ECOLOGICAL APPRAISAL REPORT:

WISHANGER COTTAGE, FRENSHAM LANE, FRENSHAM, SURREY, GU10 2QQ

For: Conrad Shutte
Wishanger Cottage

Issued by: **Wychwood Environmental Ltd**

www.wychwoodenvironmental.com

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EXECUTIVE SUMMARY

Proposed development

- Development proposals involve the demolition of an existing detached dwelling to make way for a replacement dwelling. This will be positioned slightly to the north of the existing footprint, upon an area of domestic garden.

Impacts

- The proposed development has the potential to destroy a maternity colony of soprano pipistrelle bats, recorded during ecological surveys in 2016 as part of a separate planning application.
- The proposed development has the potential to impact foraging bats throughout the site.
- The proposed development has the potential to impact breeding birds.
- The habitats proposed to be impacted by the proposed works are also of low ecological value. The dwelling supporting the roost supports high ecological value.

Further recommended surveys

- Further bat emergence/re-entry surveys of the dwelling are recommended.

Proposed mitigation

- Mitigation to reduce the impacts of artificial lighting upon foraging bats is outlined, with further details to be drawn up upon completion of the further bat surveying.
- Mitigation to reduce impacts upon breeding birds is detailed.

Enhancements

- It is suggested that bird boxes are installed on trees within the development site to improve the provision of nesting opportunities on site.
- It is suggested that native species planting is undertaken within the landscaping plan for the site to increase species diversity on the site post development.
- Mitigation measures and enhancements should form part of Biodiversity Enhancements and Mitigation Plan, to be secured by an appropriate planning condition.

Report completed by: Dr. Ryan Walker CEnv MCIEEM

Verified by: Dr. Craig Turner MCIEEM FRGS FLS

Date of issue: 1st September 2020

1.0 INTRODUCTION

1.1 Wychwood Environmental Ltd was instructed by Conrad Shutte to undertake a Preliminary Ecological Assessment (PEA) to highlight the possible presence of protected species (e.g. bats, badgers, great crested newts, reptiles, and breeding birds) and/or habitat(s) of ecological/conservation value on the proposed development site at: Wishanger Cottage, Frensham, Surrey, GU10 2QQ.

1.2 Surveys are necessary to collect information on habitats/protected species to provide necessary guidance and mitigation advice, to ensure that no valuable habitats/protected species are adversely affected by the proposed development. This PEA serves to update a prior ecological assessment completed at the same site in 2015/16[1].

1.3 The survey was completed to inform the Local Planning Authority (LPA) of any material impacts resulting from the proposed development and to ensure compliance with the requirements of the Natural Environment and Rural Communities (NERC) Act (2006) (Section 40) and the Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their Impact within the Planning System (ODPM 06/2005, Defra 01/2005). The legislation relating to protected species is detailed in Annex 1.

1.4 Development proposals include complete demolition of the existing dwelling, to make way for a new dwelling, slightly to the north of the existing footprint. The location of the site is shown in Figures 1-3 (Annex 2). Full details are provided in the planning submission.

1.5 Section two of this report describes the methodologies used for survey work. Section three provides the results of these surveys, sections four and five provide discussion and implications for development, with further surveys and mitigation covered in section six and enhancement recommendations are made in section seven.

[1] GS Ecology (2016) Ecological Assessment: Wishanger Cottage, Frensham, Surrey, GU10 2QQ.

2.0 METHODOLOGY

Habitat Survey

2.1 A Preliminary Ecological Assessment (PEA) of the site was undertaken, following standard extended Phase 1 habitat survey protocols (IEA, 1995), by Dr Ryan Walker CEnv, MCIEEM on 15th May 2020. This involved systematically walking over the site and classifying each parcel of land based on vegetation, into one of approximately 90 habitat types (JNCC, 2010).

2.2 A search for any invasive non-native species, as listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended,[2] such as Japanese knotweed (*Fallopia japonica*) was also carried out.

2.3 Any habitats or features of interest and any sightings, signs or evidence of protected or notable fauna or any potential habitats suitable for such species, were assessed as detailed below:

- The suitability of habitats was assessed for amphibians (including great crested newts, *Triturus cristatus*)[3];
- The suitability of habitats was assessed[4] for badgers (*Meles meles*) and any evidence including setts, dung pits/ latrines, badger paths, hairs, bedding, footprints and scratching of trees/ shrubs was noted;
- The suitability of the habitats was assessed for dormice (*Muscardinus avellanarius*);
- Buildings with features potentially suitable for roosting bats were assessed following best practice guidelines as outlined by the survey techniques published by the Bat Conservation Trust (BCT)[5] and Mitchell-Jones and McLeish (2004)[6][7]. Trees within the development area were also assessed for their potential to support roosting bats (following BCT protocols);

[2] http://archive.defra.gov.uk/wildlife-pets/wildlife/management/non-native/documents/schedule9-list.pdf
[3] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.
[4] Badger survey followed guidelines recommended in Harris *et al*. (1989).
[5] Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (published by Bat Conservation Trust, London).
[6] The internal building inspection within the detached house was compromised due to a locked loft void.
[7] Mitchell-Jones A J (2004). *Bat mitigation guidelines.* English Nature.

- Landscape features such as hedgerows, trees and shrubs were also assessed for their potential suitability for bat foraging and commuting;
- The suitability of habitats was assessed for nesting birds;
- The suitability of habitats was assessed for reptiles.

Desk Study

2.4 The Internet database MAGIC (Multi-Agency Geographic Information for the Countryside)[8] was searched for any areas with statutory designations within a 2km radius of the site.

Survey Limitations

2.5 An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year. For this reason, habitats were assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

Baseline Evaluation Criteria

2.6 Based on the desk study and field survey results, an ecological evaluation of the site was undertaken using a combination of evaluation criteria for habitats and species, following the general framework provided by CIEEM[9] (Table 1).

2.7 Where relevant the evaluation was made with reference to the statutory protection afforded to species and habitats. Legal protection does not always correspond to conservation value. Some species (e.g. badgers) are protected for reasons of animal welfare rather than conservation. Others are of national conservation value but are not protected by law (e.g. some Red Data Book species and UK BAP species).

