



Arcadian
Ecology

School Grounds Ecological Advice

Droxford Junior School



Carmen Green
May 2021

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Front Cover: Droxford Junior School grounds by Carmen Green

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Executive Summary

Arcadian Ecology & Consulting Ltd (Arcadian Ecology) were appointed by Matthew Dampier, Headteacher at Droxford Junior School, to undertake a site visit to assess the habitats and species present in order to inform habitat management recommendations and identify opportunities to enhance the site for wildlife.

Droxford Junior School is located in a rural location at the centre of the village of Droxford within the South Downs National Park in Hampshire (SU 60431 18191). The site comprises school buildings with associated hardstanding and a field of amenity grassland with shrubs, trees and hedges along the boundaries.

Droxford Junior School has the potential to support a range of both common and protected species, including commuting and foraging bats, breeding birds, widespread species of reptile such as slow-worm, and a range of invertebrates. With appropriate management and enhancement, the site can be a valuable resource for supporting a range of wildlife, providing shelter, food and movement through the landscape.

This advice note has been developed from the findings of the site visit carried out on 7th May 2021. The vision is to create a variety of habitats which support biodiversity whilst creating a peaceful and aesthetically pleasing environment for pupils to enjoy, allowing them to engage with nature on a regular basis.

Key recommendations include enhancing the school grounds through the creation of wildflower areas, tree and shrub planting, hedgerow management, creation of a log pile and compost heap, and the installation of insect hotels, bird boxes and bat boxes on site.

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1. INTRODUCTION

1.1. Background

Arcadian Ecology & Consulting Ltd (Arcadian Ecology) were appointed by Matthew Dampier, Headteacher at Droxford Junior School, to undertake a site visit to assess the habitats and species present in order to inform habitat management recommendations and identify opportunities to enhance the site for wildlife.

A site visit was conducted on 7th May 2021 by Carmen Green (ACIEEM) of Arcadian Ecology & Consulting Ltd.

The Joint Nature Conservation Committee (JNCC) methodology for Phase 1 habitat survey was followed (Joint Nature Conservation Committee, 2010). A walkover survey of the site was undertaken, with areas classified and mapped using a standard set of colours on a Phase 1 habitat map to indicate the habitat types present. For each different habitat type, a species list was compiled, with particular reference to protected, notable or BAP species. This list will not give every species found on the site, but will give a representation of the diversity, significance, and dominance of plant species found within each habitat type.

Plant nomenclature in this report follows Rose (1989; 2006) for native and naturalised species of vascular plant. Plant names in the text are given with the common names first, followed by the scientific name in italics. Where there is a degree of doubt in the identification of a plant, 'cf.' precedes the specific epithet to signify the plant is very probably the species indicated, but it was not possible to distinguish it from similar members of the genus with certainty.

1.2. Site Description

Droxford Junior School is located in a rural location at the centre of the village of Droxford within the South Downs National Park in Hampshire (SU 60431 18191; Map 1). The site comprises school buildings with associated hardstanding and a field of amenity grassland with shrubs, trees and hedges along the boundaries.

The immediate surroundings consist of residential housing with associated gardens to the north, an allotment to the east and farmland to the south and west. In the wider landscape, there are extensive areas of arable fields and grazed pasture in all directions, the River Meon is approximately 450m to the east and the town of Bishops Waltham is to the west. There are also small blocks of woodland in all directions of the site.

1.3. Remit and Scope of the Report

This report details the findings of the site visit to Droxford Junior School, identifying the key habitats on site and the potential species it could support. It also provides recommendations on how habitats on site could be managed and enhanced to benefit wildlife. The advice note has been developed from the findings of the site visit with the vision of creating a peaceful and aesthetically pleasing environment for pupils to enjoy, allowing them to engage with nature on a regular basis.

2. RESULTS

2.1. Habitats

The majority of the site is a school playing field of short-mown amenity grassland that is dominated by perennial rye-grass *Lolium perenne* with small amounts of annual meadow-grass *Poa annua*. There are also a number of common herbs present within the sward including common field-speedwell *Veronica persica*, daisy *Bellis perennis*, dandelion *Taraxacum* agg. and ribwort plantain *Plantago lanceolata*.

