Methodology

Desk Study

- 3.1 This involved gathering ecological data relating to statutory nature conservation sites, and species from within at least 2km. A protected habitats and species data search was undertaken with Multi-Agency Geographic Information for the Countryside (MAGIC), a DEFRA run website. Ordnance Survey maps and aerial images were used to check for other relevant data on notable habitats and species nearby including wildlife corridors where the site connects into the surrounding area.

Site Assessment

- 3.2 The site was initially assessed on the 12th May 2016 although data was collected on later visits also. This employed techniques based on standard Phase I Habitat Survey methodology (CIEEM, 2012). Habitat types on and adjacent to the site were identified according to standard habitat definitions. The collection of botanical information focused on the dominant and key indicator species for each habitat type. The site survey included an assessment of the habitats immediately adjacent to the site, where possible, to look at the value of the site within the local landscape and to see whether these sites supported protected species. The main dwelling was surveyed internally and externally for bats and birds. Indicative methodologies for the most likely protected and notable species that could occur on site and be impacted by the proposals are set out below.

Bats

- 3.3 Buildings and trees within the footprint of the site and any areas potentially impacted by the proposals were inspected in accordance with current survey guidance (BCT, 2016) for roosting features which could support bats. Trees were checked for ivy cover, crevices and rotten sections. Buildings were checked externally for gaps in the roof features which would allow access to bats and internally for bats or signs of bats including droppings, insect feeding remains, worn entrances and staining.
- 3.4 Three bat emergence surveys encompassing two dusk and a dawn survey took place. Surveys started at least 15minutes before sunset for the dusk survey and continued until around 1.5hours after, the dawn survey started 1.5 hours before sunrise and continued until just after. Two surveyors were present during each survey positioned at vantage points that covered the most likely access points on the building, a bat detector was also left inside the building where the bat droppings were recorded. Equipment used included Elekon Bat Logger M bat detector/recorders. Sounds were analysed on Elekon Software. Details on the environmental conditions were taken at the time of survey. Davog McCloskey (Licence number 2015-11951-CLS-CLS) was present at all of the surveys with other experienced bat surveyors (Clare Halliday, Adrian Hickman and Jack Hargreaves).

Birds

- 3.5 Buildings and vegetation were surveyed for signs of breeding birds and any nesting activity was noted along with birds in the area.

Badgers

- 3.6 Any areas that could be used for foraging or could potentially contain a Badger sett were surveyed and any signs noted. Signs include active or disused setts, digging, latrines and dung pits, foraging signs ('snuffle holes'), footprints, hairs and mammal tracks.

Dormice

- 3.7 The suitability of the habitat was assessed for dormice in terms of the trees and shrubs and the sites connectivity into the wider landscape. Any small mammal feeding signs were checked and assessed, these include teeth marks on hazel nuts and other nuts and any evidence of nest building.

Great Crested Newts

- 3.8 Any ponds on site and within the vicinity of the site were noted and the potential of the land to act as a commuting route, shelter or foraging resource for great crested newts was assessed.

Reptiles

- 3.9 Habitat features suitable as hibernacula, foraging or basking areas were noted. Piles of logs were carefully examined to look for reptiles or for evidence of reptiles, including shed skins. A series of presence/likely absence surveys were conducted within the site boundaries, targeting areas of habitat highlighted by the initial ecological survey as having potential to support reptiles. Artificial refugia were laid out on the 12th May 2016 within the site boundaries and left for at least two weeks to settle and bed in before any surveys were carried out. A total of seven separate presence/absence survey visits were then conducted between 30th May 2016 and 19th July 2016, under good weather conditions. All field surveys were undertaken by an experienced ecologist.
- 3.10 The surveys consisted of the following three methods, in accordance with current guidance (Griffiths and Inns, 1998; Froglife, 1999):
- Visual Search – The site was searched visually during each visit. Details of reptiles encountered basking in the open were recorded. Recorded data included; species, sex, age and location.
 - Extant Refugia – Any existing potential refugia present within the site boundaries were carefully searched by hand for reptiles.
 - Artificial Refugia – 16 artificial refugia, consisting of 500mmX500mm squares of bitumen roofing felt were sited in the area of shrub planting which is proposed to be removed as shown in **Plan 1** below. All refugia were lifted during each survey visit and all reptiles present on, under or next to each refugia were recorded.

Plan 1: Layout of refugia



Hedgehogs and stag beetles

- 3.11 The site was searched for signs of hedgehogs including looking for areas of suitable habitat, searching for mammal tracks and droppings and deep piles of leaves. Suitable habitat for stag beetles was searched for including decomposing logs and roots buried in the ground.

4.0 Results and Discussion

Desk study

- 4.1 The site is situated within 200m of Upper Hamble Estuary and Woods Site of Special Scientific Interest (SSSI). Upper Hamble Estuary and Woods Site of Special Scientific Interest comprises the uppermost section of the estuary of the River Hamble and its flanking zones of saltmarsh, reedswamp and ancient semi-natural woodland. Twelve types of ancient broad-leaved woodland occur in the SSSI and collectively comprise one of the most ecologically diverse woodland areas in central southern England. The variety of species and structure provides ideal conditions for a rich invertebrate fauna which in turn contribute to the high quality habitat for bats. The site is connected into this protected area by an area of woodland to the north.
- 4.2 The site is situated within 200m of Manor Farm Local Nature Reserve, an area of mostly deciduous woodland with abundant wildlife in the woods, curlews along the river and skylarks in the fields, plus a diverse array of wildflowers, insects and reptiles.
- 4.3 The site is located within 55m of an area of Ancient Woodland, Catland, Fosters and Bottom Copses. Impacts of development close to an area of ancient woodland can include pollution, changing the woodland's water table, drainage and impacts from lighting on nocturnal species like bats which use the woodland for roosting, commuting and foraging. Although the trees being removed on site are not veteran, they should be compensated for as they do contribute to a continual canopy connected to the Ancient Woodland.
- 4.4 The site lies approximately 350m to the west of the Solent and Southampton Ramsar, the Solent and Southampton Water Special Protection Area (SPA) and the Solent Maritime Special Area of Conservation (SAC). It is separated from these areas by agricultural fields and woodland. Due to the relatively small scale and extent of the proposals and the degree of separation from the protected areas it is unlikely that the development will impact directly upon these statutory conservation sites. It is important however that the proposals follow appropriate pollution prevention and drainage guidelines as there is likely to be an increase in built surface area and drainage may therefore need to be considered. Chemicals used in swimming pools are also a potential source of pollution for watercourses and watertables. The habitats and flora associated with the protected areas, although at least 250m away, are sensitive to changes cumulatively, from different impacts locally so every development within the catchment should consider and mitigate for their own impact with regards drainage and pollution.

