



THE COPSE,
WEST KINGSDOWN,
KENT

Bat Emergence Survey Report

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|-------------------|----------------------------|
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| Author | Emma Waller |
| Reviewer(s) | Bea Davis |
| Client name | Graham Simpkin Planning |
| Corylus reference | 18160 |

CORYLUS ECOLOGY

Unit A3 Speldhurst Business Park, Langton Road, Speldhurst, Tunbridge Wells, Kent. TN3 0NR

Telephone: 01892 861868 E-mail: info@corylus-ecology.co.uk

Director: H G Wrigley (née Lucking) BSc. MIEEM, CIEEM

Corylus Ecology Ltd Registered in England No 5005553

Registered Office: Henwood House, Henwood, Ashford Kent TN24 8DH

VAT Reg No. 862 2486 14

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1.0 INTRODUCTION

- 1.1 Corylus Ecology has undertaken a Bat Emergence Survey at The Copse, West Kingsdown, Kent, hereinafter referred to as 'the Site'. The OS grid reference at the Site is TQ 57840 62569. The surrounding landscape includes a network of farmland to the south and west, with residential developments to the north and a field and gardens to the east.
- 1.2 The Site comprises of a number of farm buildings (B1, B2, B3a, B3b and B3c) located in a semi-rural environment in the south-eastern outskirts of the village West Kingsdown. The Bat Building Assessment undertaken by Corylus Ecology in November 2018 found that building B2 offers 'Low' potential for day roosting bats (Collins, 2016), predominantly in external features including missing mortar and lifted ridge tiles and a potential access point into a cavity in the south-eastern corner of the building. This emergence survey report should be read in conjunction with the report of the bat building assessment which made recommendations for further survey during the bat active period (Corylus Ecology, January 2019). Building B1, B3a, B3b and B3c were assessed as having 'Negligible' potential to support roosting bats and did not require further surveys in regards to bats. The proposals for the Site include the demolition of all existing buildings and the redevelopment of the Site to include five bungalows with associated landscaping and parking.
- 1.3 The aim of the bat emergence survey of B2 was to determine whether a bat roost is present and, if so, assess the impacts of the proposals and inform the most appropriate strategy for mitigating the impacts and providing compensation.

Bat Legislation

- 1.4 All British bat species receive legal protection in the United Kingdom. The Wildlife and Countryside Act 1981 (WCA) (as amended) transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). The 1981 Act was recently amended by the Countryside and Rights of Way (CRoW) Act 2000 and the more recent Habitats Regulations amendments (2010). All British bat species are listed under Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which makes it an offence to:
- Intentionally kill, injure or take a bat [Section 9(1)];
 - Possess or control any live or dead specimen or anything derived from a bat [Section 9(2)]
 - Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection [Section 9(4)(b)];
 - Intentionally or recklessly obstructs access to any structure or place which a bat uses for shelter or protection [Section 9(4)(c)]
 - Sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell a bat [section 9(5)]

- 1.5 Bats are also included on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the UK ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2010 (The Conservation Regulations). Annex IV of the Habitats Directive requires member states to construct a system of protection as outlined in Article 12, this is done through Part 3 of the Regulations, whereby Regulation 41 makes it an offence to:
- Deliberately capture, kill or injure a bat [Regulation 41(1)(a)];
 - Deliberately disturb bats in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young, OR ii) the local distribution of that species. [Regulation 41(1)(b) and 41(2)];
 - Damage or destroy a breeding site or resting place of a bat [Regulation 41(1)(d)].
- 1.6 Under the law, a roost is any structure or place used for shelter or protection. This could be any structure, for example, any building or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.
- 1.7 In addition, four species: the two horseshoes, barbastelle and Bechstein's are included within Annex II of the Habitats Directive for which Member States are required to designate Special Areas for Conservation (SAC's) for their protection.
- 1.8 The UK is a signatory to the Agreement on the Conservation of Bats in Europe, established under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

2.0 METHODOLOGY

2.1 Bat Emergence Survey

2.1.1 A single evening emergence survey was undertaken on 30th May 2019. The surveyors present during the survey were Emma Waller of Corylus Ecology and Kate Baldock of Baldock Ecology (licence number CLS 00 1452)

2.1.2 The survey commenced 15 minutes before sunset and continued until 1hr 15 minutes after sunset. Elekon Bat Loggers with headphones were used and they were set for automatic recording. Radios were used for communication between surveyors, for example to corroborate bat flight lines.

Bat Sound Analysis

2.1.3 The sonograms were subsequently up-loaded onto Bat Explorer software for analysis. The sonograms were analysed and compared to identification parameters given in Russ (2012) and Parsons and Jones (2000) and were also compared with library recordings made by the surveyors. It is not always possible to identify each bat pass to species level due either to poor recordings of their echolocations or due to similarities between echolocations of bat species not allowing confidence of identification. The *Myotis* genus is generally the hardest to separate to species level due to the plasticity of the calls and overlapping of call characteristics between the different species. Where the sonogram quality has allowed, parameters including call duration, pulse interval, start frequency, end frequency and peak energy have been analysed.

3.0 RESULTS

3.1 Bat Emergence Survey

30th May 2019 - sunset 21.03hrs

3.1.1 During the survey there was no rain, a light breeze (BF1) and 90% cloud cover. The temperature at the start of the survey was 19°C, dropping to 17°C by the end of the survey. The locations of the surveyors are marked on Figure 1.