Along the edges of the site, there is a line of trees and shrubs. There is a line of mature cypress *Cupressus* species trees along the eastern boundary with elder *Sambucus nigra* and lilac *Syringa vulgaris* shrubs. Along the southern boundary, there is a mature ash *Fraxinus excelsior* tree with bramble *Rubus fruticosus* agg. and hawthorn *Crataegus monogyna* scrub in low levels of abundance. The western boundary is a hedge dominated by hawthorn with smaller amounts of other woody species including dogwood *Cornus sanguinea*, hazel *Corylus avellana*, sycamore *Acer pseudoplatanus* and traveller's-joy *Clematis vitalba*. There is ivy *Hedera helix* in the field layer that is also growing up into the hedge and occasional planted daffodils *Narcissus* species. There are some small gaps within the hedge (Photograph 1). Between the playground and school field, there is a short section of managed hedge that is dominated by beech *Fagus sylvatica*.

In the south-west corner of the site, there is a 'wild' area that has been left unmanaged for wildlife. It is dominated by nettles *Urtica dioica* with curled dock *Rumex crispus*, dandelion, hogweed *Heracleum sphondylium* and lords and ladies *Arum maculatum*. Here there is also a large insect hotel and a log pile that provides suitable habitat for wildlife including invertebrates, reptiles and small mammals (Photograph 2).

There are areas of planting around the school grounds, particularly to the north of the buildings and within the courtyard at the centre of the school. This mostly comprises ornamental shrubs with occasional chives *Allium schoenoprasum*, daffodil, fennel *Foeniculum vulgare* and rosemary *Rosmarinus officinalis* and there are several cherry *Prunus* species trees along the northern boundary. A small patch of bamboo *Bambusoideae* species is also along the northern boundary. This species can be quite invasive and form dense stands and should be removed before it spreads and becomes dominant.

Along the eastern boundary of the site by the car park, there is a shaded area comprising a mix of common herbs and ruderal species including cleavers *Galium aparine*, dandelion, dog's mercury *Mercurialis perennis*, hogweed, ivy, lords and ladies and a number of sycamore saplings.

2.2. Species

The school grounds currently provide suitable habitat for a number of species including commuting and foraging bats, breeding birds, widespread species of reptile such as slow-worm *Anguis fragilis* and a range of invertebrates. There is an allotment on the eastern boundary that has suitable habitat for reptiles including tussocky grassland (Photograph 3). There is a swift box and bat box installed on the buildings and house sparrows were observed entering the buildings and likely to be nesting. In addition, the school buildings had numerous potential access points and roosting opportunities that may be used by roosting bats including broken and missing roof tiles and hanging tiles (Photograph 4).

There is an abundance of nesting opportunities for breeding birds and 14 species of birds were seen and heard within the school grounds and on adjacent land during the visit, shown in Table 1. Of these, two species are listed on the red list of Birds of Conservation Concern (house sparrow and starling) and one is on the amber list (duncock).

Table 1. List of birds observed within the school grounds and on adjacent land, including their conservation status

Common Name	Scientific Name	Conservation status
Blackbird	<i>Turdus merula</i>	Green list
Blackcap	<i>Sylvia atricapilla</i>	Green list
Blue tit	<i>Cyanistes caeruleus</i>	Green list
Buzzard	<i>Buteo buteo</i>	Green list
Carrion crow	<i>Corvus corone</i>	Green list
Dunnock	<i>Prunella modularis</i>	Amber list
Goldfinch	<i>Carduelis carduelis</i>	Green list
House sparrow	<i>Passer domesticus</i>	Red list
Jackdaw	<i>Corvus monedula</i>	Green list
Magpie	<i>Pica pica</i>	Green list
Robin	<i>Erithacus rubecula</i>	Green list
Starling	<i>Sturnus vulgaris</i>	Red list
Woodpigeon	<i>Columba palumbus</i>	Green list
Wren	<i>Troglodytes troglodytes</i>	Green list

3. RECOMMENDATIONS

A number of recommendations are suggested in order to improve the ecological value of the habitats at Droxford Junior School to encourage a greater diversity of wildlife to the grounds, providing a peaceful and aesthetically pleasing environment for pupils to enjoy, allowing them to engage with nature on a regular basis.