Site Assessment

Habitats

- 4.5 Habitats recorded within the site boundary and immediate vicinity comprised of:
- Buildings and hard standing
 - Grassland and lawn
 - Trees and mature shrubs with old tree stumps and log piles
 - pond

Buildings and hard standing

- 4.6 The existing house on site is a listed building. It is brick built with a slate roof and is two storey tall with large attic area above, it was reroofed 2 years before and breathable membrane was used below the slates. The main dwelling has an attached two storey extension used as a living space and to the northern side of this is a garage with a small attached storage room. The storage room measures 2.5m x 3m and although there is no separate 'attic area' the attic region is trussed and is 1.8m tall internally, this is proposed to be removed to make way for the proposals.
- 4.7 There appeared to be some gaps under slates and at other areas on the roof of the main dwelling and garage although it was difficult to assess the main roof properly from ground level due to the height and slope of the roof and topography of the site. There were some gaps at the dormer windows on the garage and potentially under ridge tiles. Brown long-eared bat droppings were recorded on the gable walls of the small room to the north of the garage, close to the ridge, where it is likely bats were roosting between the edge rafters and the gable walls or on top of the gable walls. Bat droppings were also present on top of beams at attic level height and on the floor of the room, these were analysed for DNA and confirmed as Brown long-ear (**Appendix E**). Gaps to enable bat access to the room were present at the soffits on the eastern side, although this lead out to the guttering, and a small gap was present between the garage door and its surround which would allow any bats to fly straight out as long as the door is open between the main garage and room where the droppings were found.
- 4.8 The attic of the main dwelling was assessed for bats and signs of bats and none were found even though the attic is tall and extensive with old wooden beams and queen posts. It was thought that a lack of access points to the attic made it difficult for bats to get into the void although this was unconfirmed, the presence of breathable membrane throughout the attic although not restrictive to bats can cause long term roosting problems when bats get entangled in the fibres. A small boiler room/cellar was located below the building, this was surveyed and approximately 50 long-eared bat droppings were recorded – a window is broken at ground level which would allow bat access to the cellar, the window has been like that for several years.
- 4.9 Further phase 2 surveys took place for roosting bats, the results of which are discussed below. The new garage building will need to compensate for the loss of an open void area by creating a new attic area with suitable features for brown long-eared bats, and also for crevice features suitable for bats like pipistrelle species. There is now a wide variety of manufacturers of bats tiles suitable for buildings e.g. <http://www.tudorrooftiles.co.uk/bat.html>, the locations of these and further details on the mitigation are shown in **Appendix F**.



Photo 1: Front of the main dwelling



Photo 2: The garage section, the room being demolished is on the right hand side of the photo



Photo 3: Close up view of section being demolished and potential access under slate and at dormer window. Potential access points are also present under the guttering leading into the attic area. The gap above the attic door is also visible in the photo.