3.1.2 No bats emerged from building B2. No bats were heard or seen by the surveyors during the survey.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Bat Emergence Survey

4.1.1 A single bat emergence survey was undertaken of building B2 at The Copse, West Kingsdown, Kent. The survey was undertaken within the key bat maternity period and in suitable weather conditions. No bats emerged from the building.

Recommendations

4.1.2 No European Protected Species (EPS) licence from Natural England is required as no bats emerged from building B2 and no evidence of bats was found during the bat building assessment. However, bats require different roosting conditions at different times of year and therefore can regularly change roost location, for example to hibernate during the winter or for maternity roosts during the summer. It is therefore recommended that the demolition of building B2 should be done carefully, with the roof and as much as the building as possible being removed by handheld tools rather than large machinery.

4.1.3 In the unlikely event that bats are found, works will have to stop and Corylus Ecology and Natural England would be contacted and, if considered necessary, a licence would be sought.

Sensitive Lighting Strategy

4.1.4 The indirect effects of the construction of five new dwellings will include an increase in artificial lighting, which could potentially impact the southern and western treelines which provide connectivity to the wider landscape. Recommendations for a sensitive lighting scheme with regard to foraging and commuting bats have therefore been outlined below. The following points take into account current best practice guidance which should be incorporated into the lighting design (Bat Conservation Trust, 2014).

- Do not provide excessive lighting. Use only the minimum amount of light needed for safety.
- Do not create any light spill along the treelines along the southern and western boundaries.
- Minimise light spill. Eliminate any bare bulbs and any upward pointing light. The spread of light should be kept near to or below the horizontal; flat cut-off lanterns are best.
- Use narrow spectrum bulbs to lower the range of species affected by lighting. Use light sources that emit minimal ultra-violet and avoid the white and blue wavelengths of the light spectrum to avoid attracting lots of insects. Lighting regimes that attract lots of insects result in a reduction of insects in other areas like woodlands, parks and gardens that bats may be using for foraging.
- Lights should peak higher than 550nm or use glass lantern covers to filter UV light. White LED lights do not emit UV but have still been shown to disturb slow-flying bat species.
- Reduce the height of lighting columns; light at a low level, such as bollard lighting, reduces impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.

- For pedestrian lighting, use low level lighting that is as directional as possible and below 3 Lux at ground level, but preferably below 1 Lux.
- Increase the spacing of lanterns.
- Limit the times that lights are on to provide some dark periods.
- Use lighting design software and professional lighting designers to predict where light spill will occur.
- Avoid using reflective surfaces under lights.

Breeding Birds

4.1.5 Birds' nests were found in building B3a and bird droppings were noted in B1 during the bat building assessment in 2018. During the bat emergence survey, song thrush *Turdus philomelos* were noted in the treeline west of the Site and it is considered that all buildings are suitable for breeding birds. Under the Wildlife and Countryside Act (1981), all breeding birds, including eggs and chicks, are protected against injury or killing and their nests are protected against damage or destruction up until the eggs have hatched and the chicks have fledged. This means that, if works start and an active nest is found within any of the buildings or vegetation that is to be cleared, work will have to cease until the chicks have fledged. The demolition of the buildings and clearance of any vegetation should therefore be undertaken outside the breeding bird season, limiting the work to between September and February where possible. If this does not coincide with planned schedules, the buildings and vegetation should be checked by a suitability experienced ecologist prior to the start of works.

Recommendations with regard to NPPF

4.1.6 The National Planning Policy Framework (February 2019) sets out planning policies on protection of biodiversity and geological conservation through the planning system. Section 15 of the National Planning Policy Framework (NPPF) states that planning policies and decisions should contribute to and enhance the natural and local environment by:

- Safeguarding local wildlife-rich habitats and wider ecological networks including designated sites, wildlife corridors and stepping stones and areas identified by national and local partnership for enhancement;
- Promoting the conservation, restoration and enhancement of priority habitats and ecological networks;
- Promoting the protection and recovery of protected species; and,
- Identifying and pursuing opportunities for measureable net gains for biodiversity

4.1.7 Regarding NPPF and the enhancement of the Site, as mentioned in the Bat Survey Report (Corylus Ecology, 2019), it is recommended and that the measures detailed below are included in the scheme to maintain and enhance biodiversity.

Breeding birds

4.1.8 To compensate for the loss of breeding bird habitat within the buildings, the proposed development should incorporate the following boxes:

- Colonial house sparrow boxes: ready-made wooden or wood-concrete (*Schwegler*) terraces are widely available. Alternatively, nesting spaces for sparrows can be incorporated into the soffits when the development of the bungalows is finished, with an entrance formed by cutting away a 32mm slot in the back of the soffit board against the external wall. At least two boxes for house sparrows should be installed in the new development.
- Bird boxes with predation protection for a range of small birds. Birds which nest in recesses or cavities are at risk where there are large numbers of magpies, jays or cats. The 1N *Schwegler* Deep Nest Box can make an effective contribution to breeding success. This box may be used by a range of species; tits, sparrows, redstarts, black redstarts, spotted flycatchers, pied wagtail, robins and wrens. At least two of these boxes should be installed on trees at the boundaries.
- Wrens like to nest near the ground in undergrowth and prefer shady places in hedges, thickets, heavily overgrown areas and bushes. The 1ZA *Schwegler* Wren Roundhouse nest box can be hung in shady undergrowth. It can also be placed upon a pile of brushwood or garden clippings, for example. Once of these nest boxes should be installed in the boundary vegetation which is recommended below.