3.1. Native Species Planting

3.1.1. Wildflower areas

Areas of grassland at the edges of the field, particularly along the western boundary where a natural corridor is proposed, can be developed into flower-rich meadow habitats that provide shelter and a food resource for a range of invertebrates and other wildlife. These can be planted using selected plug plants or seeds (for example using Emorsgate seed mix EM1 General Purpose Meadow Mixture - <https://wildseed.co.uk/mixtures/category/meadow-and-grassland>). Native wildflower species that could be planted within the meadow include common knapweed *Centaurea nigra*, ox-eye daisy *Leucanthemum vulgare*, red campion *Silene dioica* and selfheal *Prunella vulgaris*.

Wildflowers grow best on unproductive soil and most lawn soils will generally be too rich and fertile, so it will be necessary to reduce soil fertility first. It should be noted that seed mixes sown into an existing lawn sward may not establish well as they will be out-competed by the more vigorous amenity grass species. Therefore, it is recommended that the top three to six inches of topsoil are removed before any seeds are planted to increase the chances of them germinating. Further details on how to create a wildflower meadow can be found here: <https://www.rspb.org.uk/get-involved/activities/give-nature-a-home-in-your-garden/garden-activities/startawildflowermeadow/>

Mowing of the wildflower meadows should be undertaken annually, usually late summer/autumn and again in spring, if needed. The frequency will vary depending on flower source (seed or plug-plant) and time following establishment but generally should not be done until flower seeds have set. Varying the time of year will ensure some species do not become dominant.

It is important to maintain both species and structural diversity, creating a mosaic of microhabitats for wildlife. Therefore, it is best not to cut all wildflower areas at once but to stagger the cut. This will also ensure wildlife living in the grassland will have a safe refuge. The grassland should not be cut to a height of less than 5cm. Repeated cutting of nettlebed and ruderal vegetation should be carried out to prevent these from dominating and out-competing the grasses and wildflowers. All cuttings should be removed from the meadow and added to a compost heap to provide additional wildlife habitat. Removal of cuttings will ensure that any wildflowers present are not smothered.

No chemicals such as pesticides, herbicides or insecticides will be used.

3.1.2. Wildflower planting around the buildings

Additional planting of wildlife-friendly herbs and shrubs could be carried out in and around the school buildings to provide cover and a food source for a range of species including invertebrates, birds and small mammals. This could include a mix of both native wildflower species such as common knapweed, field scabious *Knautia arvensis*, ox-eye daisy, red campion and viper's-bugloss *Echium vulgare* as well as non-invasive ornamentals including firethorn *Pyracantha* species, *Hebe* species, lavender *Lavandula* species, vervain *Verbena officinalis* and wallflowers *Erysimum* species. A range of herbs such as fennel, marjoram *Origanum vulgare*, mint *Mentha* species, rosemary and thyme *Thymus vulgaris* could also be considered.

Additional planting of a range of night-flowering plants that attract moths and other night-flying insects could also be carried out around the garden. It is possible that bats are roosting in the buildings on site and in the surrounding area and use the grounds for foraging, and this could provide a rich food resource. Suitable flowers that could be planted to encourage bats are detailed in Appendix 2. Native, locally sourced species should be used where possible.

3.1.3. Trees and shrubs

Any trees and shrubs planted across the grounds, including the proposed screening around the septic tank, along the natural play area and between the playground and field, will include a mixture of native broad-leaved species similar to those already found on the site and in the surrounding area such as beech, elder, field maple *Acer campestre*, hawthorn, hazel and oak *Quercus robur*. This will enhance the value of the site for wildlife by providing greater foraging resources and shelter as well as improving connectivity with other lines of trees, hedges and woodland in the wider landscape.