Photo 4: Brown long-eared droppings on beam in attic



Photo 5: Collection of brown long-eared droppings at gable end on beam

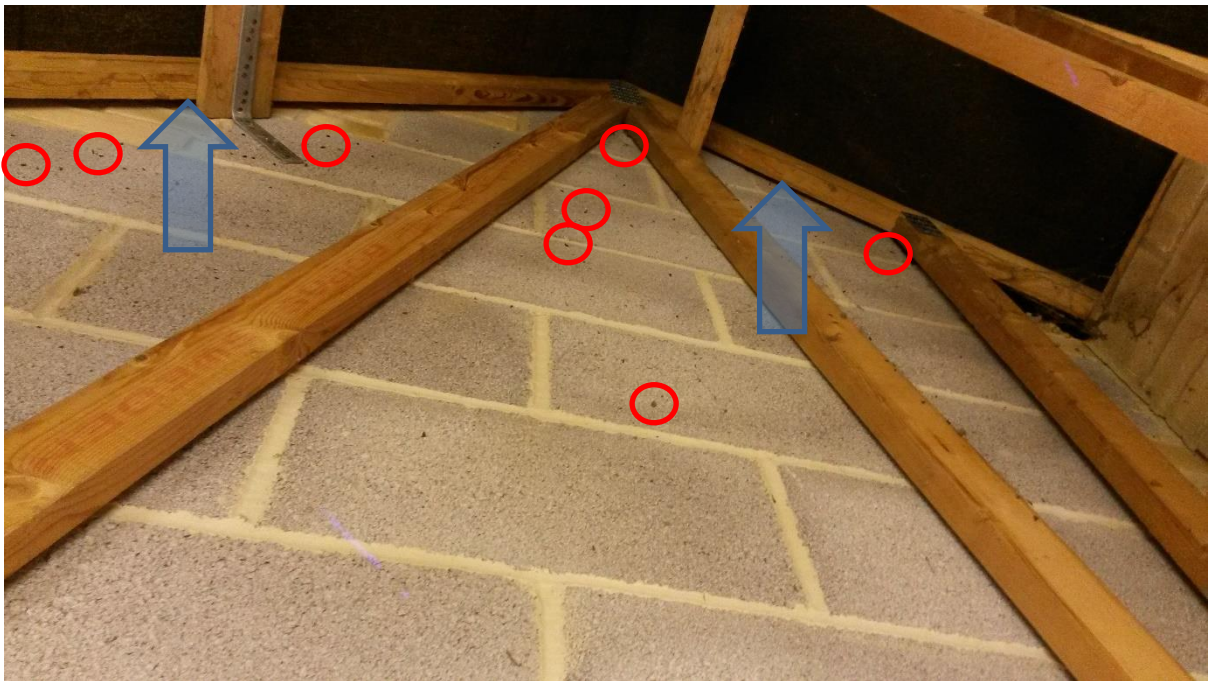


Photo 6: Droppings on southern gable wall deposited from bat roosting between rafter and wall



Photo 7: Bat access through door into store area and then outside via garage door (either open or closed)



Photo 8: Broken window leading to the cellar/boiler room

Grassland and lawn

- 4.10 The site has a good sized area of lawn to the north-east boundary adjacent to the agricultural field to the east, this is where the tennis court is proposed, a tennis court was present here historically. Floral species present within the lawn are dominated by bent grass, other species include buttercup, daisy, white clover and selfheal, the grass here is regularly cut. A bank with a 45° slope is located to the west of the lawn, this is cut less often and therefore this is more species diverse with floral species including bracken, st johns wort, hedge woundwort, bramble and Yorkshire fog, this

area will remain unimpacted by the proposals. A hedge is located at the boundary to the east of where the tennis court is proposed, this is very patchy and consists of beech, it appears to be cut annually.



Photo 9: Photo of the lawn area taken from the north-west where the tennis court is proposed, the beech hedge is located along the left hand side of the photo and the bank is seen on the right hand side.

- 4.11 The lawn can be considered to have relatively low ecological value, the sward height at the time of survey was less than 50mm. If it is left unmanaged for a period of time (months – years) it will start to become tussocky and will become more suitable for reptiles enabling them to move from the boundaries to more central areas. The grass will need to be maintained short up until the point of development to prevent an increase in the reptile population which would require more extensive mitigation.
- 4.12 In order to mitigate for the loss in this vegetated area the base of the eastern boundary hedgerow, a length of at least 40m, will be planted with native bulb species. The gaps in the eastern boundary hedgerow will also be filled with native hedgerow species like beech to match the existing hedgerow.

Trees and mature shrubs with old tree stumps and log piles

- 4.13 An area of mature shrub planting with trees and ornamentals is located to the north-east of the dwelling, this measures approximately 500m² and has had some shrubs and trees removed in the previous year. The shrubs are composed primarily of rhododendron, laurel and ornamental species with ferns, box, bramble, bracken and ivy in the understorey, there are several trees including holly and sycamore within the area too. The floor of the area is characteristic of soil below dense rhododendron with no ground flora, there are lots of collected branches, a woodchip pile, a wood pile and old tree stumps and roots. The woodchip pile appeared to be fairly recent with no signs of decomposition so it is unlikely that this is of high value to reptiles however the longer it is left on site the more value it will attribute to reptiles. Over time these features can become essential for hibernating, feeding and egg laying reptiles. Deer droppings are present within the area and there is some mammal digging signs.

- 4.14 Although the vast proportion of the denser vegetation is made up of ornamental species which exclude light to the lower levels the removal of some trees and shrubs recently has allowed light through to the ground increasing the value of the habitat for reptiles. The habitat is connected into the canopy of the woodland to the north forming a continuous wildlife corridor for bats and birds. The vegetation although mostly non-native will contribute to pollen and nectar sources for insects. The area of vegetation will be cleared due to the proposals however the new proposals should seek to retain as much as possible, especially the trees to the north-west, within the development landscaping, adding to this with appropriate planting where necessary to provide a good mix of woody species that mitigate for the loss of the habitat, deciduous species like oak or evergreen species like yew or holly should be used – the detail can be provided in a landscape plan provided as a condition of planning. These new planted areas will need to be protected from light spillage associated with any external lighting from the proposals as this can discourage some species of bats from commuting and foraging.



Photo 10: Rhododendron growing in the area proposed for the swimming pool, photo taken from southern side



Photo 11: Shrubs along the northern boundary of area proposed for swimming pool



Photo 12: Woodchip pile from trees and shrubs removed from area proposed for swimming pool



Photo 13: log piles within area proposed for swimming pool

Pond

- 4.15 Two ornamental ponds are located within the garden of the property, one to the east and one to the south, both of these have no vegetation growing in them and steep sides and are considered low value for great crested newts.



Photo 14: The ornamental pond to the east of the dwelling

Bats

Phase 1

- 4.16 No bats were found at the time of survey inside the attic of the main dwelling however 200+ bat droppings in varying stages of decomposition were found in the small room to the north of the garage, these are described in more detail above. Phase 2 emergence surveys were undertaken to ascertain the status of the building for bats. It was noted that the dwelling immediately to the west had high bat roosting potential.
- 4.17 Two European Protected Species licences for bats have been granted within 3km of the site, these were for:
- EPSM2012-4681 for common pipistrelle, soprano pipistrelle, brown long-ear and natterer's 2.1km north-east
 - EPSM2012-5125 for common pipistrelle 2.8km north-east

Phase 2 emergence surveys

- 4.18 During the emergence surveys two bats were recorded emerging from the garage area, a common pipistrelle and a silent bat likely to be a brown long-eared bat. Table 1 below shows a summary of the environmental data.