Shrub and tree planting

4.1.9 As mentioned in the Bat Survey Report (Corylus Ecology, 2019), generous native and species rich planting should be incorporated into the landscape designs to enhance the biodiversity of the Site. This should include planting native woody species such as hawthorn, blackthorn, oak, beech, holly, spindle, hazel, field maple, dog rose, honeysuckle and traveller's-joy. The planting should be designed to link existing vegetation and/or treelines, such as the treeline along the southern and western boundaries of the Site. This will benefit birds and small mammals and has the potential to improve the habitat corridor for foraging and commuting bats. Any new planting should preferably be locally sourced.

Planting / landscaping

4.1.10 Native, nectar-rich plants should be considered for any landscape planting around the Site and where other opportunities may exist, for example, where any flower beds are to be created. A list of nectar rich species for bumblebees and other pollinators prepared by the RHS was provided within the Bat Survey Report, Corylus Ecology 2019, and is also provided within Appendix 1. A combination of these plants

should be chosen from the plants recommended for spring, summer and late summer to provide a source of nectar for as much of the year as possible.

Hedgehog

- 4.1.11 Hedgehogs are protected from harm under Schedule 6 of the Wildlife and Countryside Act 1981 and hedgehog are a priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The number of hedgehogs living in Britain has plummeted by more than half since 2000 due to loss of habitat and prey items (Wilson & Wembridge, 2018). Any close board fencing should be fitted with a minimum 13cm square gap at the base to allow the continued movement of hedgehogs through the landscape.

5.0 CONCLUSIONS

- 5.1 A bat emergence survey has been undertaken at The Copse, West Kingsdwon, Kent, during the 2019 bat activity season. Building B2 was assessed as supporting 'Low' potential for day roosting bats during the bat building assessment and buildings B1, B3a, B3b and B3c were assessed as having 'Negligible' potential. The proposals for the Site involve the demolition of the existing buildings and construction of five new bungalows.
- 5.2 No bats emerged from building B2 and an EPS licence is therefore not required. No bats were seen or heard during the survey.
- 5.3 Birds' nests were noted within building B3a in 2018 and all buildings are considered suitable for breeding birds. Recommendations have been made for the timing of demolition of the buildings and any clearance of vegetation. This should be done outside of the breeding bird season March – August (inclusive) or the areas with potential should be checked for active nests before removal.
- 5.4 Recommendations have been made in regard to a sensitive lighting strategy which includes avoiding light spill along the southern and western treeline boundaries.
- 5.5 Recommendations for enhancing the Site's biodiversity have been made in regard to the NPPF. These include installing bird boxes, planting native tree and shrub species to create new habitats and leaving a minimum 13cm square gap at the base of any new close board fencing to allow the movement of hedgehogs.

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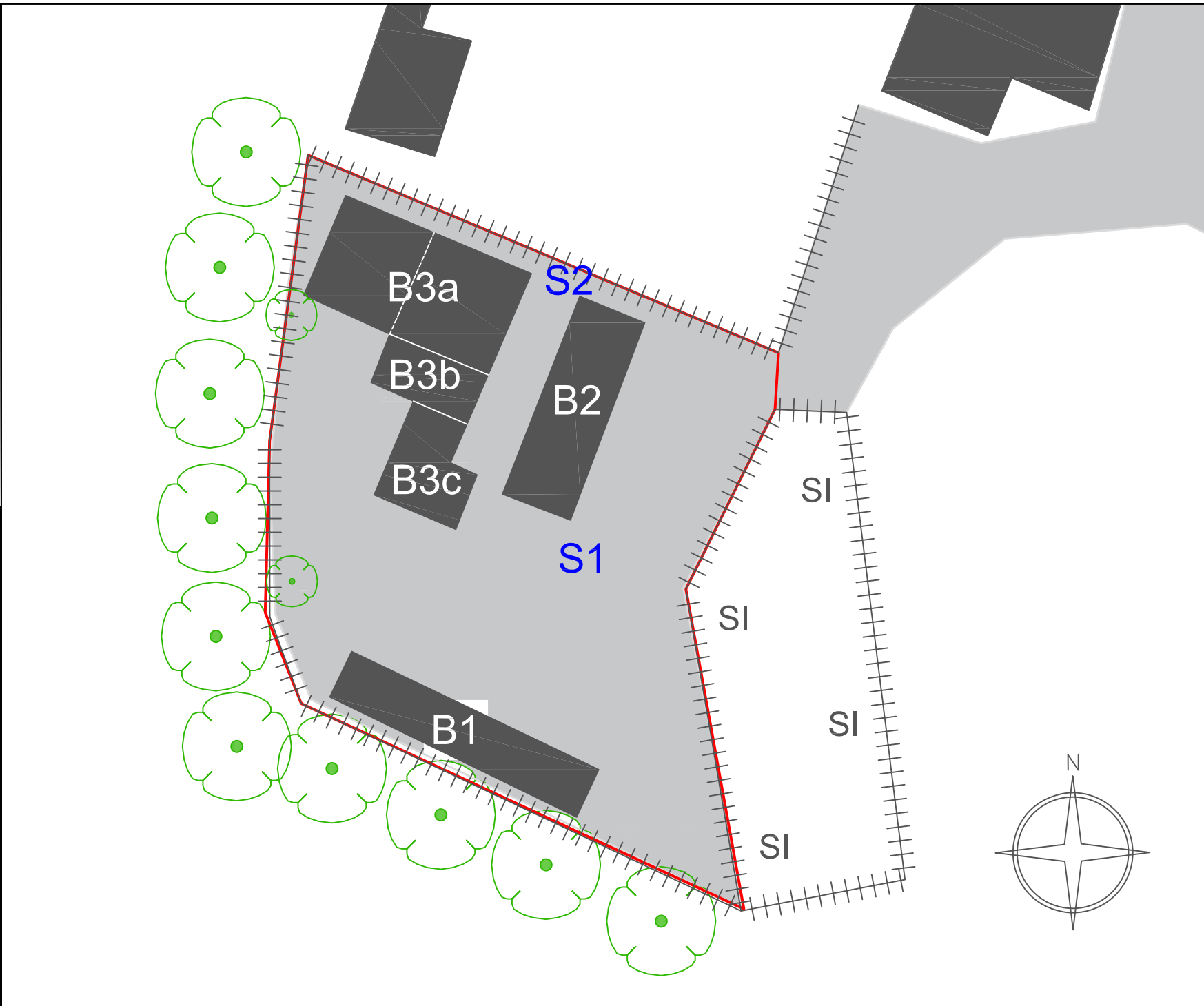
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- Key
-  Site Survey Area
 -  Tree
 -  Semi-Improved Grassland
 -  Fence
 -  Building
 -  Hard Standing
 -  Surveyor 1