[8] https://magic.defra.gov.uk
[9] CIEEM (2012). Guidelines for Preliminary Ecological Appraisal (PEA).

Table 1. Ecological value criteria used in the ecological evaluation, as outlined by CIEEM.

Ecological Value	**Description and Examples**
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species, European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.

3.0 RESULTS

Desk Study

Designated Sites

3.1 Thursley, Hankley and Frensham Commons Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Special Protection Area (SPA) lies approximately 1.2km to the northeast of the site (Figure 3a). This site is designated for its lowland heathland habitat that supports a number of important birds, reptile and amphibian species. The site also supports botanical interest. Broxhead and Kingsley Commons SSSI lies approximately 2km to the west of the site. This protected area forms part of the Wealden Heath SAC complex and is designated for its bird and reptile importance. The wider landscape supports numerous blocks of deciduous woodland and heathland; both UK Biodiversity Action Plan (UKBAP) Priority Habitats.

Protected Species

3.2 There are three records for European Protected Species Mitigation Licences within 2km of the site[10] (Figure 3b). These include three roosts for common pipistrelle (*Pipistrellus pipistrellus*), two roosts for brown long eared bats (*Plecotus auritus*), a single roost for soprano pipistrelle bats (*Pipistrellus pygmaeus*) and a single roost for serotine *Eptesicus serotinus*. None of the roosts were of high conservation significance (i.e. maternity or hibernation roosts) and all were for species that are both common and widespread throughout southern England.

3.3 The site was subjected to a previous planning application to extend the dwelling. The ecological surveys undertaken in 2016 as part of that application, revealed that the cottage supported a soprano pipistrelle (*Pipistrellus pygmaeus)* maternity roost close to the chimney breast upon the north facing elevation (Photo 4)[11].

[10] www.magic.defra.gov.uk

[11] GS Ecology (2016) Ecological appraisal and protected species scoping survey and bat survey of Wishanger Cottage, Frensham.

Site Location Description

3.3 The site is located approximately 4km to the southwest of the village of Frensham within a rural area, largely surrounded by broadleaved woodland, pasture, heathland and large rural properties and their associated gardens (Figures 1-2).

Habitat survey

3.4 The habitats recorded on the development site are shown in Photos 1-10 (Annex 2) and Figure 5 (Annex 2). Habitats that could potentially be impacted by the proposed development consist of the following:

- Cultivated/disturbed land - amenity grassland
- Buildings
- Hard-standing
- Intact hedge – species poor
- Running water – mesotrophic

3.5 The application site consists of a small detached cottage (Photos 1-4), fringed by well-maintained gardens (amenity grassland) (Photo 6), to the north and east. There is a track to the west of the site (bare ground) (Photo 5). There is a timber garage to the west of the site that will remain unaffected by the proposed works (Photo 5 & 10). The south of the site is fringed with a species poor hawthorn hedge)*Crataegus monogyna).* The east of the site is fringed with a shallow water course (Photo 9). There are a number of semi mature trees scattered throughout the site; predominately willow (*Salix* sp.) and hazel (*Corylus avellana)*. The site is approximately 0.1 ha in size. There is a substantial area of wet grassland to the north of the site owned by the applicant, but not within the curtilage of the application site. The footprint of the proposed new dwelling will largely encompass what is currently well mown lawn, veg beds and a number of semi mature hazel and willow.

3.6 Overall, the habitats within the site were considered to be of low ecological value. The habitats supporting the greatest ecological value is most likely the shallow water course to the east of the site. This will remain unaffected by the proposed works. The cottage, given that it has supported a soprano pipistrelle bat maternity colony; a roost of high conservation importance of a statutory protected species, should be considered of high ecological value.

Protected Species Survey

Bats

3.7 The site has potential to support foraging and commuting bats and in particular, around the edges of the site and around the tree lines and hedgerows.

3.8 None of the trees within the site including the semi mature willow and hazel are expected to be lost as a result of the proposed development, support features that could be considered potentially suitable for roosting bats.

3.9 There are a total of two structures within the site; the timber garage (Photo 5) that will remain unaffected and the cottage (Photos 1-4). The cottage will be demolished to make way for the proposed new dwelling.

Cottage

3.10 The cottage remains largely within the same condition as described within the 2016 GS Ecology report. The cottage is constructed of stone with a well-fitting slate roof (Photo 3), with a more recent west facing, single story extension, clad with a clay tiled roof (Photo 2). The potential bat roosting features described within the 2016 report remain the same. There are a number of raised tiles upon the extension roof, supporting gaps that could potentially support crevice roosting bats such as the pipistrelle species. The gaps around the barge boarding that supported the roost areas described in the 2016 report still exist. The cottage supports two very small confined roof voids; one in the extension and one within the main roof of the cottage (Photos 7 & 8). Neither of these voids support any evidence to suggest recent use by void roosting bats such as the long-eared species. Given the results of the previous survey, it could be considered that the cottage still has a moderate-high potential to support roosting bats.

Amphibians and Reptiles

3.11 Much of the site consists of hardstanding, lawns and vegetable beds. There are very limited areas of rougher grassland and none within the area of impact of the proposed development. It would appear that that no potentially suitable habitat for reptiles or terrestrial habitat for amphibian are to be impacted by the proposed works. There are a number of larger lakes within several 100m of the site, however no smaller ponds. The proposed development supports a negligible potential impact to reptiles and amphibians.

Nesting birds

3.12 There is no vegetation within the area of the site proposed to be impacted by the works that could be considered potentially suitable for nesting birds, including the three semi mature willow and hazel trees. The cottage supports a number of crevices that could be used by nesting birds during the spring/summer months. A great tit (*Parvus major)* was recorded nesting within a gap in the brickwork of the east facing elevation during the survey.

Badgers and other Mammals

3.13 No evidence of badgers using the site was recorded, however badgers could pass through the site and use the wider landscape. None of the areas proposed to be impacted by the works could be considered potentially suitable for supporting dormice. The banks of the water course were checked for otter spraint; however, none were found and the shallow nature of the water course makes it less likely to support this species, although they could transit through the area.