Table 1 – Phase 2 bat survey details

Survey Date	Survey type	Surveyors	Equipment used	Duration	Weather	Sunset /sunrise time
17 th May 2016	Dusk	DM & CH	Elekon X 2 + Elekon inside garage	2040 - 2225	95% cloud cover, wind force 1, no rain, 15°C at start of survey and 15°C at end	2055
15 th June 2016	Dawn	DM & AH	Elekon X 2	2110 - 2250	16°C at start of survey and 15°C at end, wind 1, 90% cloud cover, no rain	2120
10 th July 2016	Dusk	DM & JH	Elekon X 2 + Elekon inside garage	0330 - 0520	12°C at start of survey and 15°C at end, 0 wind, 90% cloud cover, little drizzle earlier in morning	0507

- 4.19 During the first survey in May a bat was recorded emerging from the garage at 2127, nothing was picked up by the detector but a visual sighting was confirmed, the exact emergence location was not confirmed and the bat may have emerged from under a slate or the dormer on the adjacent section of building. No other bats were confirmed emerging and the static bat detector inside the building did not pick up any activity that could be attributed to a roosting bat inside the building. A serotine bat, common and soprano pipistrelle were all recorded within the vicinity of the site, no long-eared bats were recorded.

- 4.20 During the second survey in June, a common pipistrelle was recorded emerging at 2218 from the garage, potentially from above the door which was closed at the time, a second common pipistrelle flew over the building at 2223 very close to the ridge line. Common and soprano pipistrelle bats were the only species recorded during the survey, social calls of common pipistrelle were recorded also. 2-3 common pipistrelle were recorded foraging over the pond on an occasion although the main foraging activity here was from one bat, other bats were recorded commuting through and foraging in the garden. A soprano pipistrelle came from the south of the site at the start of the survey at 2147, this may have emerged from the house. One long-eared dropping was noted at the top of the garage door when it was shut indicating that long-eared bats did fly out through the gap, or crawl through it then fly/emerge.
- 4.21 During the final survey in July no bats were recorded roosting in the building and bat activity round the dwelling was low. Common pipistrelle were the only species recorded, one was noted commuting south at 0429, other recordings were brief and from an individual pass.
- 4.22 Although no brown long-eared bats were recorded with the detectors during the survey the presence of significant numbers of droppings of varying age ranges does confirm that a well used roost is present, probably from one bat over at least 5 years, possibly many more. A bat was recorded emerging half an hour after sunset on the first survey which did not make a sound, this is common for brown long eared bats so it is possible that this was that species. Brown long-eared bats are notoriously silent and can emerge late into the evening making recording them difficult. A common pipistrelle was also recorded emerging from the building although it was not confirmed whether this came from the section being demolished or from the adjoining section, either ways the roost would have some level of disturbance due to the proposals. Hibernation is unlikely however possible in the building but difficult to prove and should be assumed for any mitigation proposals. The building does not show signs of a maternity roost being present. A European Protected Species licence will be required to proceed with demolition of the dwelling when planning permission has been granted. A detailed mitigation plan for bats will need to be submitted with the licence application, outline measures will need to include temporary mitigation, timing of demolition, new roosts and access to these and monitoring of the site.
- 4.23 Some foraging and commuting was recorded throughout the site, over the pond and around trees and shrubs. The loss of vegetation is not considered to have much of an impact on bats however the vegetation within the site and at the boundary does make a contribution to foraging and commuting bats and the loss of any vegetation should be compensated with new tree planting, especially at the boundaries, as mitigation – this has been shown on the proposed site plan in **Appendix H** and will need to be set out in any detailed landscape plan.
- 4.24 The boundaries should be protected from light spillage associated with any external lighting on the new pool house or garage. External lighting must be maintained below recommended levels around all areas of planting, trees and vegetation as these contribute to bat commuting and foraging corridors locally and external lighting should be directed away from any new bat roosting features being incorporated.

Reptiles

- 4.25 The initial phase 1 site visit found that the area where the pool was proposed had some reptile potential. The area had been relatively shaded although the recent removal of some shrubs and trees allowed light into the ground level. A pile of logs was also present in the area adding to the reptile value. The area was not well connected into the surrounding countryside at ground level.

- 4.26 A phase 2 reptile survey took place to determine if reptiles were present at the site, and if so how many and which species in order that a suitable mitigation plan could be prepared if necessary.

Table 1: Summary of reptile survey results

Survey number	Survey date	Weather	Method	Location/Refugia ID (See Plan 2)	Species	Sex	Age	Quantity	Peak Adult Count
Survey set up	12.5.16	23 °C, hot, wind 2-3	Compost heaps etc	-	-	-	-	-	0
1	30.5.16	Start time :1100	-	-	-	-	-	-	0
		Finish time:1130							
		Start temp °C:15							
		Finish temp °C:15							
		Wind speed (beaufort):1-2							
		Cloud cover %: 100							
		Rain: -							
		Ground conditions: dry							
		Observations:							
2	13.6.16	Start time:1100	-	-	-	-	-	-	0
		Finish time:1130							
		Start temp °C:16							
		Finish temp °C: 16							
		Wind speed(beaufort):0-1							
		Cloud cover %: 100							
		Rain: None							
		Ground conditions: dry							
		Observations: sunny							
3	15.6.16	Start time:2030	-	-	-	-	-	-	0
		Finish time:2045							
		Start temp °C:16							
		Finish temp °C:16							
		Wind speed(beaufort):1							
		Cloud cover %:90							
		Rain: no							
		Ground conditions: dry							
		Observations:-							
4	17.6.16	Start time:1530	-	-	-	-	-	-	0
		Finish time:1545							
		Start temp °C:19							
		Finish temp °C:19							
		Wind							