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Corylus Ecology Ltd, Unit A3, Speldhurst Business Park, Went Farm, Langton Road, Speldhurst, Kent TN3 0NF. Corylus Ecology is the trading name of Corylus Ecology Ltd registered in England. No. 1055553. Registered Office: Hemwood House, Hemwood, Aylesford, Kent TN24 8DH.



Project:
 18160, The Copse

Title:
 Surveyor Location

| | | | | |
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| status | drawing no. | Figure 1 | | |
| scale | site | date | drawn | checked |
| NTS | A3 | 05.06.2019 | EW | BD |

CAD filename
 Figure_1.dwg



RHS Perfect for Pollinators plant list

WINTER

NOV – FEB

| | |
|---|----------|
| <i>Clematis cirrhosa</i> a <i>clematis</i> | C |
| <i>Crocus tommasinianus</i> a <i>crocus</i> | B |
| <i>Crocus vernus</i> a <i>crocus</i> | B |
| <i>Eranthis hyemalis</i> <i>Winter aconite</i> | B |
| × <i>Fatsyhedera lizei</i> | S |
| <i>Galanthus nivalis</i> <i>Snowdrops - single flowered forms</i> | B |
| <i>Helleborus argutifolius</i> a <i>hellebore</i> | H |
| <i>Helleborus foetidus</i> <i>Native plant - Stinking hellebore</i> | H |
| <i>Helleborus</i> × <i>hybridus</i> a <i>hellebore</i> | H |
| <i>Helleborus</i> × <i>sternii</i> a <i>hellebore</i> | H |
| <i>Lonicera</i> × <i>purpusii</i> a <i>honeysuckle</i> | S |
| <i>Mahonia</i> × <i>media</i> | S |
| <i>Salix aegyptiaca</i> a <i>willow</i> | S |
| <i>Sarcococca hookeriana</i> a <i>winter box</i> | S |
| <i>Sarcococca hookeriana</i> var. <i>digyna</i> a <i>winter box</i> | S |
| <i>Sarcococca humilis</i> a <i>winter box</i> | S |
| <i>Viburnum tinus</i> <i>Laurustinus</i> | S |

SPRING

MAR – MAY

| | |
|--|---------------|
| <i>Acer campestre</i> <i>Native plant. Field maple</i> | S or T |
| <i>Acer platanoides</i> <i>Norway maple</i> | T |
| <i>Acer pseudoplatanus</i> <i>Sycamore</i> | T |
| <i>Acer saccharum</i> <i>Sugar maple</i> | T |
| <i>Aesculus hippocastanum</i> <i>Horse chestnut</i> | T |
| <i>Ajuga reptans</i> <i>Native plant. Bugle</i> | H |
| <i>Arabis alpina</i> subsp. <i>caucasica</i> <i>Arabis</i> | H |
| <i>Aubrieta deltoidea</i> <i>Aubrieta</i> | H |
| <i>Aurinia saxatilis</i> <i>Alyssum</i> | H |
| <i>Berberis darwinii</i> | S |

SPRING (cont.)