4.0 ECOLOGICAL EVALUATION

Designated Nature Conservation Sites

Statutory Designated Sites

4.1 The size and nature of the development is unlikely to have any negative impacts upon the SSSIs, SACs and SPAs identified 2km from the site. Indeed, the proposed works are largely replacing a like for like development, with no additional potential visitor pressure to these sites.

Habitats

4.2 The site supports the following dominant habitats: amenity grassland, buildings and hard-standing, species poor hedge and a shallow water course. In addition to these main phase 1 classified habitats, the site supports a number of small scattered trees and veg beds. The site as a whole could be considered to support habitats of **low** ecological value. However, previous survey works suggests that the cottage supports a soprano pipistrelle maternity roost, therefore resulting in the cottage supporting a **medium-high** ecological value.

Protected Species

Flora

4.3 None of the species recorded during the survey are specifically protected by the Wildlife and Countryside Act 1981 (as amended) or considered nationally or locally rare (see Preston et al., 2002[12]). Also, none of the species recorded are listed as Species of Principal Biological Importance on Section 41 of the NERC Act 2006 or as Priority Species on the national BAP (UK BAP, 2007[13]).

4.4 Mitigation and enhancements for trees and general flora are recommended in Sections 6 and 7 of this report.

[12] Preston, C.D., Telfer, M.G., Arnold, H.R., Carey, P.D., Cooper, J.M., Dines, T.D., Pearman, D.A., Roy, D.B. & Smart, S.M. 2002. *The changing flora of the UK*. Department for Environment, Food and Rural Affairs, London.
[13] UKBAP (2007) Report on the Species and Habitat Review: Report by the Biodiversity Reporting and Information Group (BRIG) to the UK Standing Committee, June 2007

Fauna

4.5 The cottage, proposed to be demolished, supports a moderate-high potential to support crevice roosting bats, with a soprano pipistrelle maternity roost recorded within the building during 2016. Further surveys are recommended (see section 6).

4.6 The cottage has the potential to support nesting birds during the spring/summer.

Invasive species

4.7 There were no invasive species recorded within the site.

5.0 RECOMMENDATIONS

5.1 Wherever possible, negative ecological impacts should be avoided. If this is unavoidable then mitigation and compensation measures will be proposed for adverse ecological effects. In addition, it is best practice to seek positive biodiversity benefits through enhancement measures, in particular with regard to Priority Habitats and Species listed on the national and local Biodiversity Action Plans and the NERC Act 2006.

5.2 CIEEM (2016)[14] endorses the following principle, recommended by the Royal Town Planning Institute (2000)[15] for optimising the biodiversity outcomes of planning decisions.

5.3 New benefits: seek to provide net benefits for biodiversity over and above requirements for mitigation and compensation.

5.4 The provision of compensation/enhancements helps local planning authorities in meeting requirements as stipulated under the National Planning Policy Framework[16], which states that sustainable development should seek to achieve net gains in biodiversity for nature.

[14] *CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.
[15] Royal Town Planning Institute (RTPI) (2000) *Planning for Biodiversity.*
[16] National Planning Policy Framework. (2018) Department of Communities and Local Government.

6.0 MITIGATION & FURTHER SURVEY

Designated sites

6.1 The development proposals must ensure no long-term significant impact on any statutory or non-statutory designated sites as per national and local planning policy. The size and nature of the proposed development is unlikely to have any negative effects upon the SSSIs, SACs and SPAs within 2km of the site.

Habitats

6.2 No further habitat surveys are required (based on current proposals). Best practice should be followed (i.e. S5837:2012 Trees in Relation to design, demolition and construction – Recommendations) to ensure individual trees, that are to be retained within the site are not adversely affected. Any trees over 100 mm trunk diameter, and/ or of significant ecological value, should be protected by barriers. Minimum distance between tree trunk and barriers must be either the distance of branch spread or half tree height, whichever is the greater. In all cases trees must be protected from direct impact and from severance or asphyxiation of the roots.

6.3 Any planting within the site as part of the proposed development should use native trees, particularly berry-bearing species that will enhance the biodiversity of the site. See Annex 5 for details of planting that will enhance the site for foraging bats. Any landscaping plans for the site should take this advice into account.

Bats

6.4 The cottage is known to have previously supported a soprano pipistrelle maternity colony recorded during previous surveys. Following BCT survey guidance, the cottage should be subjected to at least two dusk and/or dawn bat surveys. The small number of trees to be subjected to tree surgery or felling works support a negligible potential for supporting roosting bats. Therefore, these trees require no further bat survey or mitigation works. The dusk/dawn surveys required to be undertaken upon the cottage can only be undertaken during the spring/summer months (between May and September). Each survey should be spaced at least two weeks apart and conducted during optimal weather conditions (following BCT protocols). Given that the cottage supports roosting bats it is likely that the site will

require a European Protected Species Mitigation Licence (EPSM), to be secured from Natural England, prior to any proposed demolition works.

6.5 The site supports potential foraging, commuting and roosting habitat for bats. Artificial lighting should be avoided where possible. If artificial lighting is required it must be managed in a way whereby it will not impact upon bats within the area and prevent light spillage into areas that could be used by bats. Annex 4 details the Bat Conservation Trust guidelines on lighting mitigation. External lighting for the proposed new development should be positioned low to the ground, with downward facing baffles and set on timers or motion sensors. Warm white LED lights have the least impact upon bats. Lighting plans should also be informed by the results of the proposed surveys. Any lighting plan should form part of a Biodiversity Enhancements and Mitigation Plan, to be secured by condition.

Breeding birds

6.6 The cottage could potentially support a number of nesting bird species. It is recommended that demolition works of the cottage occurs outside the bird nesting season, which is generally accepted to extend from March - August inclusive (although dates vary by species and are subject to prevailing weather conditions).