		speed(beaufort):1							
		Cloud cover %:50							
		Rain: earlier							
		Ground conditions: damp in places							
		Observations:-							
5	27.6.16	Start time:1100	-	-	-	-	-	-	0
		Finish time:1130							
		Start temp °C:18							
		Finish temp °C:19							
		Wind							
		speed(beaufort):1							
		Cloud cover %:80							
		Rain: none							
		Ground conditions: dry							
		Observations:-							
6	8.7.16	Start time: 1000	-	-	-	-	-	-	0
		Finish time:1030							
		Start temp °C: 19							
		Finish temp °C:19							
		Wind							
		speed(beaufort):0							
		Cloud cover %:100							
		Rain: None							
		Ground conditions:dry							
		Observations:-							
7	19.7.16	Start time:0700	-	-	-	-	-	-	0
		Finish time:0730							
		Start temp °C: 20							
		Finish temp °C:20							
		Wind							
		speed(beaufort): 0							
		Cloud cover %: 0							
		Rain: No							
		Ground conditions: dry							
		Observations:							

4.27 No reptiles were recorded on site during the survey. The log pile and habitat can still be classed as having some ecological value for hedgehogs and stag beetle and potentially reptiles so any further clearance should be undertaken under ecological supervision by hand during the active reptile season. Any reptiles or other wildlife of interest found can be moved to a suitable area of the site outside of the construction area.

Great crested newts and amphibians

- 4.28 The ponds on site were unsuitable for great crested newts due to the steep sides and lack of any vegetation. The data search did not show records of any great crested newt licences within 2km and the nearest pond outside of the site was located nearly 500m north-west of the site.
- 4.29 There are unlikely to be any impacts associated with the development on great crested newts. The clearance of the site is proposed to take place under ecological supervision and therefore any species of interest can be moved to a safe area of the site outside of the construction area. New landscaping including new tree and hedgerow planting will benefit amphibians and other species and the construction of log piles will provide mitigation for the loss of the existing piles of vegetation.

Dormice

- 4.30 No signs of dormice were found on site and the data search did not return any records for dormice licences within 2km, the nearest was for a site along the M27 Motorway 3.5km south-east. The site is very close to areas of deciduous and Ancient Woodland with high value for dormice, it is likely that dormice are present locally. The habitat on site proposed to be removed consists predominantly of rhododendron, laurel and other non-native ornamentals with low value to dormice, several of these shrubs have been removed recently further reducing canopy linkage to the area. It is unlikely that dormice are present within the relatively small area of habitat proposed to be lost and the removal of the habitat for the swimming pool will not reduce linkage for dormice in the area, if present. The removal of vegetation should however be compensated for with new native tree planting. The new proposals have shown that this is possible, further detail will need to be provided in a detailed landscape plan. The site will also need to be cleared under ecological supervision and if any dormice or signs of dormice are recorded then Natural England will need to be notified to determine whether a new mitigation plan is necessary.

Badgers

- 4.31 There were no signs of badgers, badger hairs, footprints, foraging or setts recorded on site at the time of survey. The proposals are unlikely to have an impact on badgers.

Birds

- 4.32 One likely nest was recorded on site at the time of survey in the area proposed to be cleared, this was high up in a holly bush and may have been from a magpie, pigeon or even a squirrel. Other nests may have been present and went unnoticed, the vegetation has good bird nesting value. Vegetation clearance should be undertaken outside of the bird nesting season unless it is overseen by an ecologist. Incorporating new perimeter tree planting and new hedgerow planting with suitable species will be necessary to mitigate for the loss in vegetation. The construction of the tennis court close to the boundary hedge with the farmland to the east is unlikely to cause pre or post work disturbance to any birds using the hedge to nest.

Hedgehogs

- 4.33 The vegetation proposed to be cleared and the log piles provide good opportunities for foraging and hibernating hedgehogs and although no signs were found it would

be difficult to completely rule out hedgehogs from the site. Hedgehogs will need to be considered at the site clearance stage, this is similar to what is required for reptiles, and therefore as it is proposed that clearance is undertaken under ecological supervision, if any hedgehogs are found they can be moved out of harms way to an area of retained vegetation on site.

Stag beetles

- 4.34 Stag beetles are known to be present locally, the larvae of which are commonly found around rotting tree stumps and dead wood piles, both of which are present on site. The vegetation is proposed to be cleared and the log piles removed and although no signs were found it would be difficult to completely rule out stag beetles from the site. Stag beetles will need to be considered at the site clearance stage, this is similar to what is required for reptiles and hedgehogs, and therefore as it is proposed that clearance is undertaken under ecological supervision, if any stag beetles are found they can be moved out of harms way to an area of retained vegetation on site. New log piles, half dug into the ground, should be created in retained and protected parts of the site along the eastern boundary prior to any site clearance. The existing log piles should be taken apart by hand under ecological supervision and checked thoroughly for larvae and if found these can be moved to the new log piles.

5.0 Requirements and Recommendations

Bats

- 5.1 A European Protected Species licence will need to be applied for and granted prior to any work on the existing building.
- 5.2 The new attic in the garage will measure 3m x 6m and will be up to 3.1m from floor of the attic to apex internally. The overall height of the garage externally will be at least 5m.
- 5.3 Three purpose made bat tiles will be included at three points on the roof one on the eastern, one on the western and one on the southern aspects close to the ridge – tudor bat tiles are recommended unless a suitable alternative is agreed. Access holes/slots measuring approximately 100x20mm will be cut in the felt allowing bats to access directly from under 'bat tiles' into the attic.
- 5.4 Bitumen roofing felt will be used instead of breathable membrane. Bats will have access to wooden rafters. The area can be insulated at floor level only. The attic area will not be trussed as this would limit flight space for bats.
- 5.5 The attic/roost area will have a hatch for access and the attic area will not be used for storage and will be retained as a bat roost in integrity.
- 5.6 Direct flight access point for bats will be provided under the eaves/soffits on the western elevation. This will measure 50mm X 200mm and any insulation will be removed internally so a clear flight path is present for bats.
- 5.7 Further details are provided in **Appendix G**.