Pruning and coppicing can be carried out in future years to control and promote growth.

A selection of fruit trees could also be planted. The trees could comprise a mixture of native fruit tree and shrub species such as apple *Malus* species (such as old English apple varieties of local provenance), cherry *Prunus* species, pear *Pyrus* species and plum *Prunus* species. A diverse mix of fruit trees would help attract a range of wildlife including frugivorous birds, invertebrates and small mammals. Annual pruning will help keep the trees healthy and producing fruit and will maintain the trees at a manageable size. However, allowing one or two apple trees on non-dwarfing root-stock to grow fully can support a much larger diversity of species.

3.1.4. Bulb planting

In addition, in the shaded areas beneath the trees, shade-tolerant perennial bulbs could be planted to bring colour to the area throughout the year and attract wildlife. Species could include bluebell *Hyacinthoides non-scripta*, daffodil or snowdrops *Galanthus* species. Snowdrops in particular can provide a late winter nectar and pollen source for early-emerging pollinators.

3.2. Hedgerows

3.4.1 Enhancement

The existing hedgerows on site could be enhanced through infilling any gaps with a mixture of native species similar to those already found on the site such as beech, field maple, hawthorn and hazel. This will enhance the value of the hedgerow for wildlife as well as improving connectivity with other hedges and woodland in the wider landscape. Bats, for example, rely on hedges to navigate throughout the landscape and commute to foraging grounds.

3.4.1 Management

Hedgerows are important habitats for a number of birds including protected and/or notable species that have been observed within the grounds such as dunnock *Prunella modularis* and house sparrow *Passer domestic*. Managing hedgerows with breeding birds in mind is recommended and could include maintaining a thick base to the hedge. Hedgerows should be trimmed on a two to three year rotation to ensure a dense, species-rich hedge suitable for nesting birds.

All hedge works must be undertaken outside of the bird nesting season, which is February to August inclusive, but hedgerows should be checked prior to works as birds will nest outside of these times if the weather is suitable. If birds are nesting, work must be postponed until the young have fledged. It is also advisable to avoid trimming in the autumn as this allows overwintering birds to feed on the berry crop. Hedge trimming in December and January is ideal.

3.3. Removal of invasive species

A small patch of bamboo was observed along the fence line on the northern boundary of the school. It should be controlled so not to cause this plant to spread and outcompete native flora. Removal of bamboo will allow native flora to flourish in order to support a greater variety of wildlife. Two main options exist: mechanical removal and chemical treatment.

Clumps of bamboo can be dug out together using a fork or trowel to lift out and completely remove the roots and rhizomes. Alternatively, the canes can be cut as close to the ground as possible and spot-treated with herbicides such as glyphosate or triclopr. It can take a while for bamboo to be eradicated completely and therefore it's extent should be monitored and may require follow-up treatments.

3.4. Creation of additional habitat for wildlife

3.4.1. Bird boxes

Boxes for a range of common species of bird could be installed on the buildings, trees and shrubs around Droxford Junior School and include a mix of box types to attract different species, including standard boxes for blue tits and great tits, open fronted boxes for robins and wrens and house martin boxes. Proposed locations are shown in Map 3 and further details can be found in Appendix 3.

There is currently a swift box on one of the buildings on site. To increase the chances of swifts nesting, it is recommended that additional swift boxes are installed as these birds tend to live in colonies. At least one more swift box should be installed. The current location is ideal being at least 4.5m off the ground, in a shaded location beneath the eaves and away from windows and perches that could potentially be used by predators.

3.4.2. Bat boxes

To enhance the site for bats, additional bat boxes could be installed. These should be installed on mature trees along the boundaries such as in the conifer trees along the east boundary, and face south-east to south-west, as detailed in Appendix 3 and shown in Map 3.