| | |
|--|---------------|
| <i>Berberis thunbergii</i> | S |
| <i>Buxus sempervirens</i> <i>Native plant Box</i> | S |
| <i>Caltha palustris</i> <i>Native plant. Marsh marigold</i> | H |
| <i>Cercis siliquastrum</i> <i>Judas tree</i> | T |
| <i>Chaenomeles japonica</i> a <i>Japanese quince</i> | S |
| <i>Chaenomeles speciosa</i> a <i>Japanese quince</i> | S |
| <i>Chaenomeles</i> × <i>superba</i> a <i>Japanese quince</i> | S |
| <i>Cheiranthus cheiri</i> <i>Wallflower</i> | Bi |
| <i>Cornus mas</i> <i>Cornelian cherry</i> | S |
| <i>Crataegus monogyna</i> <i>Native plant. Hawthorn</i> | S or T |
| <i>Crocus</i> spp & <i>cultivars</i> <i>Crocus (various)</i> | B |
| <i>Doronicum</i> × <i>excelsum</i> <i>Leopard's bane</i> | H |
| <i>Enkianthus campanulatus</i> | S |
| <i>Erica carnea</i> a <i>heath</i> | S |
| <i>Erica</i> × <i>darleyensis</i> a <i>heath</i> | S |
| <i>Euphorbia characias</i> a <i>spurge</i> | S |
| <i>Euphorbia polychroma</i> a <i>spurge</i> | H |
| <i>Geranium phaeum</i> <i>Dusky cranesbill</i> | H |
| <i>Hebe</i> spp & <i>cultivars</i> | S |
| <i>Helleborus</i> × <i>hybridus</i> a <i>hellebore</i> | H |
| <i>Iberis saxatilis</i> a <i>candytuft</i> | S |
| <i>Iberis sempervirens</i> <i>Perennial candytuft</i> | S |
| <i>Ilex aquifolium</i> <i>Native plant. Holly</i> | T |
| <i>Lamium maculatum</i> a <i>dead nettle</i> | H |
| <i>Lunaria annua</i> <i>Honesty</i> | Bi |
| <i>Mahonia aquifolium</i> <i>Oregon grape</i> | S |
| <i>Malus baccata</i> a <i>crab apple</i> | T |
| <i>Malus domestica</i> <i>edible apples</i> | T |
| <i>Malus floribunda</i> a <i>crab apple</i> | T |
| <i>Malus hupehensis</i> a <i>crab apple</i> | T |
| <i>Malus</i> 'John Downie' a <i>crab apple</i> | T |
| <i>Malus sargentii</i> a <i>crab apple</i> | T |

KEY

T = tree; **S** = shrub; **C** = climber; **B** = bulbs and corms; **A** = annual; **Bi** = biennial; **H** = herbaceous perennial

RHS Perfect for Pollinators plant list

SPRING (cont.)

| | |
|--|---------------|
| <i>Mespilus germanica</i> Medlar | T |
| <i>Muscari armeniacum</i> Grape hyacinth | B |
| <i>Ornithogalum umbellatum</i> Star of Bethlehem | B |
| <i>Pieris formosa</i> | S |
| <i>Pieris japonica</i> | S |
| <i>Primula vulgaris</i> Native plant. Primrose | H |
| <i>Prunus 'Accolade'</i> a flowering cherry | T |
| <i>Prunus avium</i> Native plant. Wild and edible cherries | T |
| <i>Prunus domestica</i> Edible plum | T |
| <i>Prunus dulcis</i> Almond | T |
| <i>Prunus incisa 'Kojo-no-mai'</i> a flowering cherry | S |
| <i>Prunus laurocerasus</i> Cherry laurel | S |
| <i>Prunus mume</i> a flowering cherry | T |
| <i>Prunus padus</i> Native plant. Bird cherry | T |
| <i>Prunus pendula</i> var. <i>ascendens</i> 'Rosea' a flowering cherry | T |
| <i>Prunus persica</i> Peach/nectarine | T |
| <i>Prunus spinosa</i> Native plant. Blackthorn/sloe | S |
| <i>Prunus tenella</i> a flowering cherry | S |
| <i>Prunus x yedoensis</i> a flowering cherry | T |
| <i>Pulmonaria angustifolia</i> a lungwort | H |
| <i>Pulmonaria saccharata</i> a lungwort | H |
| <i>Pyrus communis</i> Pear | T |
| <i>Ribes nigrum</i> Blackcurrant | S |
| <i>Ribes rubrum</i> Red/white currant | S |
| <i>Ribes sanguineum</i> Flowering currant | S |
| <i>Salix caprea</i> Native plant. Goat Willow - male form, not female | S or T |
| <i>Salix hastata 'Wehrhahnii'</i> a willow | S |
| <i>Salix lanata</i> a willow | S |
| <i>Skimmia japonica</i> | S |
| <i>Smyrniolus olusatrum</i> Alexanders | Bi |
| <i>Stachyurus chinensis</i> | S |
| <i>Stachyurus praecox</i> | S |
| <i>Taraxacum officinale</i> Native plant. Dandelion | H |
| <i>Vaccinium corymbosum</i> Blueberry | S |