Reptiles, hedgehogs, stag beetles, newts and dormice

- 5.8 The existing lawn on site will need to be maintained short up until the point of construction with regular grass cuts to maintain the grass below 50mm.
- 5.9 Further discussions with the client, landscaper and arboriculturalist will be required prior to construction to discuss the specific plants, shrubs and trees being retained as well as the location of tree protection fencing if being used.
- 5.10 New log piles and hibernacula will be created in the eastern hedgerow prior to any vegetation clearance, see **Appendix H** for further details.
- 5.11 Vegetation clearance will be undertaken under ecological supervision during the period March – October inclusive ensuring nesting birds are not impacted. Log piles will be removed by hand and any wildlife of interest will be moved to a safe location outside of the construction area.

Birds

- 5.12 Vegetation removal will need to take place outside of the bird nesting which runs from 1st March – 1st August inclusive unless an ecologist is present to ensure there are no birds nesting.

Pollution prevention and drainage

- 5.13 It is important that the proposals follow appropriate pollution prevention guidelines (PPG 6) and drainage guidelines (Defra guidelines for Sustainable Urban Drainage) to protect the nearby protected sites and other habitats connected hydrologically.

Landscaping

- 5.14 Any vegetation clearance should be used to create log and habitat piles for species like stag beetles and reptiles.
- 5.15 The eastern boundary hedgerow will have the gaps infill planted with native hedgerow species like beech.
- 5.16 Native bulb planting will be provided at the base of the hedgerow along the eastern boundary to enhance the ground flora, a length of at least 40m.
- 5.17 At least 9 new native trees will be planted adjacent to the proposed pool area.
- 5.18 Retained areas of vegetation and new planting need to be clearly set out in the Final Landscaping Scheme provided as a condition of planning.

Lighting

- 5.19 Any new external lighting associated with the proposals will need to avoid splaying onto the mature boundary vegetation or areas of new tree planting. Lighting onto these areas associated with the proposals must be avoided or not exceed 1lux.

Other

- 5.20 A follow up site visit will be required to determine if there are any changes to the ecological status of the site after a year from the original survey. During this time the bat roosting potential and reptile habitat can change significantly.

Appendix A: Site location



Appendix B: Existing site plan



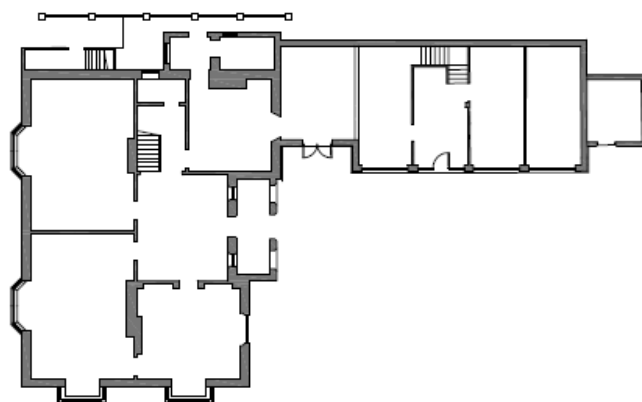
Appendix C: Existing elevations and layout



north east elevation



north west elevation



ground floor plan

[illegible]

Sherlock Soave Architecture
410 The Grange
Barnsey Road
Micklemesh
SO51 0AE
Telephone: 01793 510019 Email: jones@shlocksoave.com