Reptiles and amphibians

6.7 No further surveys or mitigation in relation to these species are considered necessary.

Mammals

6.8 No further surveys or mitigation in relation to protected terrestrial species of mammals are considered necessary.

7.0 ENHANCEMENTS

7.1 In line with local and national policy (NPPF 2019[17]), the new development should seek to provide biodiversity enhancements. The following suggestions would enhance the site for wildlife:

Shrub/Tree Planting

7.2 It is recommended that new native shrubs and trees (of local provenance) are planted as part of the landscaping within the proposed new development. A list of native and non-native species that are beneficial to pollinating insects, produced by the Royal Horticultural Society, is provided in Annex 4.

7.3 Any landscaping plan should take account of this guidance. Furthermore, areas of the amenity grass should be replaced with a species rich turf e.g. Wildflower Native Enriched Turf or Species Rich Lawn Turf to enhance diversity within the grassland sward (which will in turn attract insects, birds and bats)[18].

Bird Boxes

7.4 Several nest boxes for different species of bird (sparrow, tits, woodpecker/starling and wren) should be erected around the site in areas of good cover and out of the reach of domestic cats. A minimum of five bird boxes should be installed post development.

Bats

7.5 A guide to bat friendly gardening is provided in Annex 5. Full bat mitigation and enhancements will be included within the report detailing the results of the bat dusk/dawn surveys.

7.6 The biodiversity enhancements should be informed by the results of the bat survey and should form part of a Biodiversity Enhancements and Mitigation Plan (BEMP), to be secured by an appropriate planning condition. This should ensure compliance with local and national policies.

[17] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[18] http://www.wildflowerturf.co.uk/Products/species-rich-lawn-turf.aspx

8.0 REFERENCES

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Department of Communities and Local Government (March 2012) National Planning Policy Framework.

Institute of Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment.

JNCC (2010) *Handbook for Phase 1 Habitat Survey: a technique for environmental audit.* JNCC, Peterborough.

MAGIC Site Check Report. Available: www.magic.gov.uk.

Mitchell-Jones, J. (2004) Bat Mitigation Guidelines. Natural England.

Mitchell-Jones, A.J. and Mc Leish, A.P. (2004) Bat Workers Manual. JNCC

Annex 1 – Protected Species Legislation.

Plants
All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. triangular club rush and Deptford Pink) are afforded additional protection against picking, uprooting, destruction and sale. Bluebell is protected against sale only.

Amphibians (Common Species)
Common amphibian species (i.e. common frog, common toad, smooth newt and palmate newt) are afforded partial legal protection under UK legislation, i.e. Schedule 5, Section 9 (5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. This legislation prohibits:

- sale
- transportation
- advertising for sale

Badgers
Badger is a widespread and generally common species. However, they are legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting and deliberate harm or injury. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so
- Possess any dead badger or any part of, or anything derived from, a dead badger
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it

A badger sett is defined in the legislation as "*any structure or place, which displays signs indicating current use by a badger*".

Bats
All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat
- Damage, destroy or obstruct access to bat roosts
- Deliberately disturb bats

A bat roost is defined in the legislation as *"any structure or place which a bat uses for shelter or protection". Roosts are protected whether or not bats are present at the time.* If a development activity is likely to result in disturbance or killing of a bat, damage to its habitat or any of the other activities listed above, then a licence will usually be required from Natural England.

Birds
The bird breeding season generally lasts from early March to September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird;

- Take, damage or destroy the nest of any wild bird while it is being built or in use;
- Take or destroy the eggs of any wild bird; and
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) (e.g. barn owl and kingfisher) are afforded additional protection, which includes makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Great crested newts

Great crested newts and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. This makes it is an offence to kill, injure or disturb great crested newts and to destroy any place used for rest or shelter by a newt. The great crested newt is also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of a great crested newt, damage to its habitat etc, then a licence will usually be required from Natural England.

Reptiles

There are six native species of reptiles in the UK, including the slow-worm (*Anguis fragilis*), viviparous lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), which are afforded varying degrees of protection under UK and European legislation.

Slow-worm, viviparous lizard, adder and grass snake are protected under Schedule 5, Section 9 (1 and 5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000 against deliberate or reckless killing and injuring and sale.

Otters

Great Otters are fully protected under the Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Damage or destruction of a breeding site or resting place
- Deliberate disturbance of otters as:
  - to impair their ability:
  - to survive, breed, or reproduce, or to rear or nurture young;
  - to hibernate or migrate
  - to affect significantly the local distribution or abundance of the species

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Annex 2 – Plans, Figures and Photographs.

Figure 1 – Approximate location of the site (red outline). Image taken from Google Earth.