3.4.3. Insect hotels

Additional sheltering resources could be provided for invertebrates through the installation of insect hotels. Insect hotels vary in shape and size and provide opportunities for a wide range of species. The majority incorporate several different sections that provide sheltering or refuge opportunities, particularly during winter, for many types of insects. Insect hotels should be positioned in a sunny location on a tree near to bee-friendly vegetation, such as in the courtyard and along the proposed nature corridor. The front should be accessible with no vegetation blocking the entrance. Proposed locations are shown in Map 3 and further details can be found in Appendix 3.

When building or buying an insect hotel, ensure it is easy to maintain, is not treated with chemicals, does not contain non-breathable materials like plastic, and does not concentrate one species type in one place that could lead to large numbers of individuals lost to parasites. Helpful advice can be found on The Pollinator Garden website: <https://www.foxleas.com/make-a-bee-hotel.asp>.

3.4.4. Compost heap

A compost heap could be established within the grounds and this will provide a habitat in itself for foraging, nesting and hibernating amphibians, reptiles, small mammals and invertebrates. It is recommended that slatted compost bins are installed in a sheltered location on site (potential location is illustrated on Map 3). This slatted design allows wildlife easy access in and out of the heap. All cuttings taken from the field and other compostable waste generated on site could then be added to the heap. The compost created can then be used in the areas of planting within the grounds or in the school's allotment area to the west of the site.

3.4.5. Log piles

The creation of log piles can further enhance the grounds for wildlife. These attract a number of invertebrates, small mammals and fungi as well as providing hibernation habitat for amphibians and reptiles. A log pile can be created in the south-west corner of the site by using logs from broad-leaved trees of varying sizes (potential location is illustrated on Map 3). These should be partially buried in the ground in a semi-shaded area (i.e. somewhere warm enough for insects but not exposed to prolonged sunlight which can dry out the wood).

Some logs should be positioned vertically as this is suitable for stag beetles which lay their eggs into deadwood and the rotten wood provides a food source for stag beetle larvae (Figure 1). The logs should be from broad-leaved trees at least 10cm in diameter and can be of varying lengths to create a varied height structure, providing different microclimates and rates of decay. They should be partially buried (about 50cm deep) in partial shade to prevent drying out. Further information can be found at <https://ptes.org/wp-content/uploads/2016/11/Build-a-log-pile-for-stag-beetles.pdf>

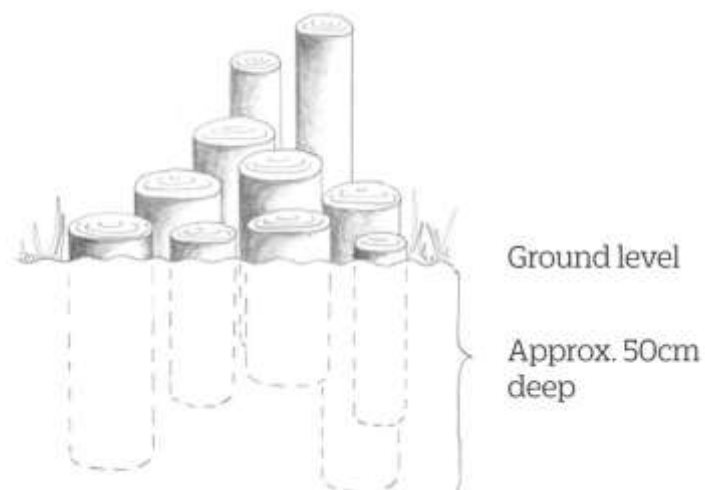


Figure 1. Example of a stag beetle loggery (Taken from 'Build a Log Pile for Stag Beetles' by People's Trust for Endangered Species, 2016)

3.5. Lighting

Any security lighting that is installed around the buildings should result in no negative impacts to foraging and commuting bats and other nocturnal wildlife, maintaining connectivity across the site and into the adjacent habitat. To avoid causing disturbance by light to nocturnal animals, any lighting should be directed downwards away from any features of wildlife interest (hedgerows, trees and wildlife planting). This could be achieved by using cowls or hoods. In addition, lights could be set on timers or motion sensors to ensure dark periods. Further information on bats and artificial lighting can be found at: <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