SUMMER

JUNE – AUG

| | |
|--|---------------|
| <i>Achillea filipendulina</i> a yarrow | H |
| <i>Actaea japonica</i> a baneberry | H |
| <i>Aesculus indica</i> Indian horse chestnut - resistant to leaf-mining moth | T |
| <i>Aesculus parviflora</i> Buckeye | S |
| <i>Agastache foeniculum</i> | H |
| <i>Ageratum houstonianum</i> Floss flower | A |
| <i>Alcea rosea</i> Hollyhock single-flowered forms | Bi |
| <i>Allium aflatanense</i> an ornamental onion | B |
| <i>Allium christophii</i> an ornamental onion | B |
| <i>Allium giganteum</i> an ornamental onion | B |
| <i>Allium nutans</i> an ornamental onion | B |
| <i>Allium schoenoprasum</i> Chive | B |
| <i>Amberboa moschata</i> Sweet sultan | A |
| <i>Anchusa azurea</i> | A |
| <i>Anchusa capensis</i> | A |
| <i>Angelica archangelica</i> Angelica | Bi |
| <i>Angelica gigas</i> Giant angelica | Bi |
| <i>Angelica sylvestris</i> Native plant. Wild angelica | Bi |
| <i>Anthemis tinctoria</i> Golden marguerite | H |
| <i>Antirrhinum majus</i> Snapdragon | A or H |
| <i>Aquilegia</i> spp. Columbine | H |
| <i>Aruncus dioicus</i> Goatsbeard | H |
| <i>Asparagus officinalis</i> Vegetable asparagus | H |
| <i>Astrantia major</i> | H |
| <i>Borago officinalis</i> Borage | A |
| <i>Buddleja davidii</i> Butterfly bush | S |
| <i>Buddleja globosa</i> Orange ball tree | S |
| <i>Calamintha nepeta</i> subsp. <i>Nepeta</i> Catmint | H |
| <i>Calendula officinalis</i> Marigold - single-flowered forms | A |
| <i>Callicarpa bodinieri</i> var. <i>giraldii</i> Beauty berry | S |
| <i>Callistephus chinensis</i> Open-centred forms | A |
| <i>Calluna vulgaris</i> Native plant. Ling heather | S |
| <i>Campanula carpatica</i> a bellflower | H |
| <i>Campanula glomerata</i> Native plant. Clustered bellflower | H |
| <i>Campanula medium</i> Canterbury bells | Bi |
| <i>Campanula persicifolia</i> Peach-leaved bellflower | H |
| <i>Campsis radicans</i> Trumpet vine | C |
| <i>Caryopteris x clandonensis</i> | S |

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RHS Perfect for Pollinators plant list

SUMMER (cont.)

| | |
|---|---------------|
| Catalpa bignonioides <i>Indian bean tree</i> | T |
| Centaurea atropurpurea | H |
| Centaurea cyanus <i>Native plant. Cornflower</i> | A |
| Centaurea dealbata | H |
| Centaurea macrocephala | H |
| Centaurea montana | H |
| Centaurea nigra <i>Native plant. Hard head knapweed</i> | H |
| Centaurea scabiosa <i>Native plant. Great knapweed</i> | H |
| Centranthus ruber <i>Red valerian</i> | H |
| Centratherum intermedium <i>Brazilian button</i> | A |
| Cerithe major ‘Purpurascens’ <i>Honeywort</i> | A |
| Cheiranthus × allionii <i>Siberian wallflower</i> | Bi |
| Clarkia elegans <i>Single-flowered forms</i> | A |
| Clematis vitalba <i>Native plant. Old man’s beard/Traveller’s joy</i> | C |
| Convolvulus tricolor <i>Annual bindweed</i> | C/A |
| Coreopsis lanceolata | H |
| Coreopsis tinctoria | A |
| Coreopsis verticillata | H |
| Cornus alba <i>Red-barked dogwood</i> | S |
| Cosmos bipinnatus | A |
| Cotoneaster horizontalis <i>Herringbone cotoneaster</i> | S |
| Cotoneaster microphyllus <i>Small-leaved cotoneaster</i> | S |
| Crambe cordifolia <i>a sea kale</i> | H |
| Crataegus monogyna <i>Native plant. Hawthorn</i> | S or T |
| Cucurbita pepo <i>Marrow/courgette</i> | A |
| Cuphea ignea <i>Cigar flower</i> | A |
| Cynara cardunculus <i>Cardoon</i> | H |
| Dahlia <i>Dahlia Open centred flower forms, eg ‘Amazona’, ‘Moonfire’</i> | H |
| Dianthus barbatus <i>Sweet William</i> | Bi |
| Dictamnus albus <i>Burning bush</i> | H |
| Digitalis purpurea <i>Native plant. Foxglove</i> | Bi |
| Dipsacus fullonum <i>Native plant. Teasel</i> | Bi |
| Echinacea purpurea <i>Coneflower</i> | H |
| Echinops bannaticus <i>a globe thistle</i> | H |
| Echinops ritro <i>a globe thistle</i> | H |
| Echinops setifer <i>a globe thistle</i> | H |
| Echium vulgare <i>Native plant. Viper’s bugloss</i> | A |
| Elaeagnus angustifolia <i>Oleaster</i> | S |

SUMMER (cont.)