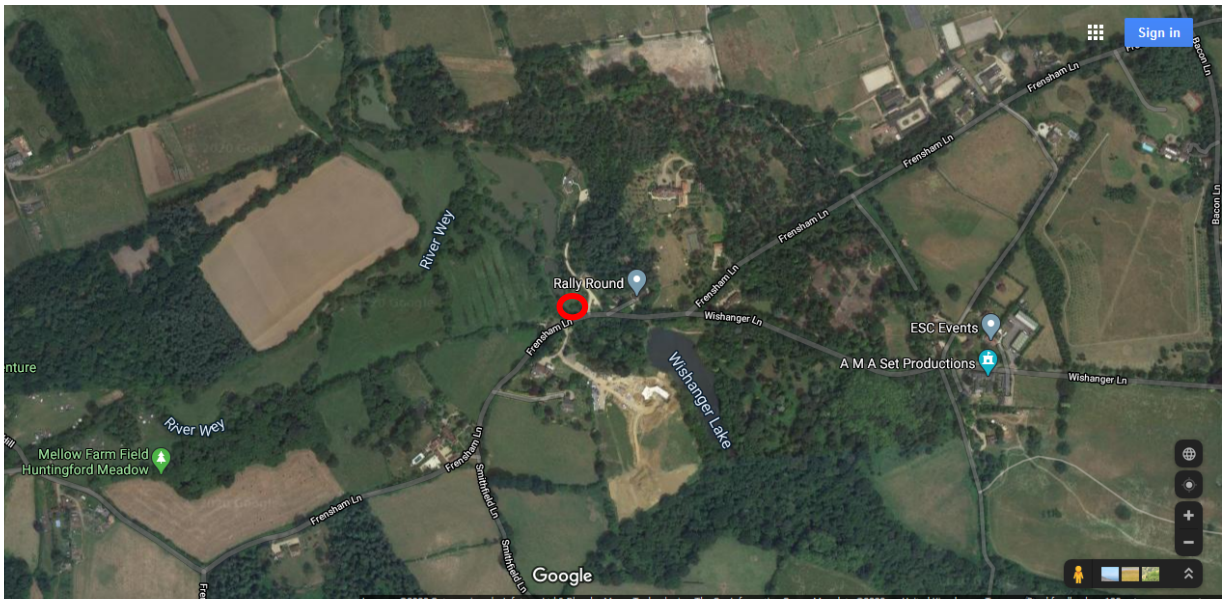

Figure 2 – Approximate location of the site (red oval) within the wider landscape. Image taken from Google Earth.

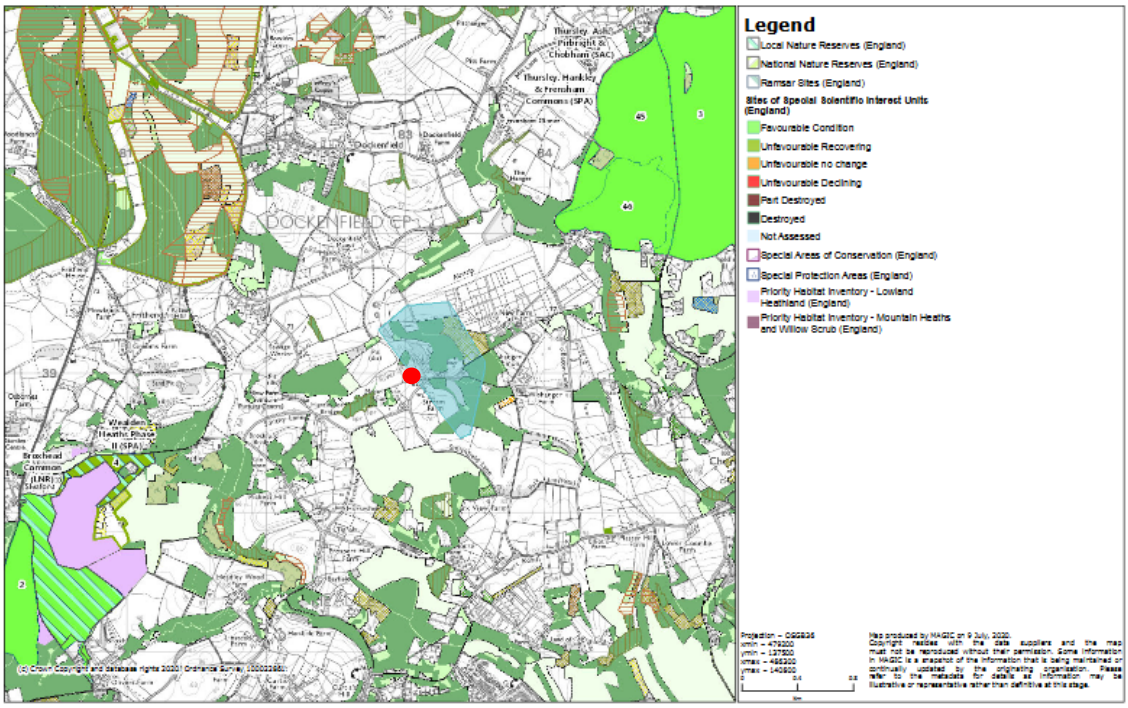

Figure 3a – Magic map showing the locations of woodland (dark green), heathland (purple) and designated protected areas (light green) within the surrounding landscape. Red spot showing location of Wishanger Cottage, with blue area showing the postcode zone. Source: https://magic.defra.gov.uk/MagicMap.aspx