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MAPS

Location within county:



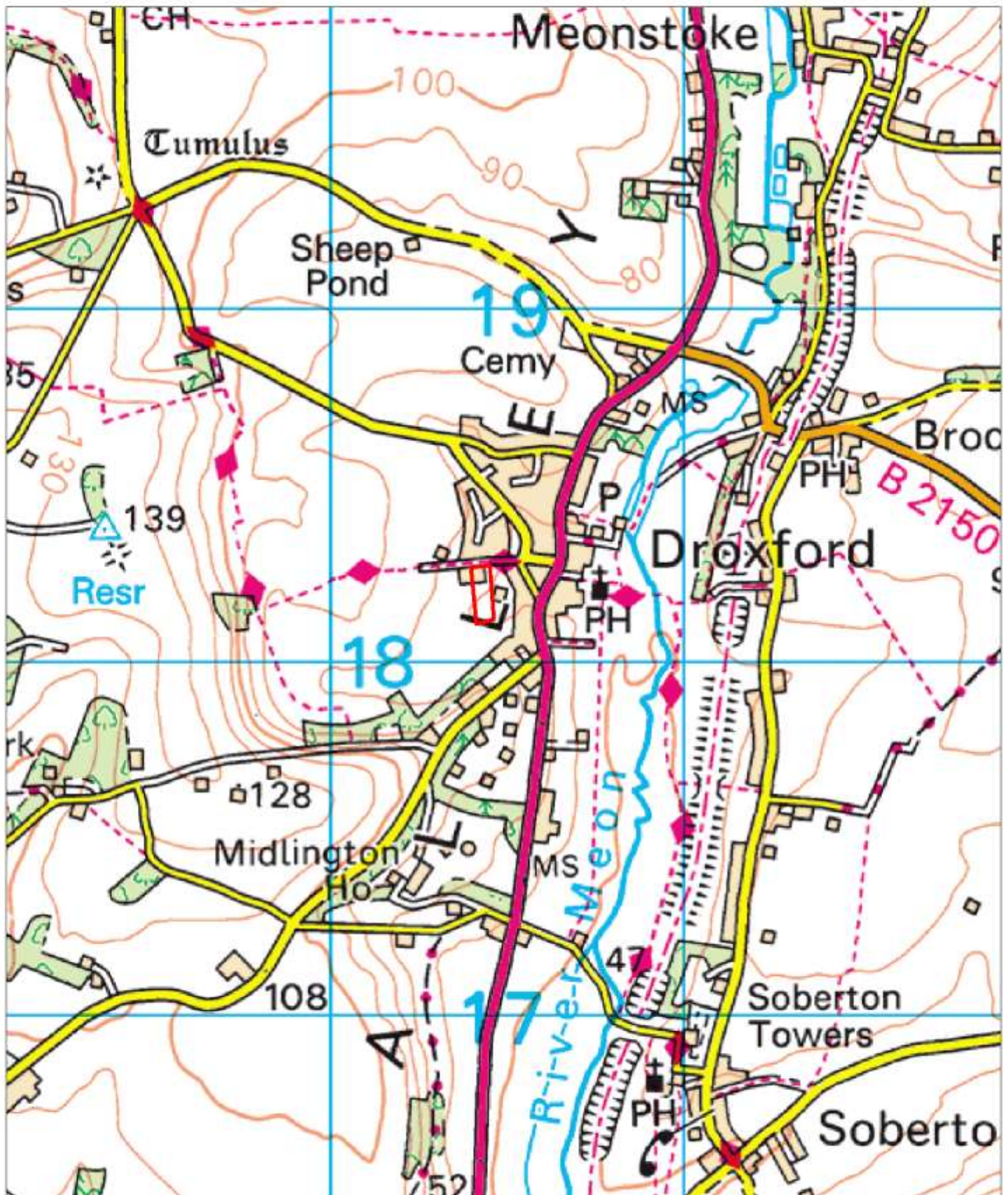
Map 1. Site Location

Droxford Junior School

Scale 1:15000



— Site boundary