| | |
|--|-----------|
| Erica cinerea <i>Native plant. Bell heather</i> | S |
| Erica erigena <i>a heath</i> | S |
| Erica vagans <i>Native plant. Cornish heath</i> | S |
| Erigeron spp. and hybrids <i>Fleabane</i> | H |
| Eryngium × tripartitum <i>a sea holly</i> | H |
| Eryngium alpinum <i>a sea holly</i> | H |
| Eryngium giganteum <i>a sea holly/ Miss Willmott’s ghost</i> | Bi |
| Eryngium planum <i>a sea holly</i> | H |
| Escallonia cultivars | S |
| Eschscholzia californica <i>Californian poppy</i> | A |
| Eupatorium cannabinum <i>Native plant. Hemp agrimony</i> | H |
| Eupatorium maculatum | H |
| Ferula communis <i>Giant fennel</i> | H |
| Foeniculum vulgare <i>Fennel</i> | H |
| Fragaria × ananassa <i>Strawberry</i> | H |
| Fuchsia magellanica <i>a hardy fuchsia</i> | S |
| Gaillardia × grandiflora <i>Blanket flower</i> | H |
| Geranium pratense <i>Native plant. Meadow cranesbill</i> | H |
| Geranium ROZANNE = ‘Gerwat’ <i>a hardy geranium</i> | H |
| Geum ‘Borisii’ <i>a geum</i> | H |
| Gilia capitata <i>Queen Anne’s thimbles</i> | A |
| Hebe spp. and cultivars | S |
| Helenium ‘Moerheim Beauty’ | H |
| Helenium ‘Sahin’s Early Flowerer’ | H |
| Helenium ‘Sonnenwunder’ | H |
| Helianthus annuus <i>Sunflower Single-flowered forms; avoid pollen-free cultivars.</i> | A |
| Heliotropium arborescens <i>Cherry pie/ Heliotrope</i> | A |
| Heracleum sphondylium <i>Native plant. Hogweed</i> | Bi |
| Hesperis matronalis <i>Sweet rocket/ Dame’s violet</i> | H |
| Hydrangea anomala subsp. petiolaris <i>Climbing hydrangea</i> | C |
| Hydrangea paniculata <i>Cultivars with many fertile flowers eg ‘Kyushu’, ‘Big Ben’, ‘Floribunda’, ‘Brussels Lace’</i> | S |
| Hyssopus officinalis <i>Hyssop</i> | S |
| Iberis amara <i>Candytuft</i> | A |
| Ilex aquifolium <i>Native plant. Holly</i> | T |
| Inula ensifolia | H |
| Inula hookeri | H |
| Inula magnifica | H |
| Jasminum officinale <i>Common jasmine</i> | C |

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RHS Perfect for Pollinators plant list

SUMMER (cont.)

| | |
|--|----------------|
| Kalmia latifolia <i>Calico bush</i> | S |
| Knautia arvensis <i>Native plant. Field scabious</i> | H |
| Knautia macedonica | H |
| Koelreuteria paniculata <i>Golden-rain tree</i> | T |
| Laurus nobilis <i>Bay tree</i> | S |
| Lavandula × intermedia <i>a lavender</i> | S |
| Lavatera olbia <i>a shrubby mallow</i> | S |
| Lavatera trimestris | A |
| Leucanthemum × superbum <i>Open-centred flower forms</i> | H |
| Leucanthemum vulgare <i>Native plant. Ox-eye daisy</i> | H |
| Ligustrum ovalifolium <i>a privet</i> | S |
| Ligustrum sinense <i>a privet</i> | S |
| Limnanthes douglasii <i>Poached egg plant</i> | A |
| Limonium latifolium <i>a sea lavender</i> | H |
| Linaria purpurea <i>Purple toadflax</i> | H |
| Lobularia maritima <i>Sweet alyssum</i> | A |
| Lonicera periclymenum <i>Native plant. Common honeysuckle</i> | C |
| Lychnis coronaria <i>Rose campion</i> | Bi or H |
| Lychnis flos-cuculi <i>Native plant. Ragged robin</i> | H |
| Lysimachia salicaria <i>Native plant. Purple loosestrife</i> | H |
| Lysimachia vulgaris <i>Native plant. Yellow loosestrife</i> | H |
| Lythrum virgatum ‘Dropmore Purple’ <i>a loosestrife</i> | H |
| Malope trifida <i>Annual mallow</i> | A |
| Malva moschata <i>Native plant. Musk mallow</i> | H |
| Matthiola incana <i>Stock</i> | Bi |
| Mentha aquatica <i>Native plant. Water mint</i> | H |
| Mentha spicata <i>Garden mint</i> | H |
| Monarda didyma <i>Bergamot</i> | H |
| Myosotis spp <i>Forget-me-not</i> | Bi |
| Nemophila menziesii <i>Baby blue-eyes</i> | A |
| Nepeta × faassenii <i>a catmint</i> | H |
| Nicotiana glauca <i>a tobacco</i> | A |
| Nigella damascena <i>Love-in-a-mist</i> | A |
| Oenothera biennis <i>Evening primrose</i> | Bi |
| Olearia × haastii <i>Daisy bush</i> | S |
| Onopordum acanthium <i>Giant thistle</i> | Bi |
| Origanum ‘Rosenkuppel’ <i>Majoram</i> | H |
| Origanum vulgare <i>Native plant. Majoram</i> | H |
| Papaver orientale <i>Oriental poppy</i> | H |

SUMMER (cont.)