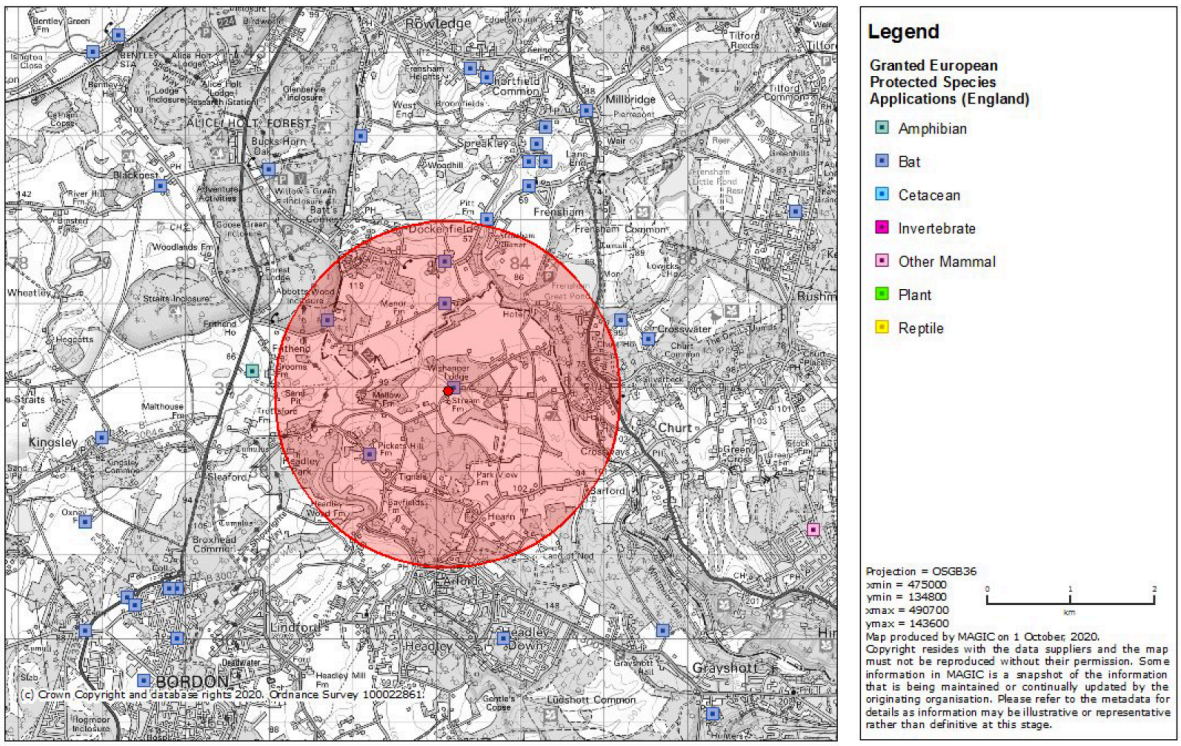

Figure 3b – Magic map showing the locations of known bat roosts bats on EPSM approvals from Natural England.. Red spot showing location of Wishanger Cottage. Source: https://magic.defra.gov.uk/MagicMap.aspx

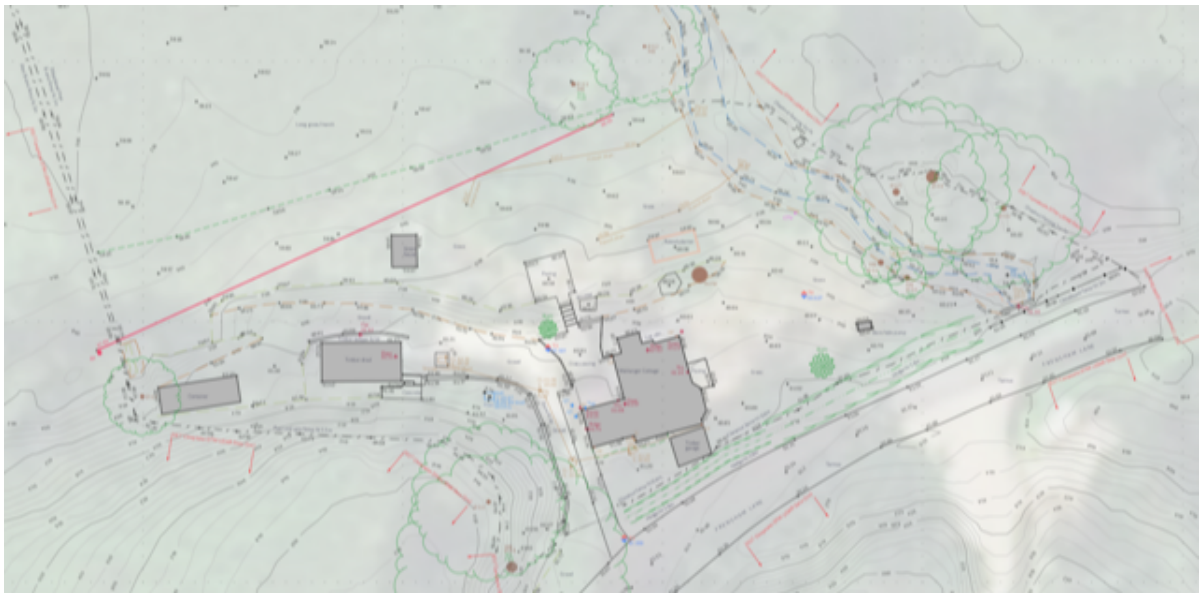

Figure 4 – Architectural plan for the site with Wishanger Cottage to the centre of the site.

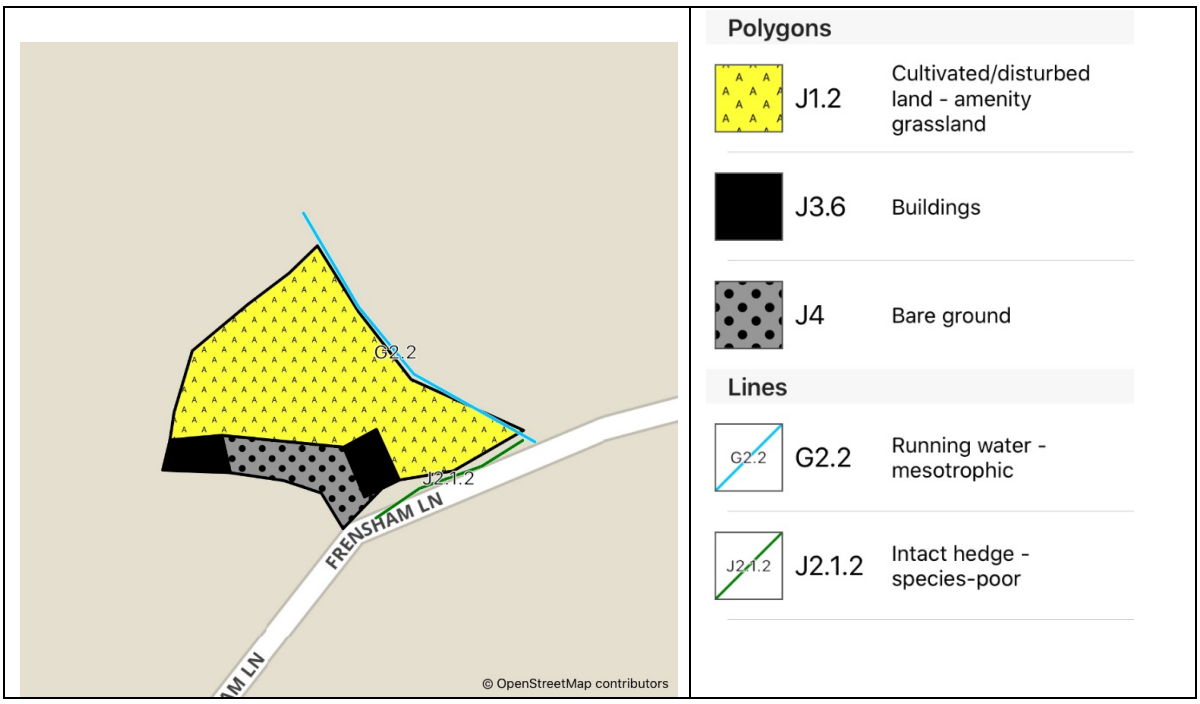

Figure 5– Phase 1 habitat survey plan, showing the main habitats on site as described within the key.