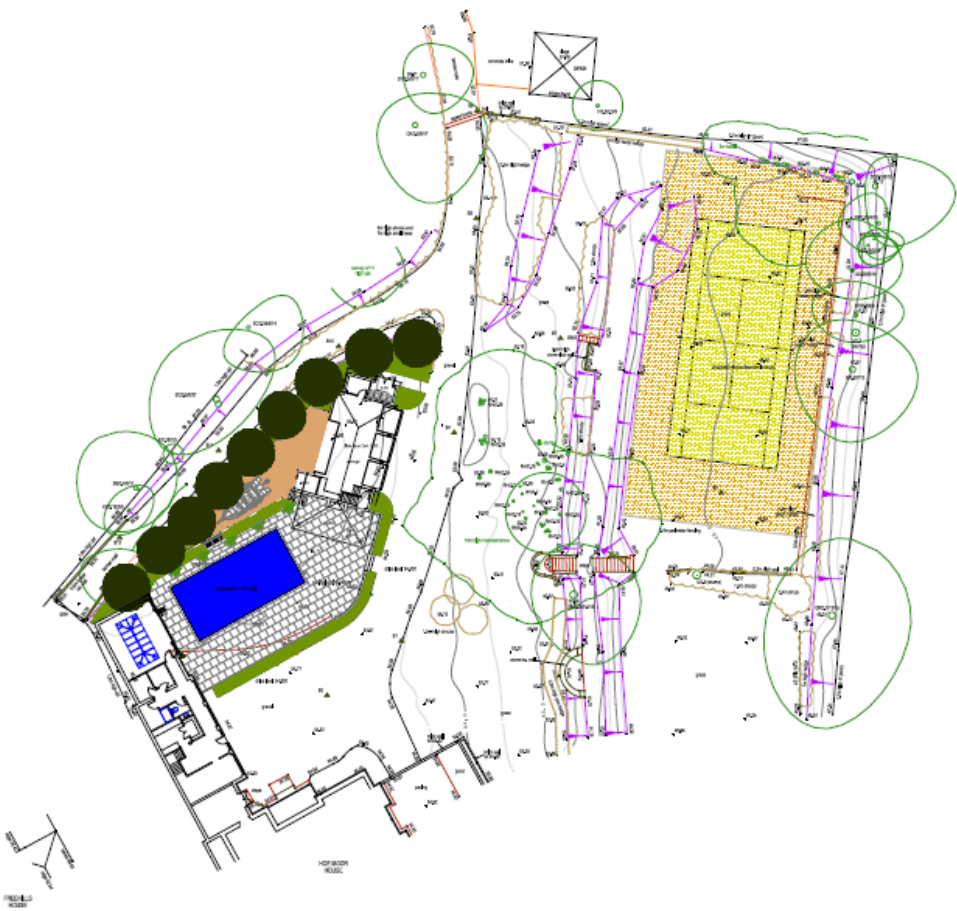


MR & MRS WILSON	
Time 1517	date DEC 1
code 1:100	week A1

sherlockboswellarchitectur
 project: HOE MOOR
 study: EXISTING PLANS & ELEVATIONS
 04

Appendix D: Proposed plans

Hoe Moor : Bursledon



Revisions		Sheelock Boswell Architecture 41 Old The Grange Riverside Road Bursledon SO51 5AG Telephone: 01794 518291 Email: j.boswell@sheelockboswell.com			MR & MRS WILSON 15/17 1/200	OCT 15 A1	SHELOCK BOSWELL ARCHITECTURE HOE MOOR PROPOSED SITE PLAN	01	C

Appendix E: Bat DNA results



2 June 2016

Re: Bat Identification Results for Davog, Peach Ecology

Bat job number 7278, received 24 May 2016

Sample labelled: Sample 1 from Hoe Moor House, 12th May 2016

PCR amplification successful. DNA sequence:

GACAATGCCTAGAAGAGATCCAAAGTTTCATCATGATGAAATATTTGAGGGAGCAGG
TAAGTCAATGAATGAGTCATTGATAATTTTATGAGAGGGTGGGACTTTCTGAATGTTG
GTCAT

Phylogenetic analysis identification: *Plecotus auritus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

School of Life Sciences,
Gibbet Hill Campus,
University of Warwick,
Coventry CV4 7AL
Tel: 02476575059
Fax: 02476574500
Email: r.g.allaby@warwick.ac.uk