| | |
|---|----------|
| Papaver rhoeas <i>Native plant. Field poppy</i> | A |
| Parthenocissus quinquefolia <i>Virginia creeper</i> | C |
| Parthenocissus tricuspidata <i>Boston ivy</i> | C |
| Penstemon cultivars | T |
| Perovskia atriplicifolia | S |
| Persicaria amplexicaulis <i>a bistort</i> | H |
| Persicaria bistorta <i>Native plant. a bistort</i> | H |
| Phacelia tanacetifolia | A |
| Phaseolus coccineus <i>Runner bean</i> | A |
| Polemonium caeruleum <i>Native plant. Jacob’s ladder</i> | H |
| Potentilla fruticosa <i>Native plant. a shrubby potentilla</i> | S |
| Potentilla ‘Gibson’s Scarlett’ | H |
| Ptelea trifoliata <i>Hop tree</i> | S |
| Pyracantha coccinea <i>Firethorn</i> | S |
| Reseda odorata <i>Mignonette</i> | A |
| Robinia pseudoacacia <i>Black locust/False acacia</i> | T |
| Rosa canina <i>Native plant. Dog rose</i> | S |
| Rosa rubiginosa <i>Native plant. Sweet briar rose</i> | S |
| Rosa rugosa <i>Hedgehog rose</i> | S |
| Rosmarinus officinalis <i>Rosemary</i> | S |
| Rubus fruticosus <i>Native plant and edible blackberry</i> | S |
| Rubus idaeus <i>Raspberry</i> | S |
| Rudbeckia fulgida | H |
| Rudbeckia hirta | A |
| Rudbeckia laciniata <i>Open-centred flower forms</i> | H |
| Salvia horminum <i>Annual dary</i> | A |
| Salvia nemorosa <i>a sage</i> | H |
| Salvia officinalis <i>Common sage</i> | H |
| Scabiosa caucasica <i>Scabious</i> | H |
| Scabiosa columbaria <i>Native plant. Small scabious</i> | H |
| Sedum spectabile <i>Ice plant</i> | H |
| Sedum telephium <i>Native plant. Orpine</i> | H |
| Sidalcea malviflora <i>Checkerbloom</i> | H |
| Solidago spp. and cultivars <i>Golden rod</i> | H |
| Sorbus aria <i>Native plant. Whitebeam</i> | T |
| Sorbus aucuparia <i>Native plant. Mountain ash/rowan</i> | T |
| Spiraea japonica | S |
| Stachys byzantina <i>Lambs’ ears</i> | H |
| Stachys macrantha | H |
| Symphoricarpos albus <i>Snowberry</i> | S |

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RHS Perfect for Pollinators plant list

SUMMER (cont.)

| | |
|---|-----------|
| Tagetes patula <i>French marigold</i> | A |
| Tamarix ramosissima <i>Tamarisk</i> | S |
| Tanacetum vulgare <i>Native plant. Tansy</i> | H |
| Telekia speciosa | H |
| Tetradium daniellii | T |
| Teucrium chamaedrys | H |
| Thymus serpyllum and cultivars <i>Native plant. Wild thyme</i> | S |
| Thymus spp. and cultivars <i>Thyme</i> | S |
| Tilia × europaea <i>Common lime</i> | T |
| Tilia cordata <i>Native plant. Small-leaved lime</i> | T |
| Tilia maximowicziana <i>a lime tree</i> | T |
| Tilia oliveri <i>a lime tree</i> | T |
| Tilia platyphyllos <i>Large-leaved lime</i> | T |
| Tilia tomentosa <i>a lime tree</i> | T |
| Tithonia rotundifolia <i>Mexican sunflower</i> | A |
| Verbascum olympicum <i>a mullein</i> | Bi |
| Verbascum thapsus <i>Native Plant. Common mullein</i> | Bi |
| Verbena × hybrida | A |
| Verbena bonariensis | H |
| Verbena rigida | A |
| Veronica longifolia | H |
| Veronicastrum virginicum | H |
| Viburnum lantana <i>Native plant. Wayfaring tree</i> | S |
| Viburnum opulus <i>Native plant. Guelder rose</i> | S |
| Vicia faba <i>Broad bean</i> | A |
| Weigela florida | S |
| Zauschneria californica <i>Californian fuchsia</i> | S |
| Zinnia elegans | A |

AUTUMN

SEPT – OCT

| | |
|--|---------------|
| Aconitum carmichaeli <i>a monkshood</i> | H |
| Actaea simplex <i>Bugbane</i> | H |
| Anemone hupehensis <i>a japanese anemone</i> | H |
| Anemone x hybrida <i>a japanese anemone</i> | H |
| Arbutus unedo <i>Strawberry tree</i> | S or T |
| Aster amellus <i>a perennial aster</i> | H |
| Aster ericoides f. prostratus <i>a perennial aster</i> | H |
| Aster koraiensis <i>a perennial aster</i> | H |
| Aster lateriflorus var horizontalis <i>a perennial aster</i> | H |
| Aster novae-angliae <i>a Michaelmas daisy</i> | H |
| Aster novi-belgii <i>a Michaelmas daisy</i> | H |
| Aster oolentangiensis <i>a perennial aster</i> | H |
| Aster turbinellus <i>a perennial aster</i> | H |
| Aster × frikartii ‘Mönch’ <i>a perennial aster</i> | H |
| Campanula poscharskyana <i>a bellflower</i> | H |
| Ceratostigma plumbaginoides | H |
| Clematis heracleifolia <i>a clematis</i> | C |
| Colchicum spp. <i>Autumn crocus</i> | B |
| Dahlia cultivars <i>Dahlia - single-flowered forms</i> | H |
| Elaeagnus pungens | S |
| Elaeagnus × ebbingei | S |
| Fatsia japonica <i>Japanese aralia</i> | S |
| Hedera colchica <i>Persian ivy</i> | C |
| Hedera helix <i>Native plant. Ivy</i> | C |
| Hedera helix ‘Arborescens’ | C |
| Helianthus × laetiflorus <i>a sunflower</i> | H |
| Leucanthemella serotina | H |
| Salvia leucantha <i>Mexican bush</i> | H |
| Salvia ‘Mystic Spires Blue’ | H |
| Tilia henryana <i>a lime tree - one of the last to flower</i> | T |

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