Photo 1 – The north and east facing elevations of Wishanger Cottage.

Photo 2 – The west facing elevation and driveway at Wishanger Cottage.

Photo 3 – The slate main roof and tiled extension roof.

Photo 4 – The area of the soprano pipistrelle roost upon the north facing gable recorded during 2016.

Photo 5 – The western side of the site showing track and timber garage.

Photo 6 – Proposed footprint of the new dwelling upon lawn, veg beds and coppiced hazel stool, with willow trees in the background.

	
Photo 7 – Confined void above the extension on Wishanger Cottage.	**Photo 8** – Confined roof void within the main house.
	
Photo 9 – The water course fringing the east of the site.	**Photo 10** – Timber garage to the west of the site.

Annex 3 – Lighting guidance - the impact of artificial light on bats

The following basic set of guidelines is summarized from the latest Guidance Note (08/18)[19] provides a concise checklist of points to consider with any lighting scheme:

- *Use professional lighting design engineers to model and predict light spill so that it can be avoided.*
- *Reduce light levels to the minimum necessary to meet legal and safety requirements.*
- *Reduce horizontal and upward/downward light spillage to the minimum achievable. The use of cowling, masks, louvers etc. and limiting the height of lighting columns may be important depending on the design of the lighting units. No bare bulbs. Lighting should only light the target area.*
- *Use non-reflective surfaces within the area to be lit to minimise indirect (reflected) spillage of light. The use of planting or other structures to add screening.*
- *Reduce the duration of lighting. The use of lighting 'curfews' can also be helpful - especially in the vicinity of bats roosts. For example, the emergence of bats, typically within the hour after sunset, may be disrupted (delayed) by raised light levels and this may result in a loss of feeding opportunities.*
- *Consider the type of light to be used and whether a different type or design may reduce potential impacts on bats and other wildlife. Narrow spectrum lighting with minimal UV emission should be used.*
- *Use 'screen planting' to limit light spill into dark areas.*
- *Use narrow spectrum light sources* to lower the range of species affected by lighting, as research has shown that spectral composition does impact biodiversity.
- *Use light sources that emit minimal ultra-violet light*
- *Avoid white and blue wavelengths of the light spectrum* to reduce insect attraction and where white light sources are required in order to manage the blue short wave length content they should be of a warm / neutral colour temperature <4,200 kelvin.

For more details, please refer to:

https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

http://www.bats.org.uk/pages/bats_and_lighting.html

http://www.batsandlighting.co.uk/index.html

[19] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Annex 4 – Gardening for bats.

GARDENING FOR BATS

All sixteen species of bats in the UK eat insects, and need a good supply of these from spring through to the autumn. By growing flowers attractive to a range of insects, our gardens can become important feeding stations for bats, birds and other wildlife.

Many plants depend on insects

We grow flowers in our gardens for our own enjoyment. But colour and perfume are really the plants' way of advertising themselves to insects. Sweet nectar and protein-rich pollen are bait to encourage insects to visit. In return, pollen is carried from one flower to another on their bodies so the flowers are fertilised.

Bats need insects

Flying uses a lot of energy, so bats have huge appetites. All our UK bats eat insects. Five species, including the long-eared bat, prefer moths, but most bats rely more heavily on flies as food than any other insect group. Especially important are craneflies, and a range of midge families and their relatives. Pipistrelles, the bats most likely to visit your garden, depend on catching very large numbers of tiny insects, some of which are pests.

Flower shape and insect tongues

Flowers with long narrow petal tubes, such as evening primrose and honeysuckle, are visited by moths and butterflies. Only their long tongues can reach deep down to the hidden nectar.
Short-tongued insects include many families of flies and some moths. They can only reach nectar in flowers with short florets.
By planting a mixture of flowering plants, vegetables, trees and shrubs, you can encourage a diversity of insects to drop in and refuel.

Follow these general rules

? Plant flowers varying not only in colour and fragrance, but also in shape.
? Daisies and daisy-like flowers are open with a mass of shallow florets.
? Pale flowers are more easily seen in poor light.
? Single flowers have more nectar than double varieties
? Native wild flowers or those closely related are most useful
? Flowers with landing platforms and short florets such as daisy or carrot family attract many insects.
? Many flowering vegetables such as beans and courgettes are also good for insects.

Plant trees and shrubs

These are important in providing

- food for insect larvae
- food for adult insects
- shelter for flying insects
- roosting opportunities for bats.

In a small garden, choose trees that can be coppiced – cut down to the ground every few years - to allow new shoots to spring from the base. Young shoots and leaves will support leaf-eating insects, even if they do not produce flowers. Hawthorn and elder are useful small trees.

Create a wet area

A pond, a marshy area, even a half-tub made into a mini-pond can attract insects. Many of the tiny flies favoured by bats start life in water as aquatic larvae.

Say NO to insecticides

Chemical pesticides kill natural predators and so may do more harm than good. They reduce bats' insect prey, and surviving insects carry traces of poison.

Encourage natural predators

Hoverflies, wasps, ladybirds, lacewings, ground beetles and centipedes are the gardener's friends. As natural predators they help keep the balance, eating many pests.
? Allow some weeds to grow to provide ground cover for natural predators
? Grow favourites of hoverflies and other predators close to the flowers and vegetables that tend to become infested.
? Leave hollow-stemmed plants to overwinter as shelter for ladybirds.
? Leave heaps of dead leaves and brushwood undisturbed for hedgehogs.
? Most garden birds are effective predators. Provide them with regular food and water.

Prevent a CATastrophe

Many bats and other small mammals fall prey to Britain's most dangerous four-legged predator, the domestic cat. Cats do not need to stay out all night. Bring you cat in an hour before sunset so bats can emerge undisturbed.
(Send for our special leaflet on cats and bats.)