Appendix F: Bat survey results

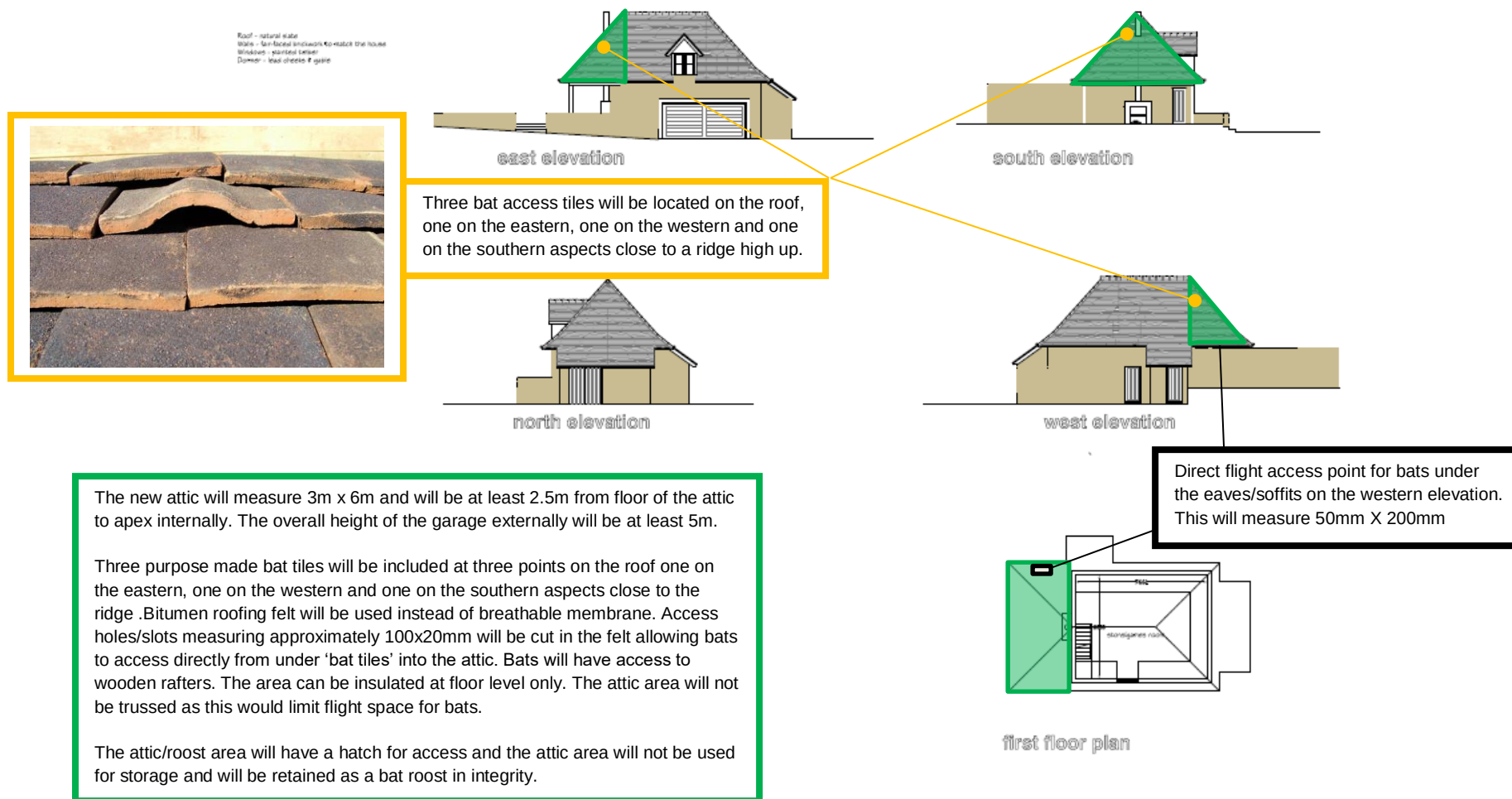


Common pipistrelle emerges
from building on 15th June 2016

Unidentified bat thought to be a brown long-ear
emerges on 17th May 2016 from garage door area



Appendix G: Bat mitigation




sherlockboswellarchitecture



MR & MRS NELSON
 1917
 1:1000
 HOE MOOR
 PROPOSED GARAGE PLANS & ELEVATIONS

02

Appendix H: Landscape enhancements

Two log or habitat pile will be created at the base of a hedgerow as shown in the photo covering an area of at least 1m² each. Logs (approximately 100 – 150mm in diameter) are neatly stacked on top of one another to a height of at least 0.5m. These will be dug into the ground by at least 500mm so they are suitable for stag beetles. Some holes can be drilled into the logs to allow them to rot down quicker and to create small crevices and notches for



New tree planting will be composed of native species including evergreen species such as holly and yew. At least nine new trees will be planted.

Hoe Moor : Bursledon



New infill hedge planting will be undertaken along the eastern boundary so that there are no gaps, this will be composed of native species including beech. The hedges will be at least a double row so they match the existing hedgerow. Bulbs consisting of native bluebells, daffodils and snow drops will be planted along the base of the hedge

Rev	Description	Date
1	Issue for approval	15/10/17
2	Issue for construction	15/10/17
3	Issue for construction	15/10/17
4	Issue for construction	15/10/17
5	Issue for construction	15/10/17
6	Issue for construction	15/10/17
7	Issue for construction	15/10/17
8	Issue for construction	15/10/17
9	Issue for construction	15/10/17
10	Issue for construction	15/10/17

Sheelock Boswell Architecture
41/43 The Grange
Penny Road
Bursledon
PO1 1SA
Telephone: 01794 518281 Email: j.boswell@sheelockboswell.com



MR & MRS WILSON	sheelockboswellarchitecture
15/10/17	15/10/17
1:200	A1
Hoe Moor	PROPOSED SITE PLAN
01	C

Appendix I: Protected species legislation

European Protected Species

Bats

These species are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and Schedule 2 of the *Conservation of Habitats and Species Regulations 2010*. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence, *inter alia*, to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb any such animal, including in particular any disturbance which is likely:
 - to impair its ability to survive, breed, or rear or nurture their young;
 - to impair its ability to hibernate or migrate;
 - to affect significantly the local distribution or abundance of that species; or
- damage or destroy a breeding site or resting place of any such animal; or
- intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat (*Rhinolophus ferrumequinum*);
- Lesser horseshoe bat (*Rhinolophus hipposideros*);
- Bechstein's bat (*Myotis bechsteinii*);
- Barbastelle (*Barbastella barbastellus*);
- Greater mouse-eared bat (*Myotis myotis*).

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favorable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Dormouse (*Muscardinus avellanarius*), European otter (*Lutra lutra*) and Great Crested Newt (*Triturus cristatus*)

These species are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and Schedule 2 of the *Conservation of Habitats and Species Regulations 2010*. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence, *inter alia*, to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb any such animal, including in particular any disturbance which is likely:
 - to impair its ability to survive, breed, or rear or nurture their young;
 - to impair its ability to hibernate or migrate.
 - to affect significantly the local distribution or abundance of that species; or
- damage or destroy a breeding site or resting place of any such animal; or
- intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

Nationally Protected Species

Badger (*Meles meles*)

The *Protection of Badgers Act 1992* consolidates previous legislation (including the *Badgers Acts 1973* and *1991 Badgers (Further Protection) Act 1991*). It makes it a serious offence to:

- kill, injure or take a badger;
- attempt to kill, injure or take a badger; or
- to damage or interfere with a sett.

The 1992 Act defines a badger sett as “any structure or place which displays signs indicating current use by a badger”.

Breeding Birds

With certain exceptions², all wild birds, their nests and eggs are protected by section 1 of the *Wildlife and Countryside Act 1981* (as amended). Therefore, it is an offence, *inter alia*, 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; or
- intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls.

Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread³ species of reptile that are native to Britain, namely common or viviparous lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix natrix helvetica*), are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence, *inter alia*, to:

- intentionally kill or injure any of these species.

Water vole (*Arvicola amphibius*)

The water vole is listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and is afforded limited protection under Section 9 of this Act. This makes it an offence, *inter alia*, to:

- intentionally kill, injure, or take (handle) any a water vole (in England only);
- intentionally or recklessly damage or destroy or obstruct access to any structure or place which water voles use for shelter or protection; or
- intentionally or recklessly disturb water voles while they are using such a place.

² Some species, such as game birds, are exempt in certain circumstances

³ The other native species of British reptile (sand lizard and smooth snake) receive a higher level of protection under the *Habitats Regulations 1994* and (in England and Wales only) the *Wildlife and Countryside Act 1981* (as amended). However, the distribution of these species are restricted to only a very few sites. All marine turtles (Cheloniidae and Dermochelyidae) are also protected.