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enquiries@bats.org.uk www.bats.org.uk
Registered Charity no 1012361 Company limited by guarantee, registered in England no 271282

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Gardening for bats

Aim at having flowers in bloom through the year, including both annuals and herbaceous perennials.
Below are some suggestions, but this is by no means an exhaustive list. See what grows well in YOUR garden, and what seems most attractive to insects.
Flowering times are approximate, varying in different areas. Regular dead-heading extends flowering period in many flowers. A=annual, HA=hardy annual, HHA=half-hardy annual, P=perennial, W=wild flower,

Flowers for borders			
St John's Wort	*Hypericum*	P	March-
marigolds	*Calendula*	H/A	March – Oct.
aubretia	*a. deltoidea*	P	March-June
honesty	*Lunaria rediva*	HB	March
forget-me-not	*Myosotis sp.*	A/P	March - May
elephant ears	*Bergenia*	P	April
Wallflowers	*Erysimum*	B	April - June
Cranesbills	*Geranium sp*	P	May – Sept.
Yarrow	*Achillea*	P	May -
Poppies	*Papaver sp.*	A	May - July
Dames violet	*Hesperis matronalis*	P	May - August
Red Valerian	*Centranthus ruber*	P	May – Sept.
Poached egg plant	*Limnanthes*	HA	June – Aug.
Knapweed	*Centaurea nigra*	P	June- Sept.
Phacelia		HA	June – Sept.
Ox-eye daisy	*Leucanthemum vulgare*	P	June – Aug.
Evening primrose	*Oenothera biennis*	B	June-Sept.
Candytuft	*Iberis umbellata*	HA	June – Sept.
Sweet William	*Dianthus barbatus*	B	June - July
Blanket flowers	*Gaillardia*	P	June -
Verbena	*V.bonariensis*	HHA	June – Oct.
Scabious	*knautia arvensis*	P	July-Aug.
Night-scented stock	*matthiola bicornis*	HA	July-Aug
Pincushion flower	*Scabious sp.*	A/P	July – Sept.
Cherry pie	*heliotrope*	HHA	July – Oct.
Mexican aster	*Cosmos sp.*	A/P	July – Oct.
Cone flower	*Rudbeckia sp.*	A/P	August-Nov.
Mallow	*lavatera sp.*	P	August-Oct.
Michaelmas daisy	*Aster sp.*	P	August-Sept.
Ice plant 'Pink lady'	*Sedum spectabile*	P	Sept.
Herbs – both leaves and flowers are fragrant			
Fennel	*Foeniculum vulgare*		July – Sept.
Bergamot	*Monarda didyma*		June - Sept
Sweet Cicely	*Myrrhis odorata*		April - June
Hyssop	*Hyssopus officianlis*		July - Sept
Feverfew	*Tanacetum parthenium*		June – Sept.
Borage	*Borago officinalis*		May – Sept.

Rosemary	*Rosemary officinalis*		March - May
Lemon balm	*Melissa officinalis*		
Coriander	*Copriannum sativum*		June - August
Lavenders	*Lavendula sp.*		
Marjoram	*Origanum sp*		
Trees, shrubs and climbers important to insects			
Oak	*Quercus sp.*	large gardens only	
Silver birch	*Betula pendula*		
Common alder	*Alnus glutinosa*	Suitable for coppicing	
Hazel	*Corylus avellana*	Suitable for coppicing	
Elder	*Sambucus nigra*	Small	
Pussy willow	*Salix caprea*	Suitable for coppicing	
Hawthorn	*Crataegus monogyna*	Suitable for coppicing	
Honeysuckle	*Lonicera sp.*	grow a variety for succession.	
Dog rose	*Rosa canina*	Climber	
Bramble	*Rubus fruticosus*	Climber	
Ivy	*hedera helix*	Climber	
Buddleia	*Buddleia davidii*	shrub	
Guelder rose	*Viburnum opulus*	shrub	
Gorse	*Ulex sp.*	shrub	
Plants for pond edges and marshy areas			
Purple loosestrife	*Lythrum salicaria*	W	June – Aug.
Meadow sweet	*Filipendula ulmaria*	W	June – Sept.
Lady's smock	*Cardamine pratensis*	W	April - June
Water mint	*mentha aquatica*	W	July – Sept.
Angelica	*Angelica sylvestris*	W	July – Sept
Hemp agrimony	*Eupatorium cannabinum*	W	July – Sept.
Marsh marigold	*Caltha palustris*	W	March – May
Creeping Jenny	*Lysimachia nummularia*	W	May - August
Fringed water lily	*Nymphoides peltata*	W	June – Sept.
Water forget-me-not	*Myosotis scorpioides*	W	June – Sept.

Allow part of your lawn to grow long in summer and cut in autumn, removing the clippings. Avoid using fertilizers.
Compost heaps are good producers of insects too.

Add a seat to watch your garden come to life!

Native Plant Species Recommended

Hedging/shrubs (60cm whips)	
Blackthorn	*Prunus spinosa*
Hawthorn	*Crataegus monogyna*
Common Dogwood	*Cornus sanguinea*
Guelder Rose	*Viburnum opulus*
Holly	*Ilex aquifolium*
Elder	*Sambucus nigra*
Field Maple	*Acer campestre*
Hazel	*Corylus avellana*
Spindle	*Euonymus europaeus*
Trees (regular standard size)	
Apple	*Malus spp.*
Cherry	*Prunus spp.*
Field Maple	Acer campestre
Hornbeam	*Carpinus betulus*
Rowan	*Sorbus aucuparia*
Wild Service	*Sorbus torminalis*
English Oak	*Quercus robur*
Shrubs/Herbacous plants (formal beds)	
Use species attractive to pollinators e.g bees, butterflies, moths. See this selection of RHS plants for pollinators: http://www.rhs.org.uk/Gardening/Sustainable-gardening/Plants-for-pollinators (see Appendix 4)	
Note – all specimens should be of British native stock from reputable suppliers.	