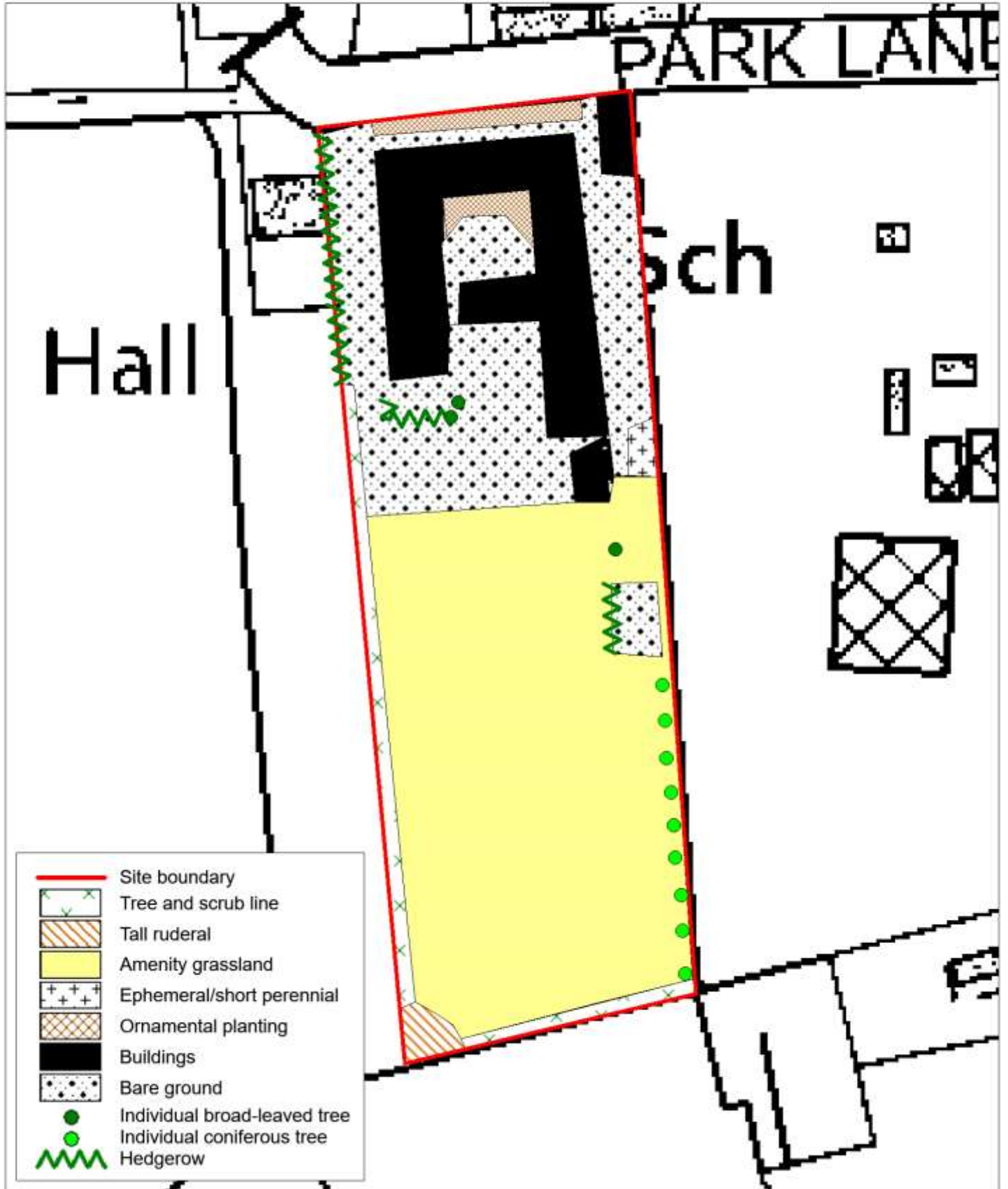
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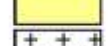






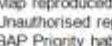


Map 2. Phase 1 Habitat Map

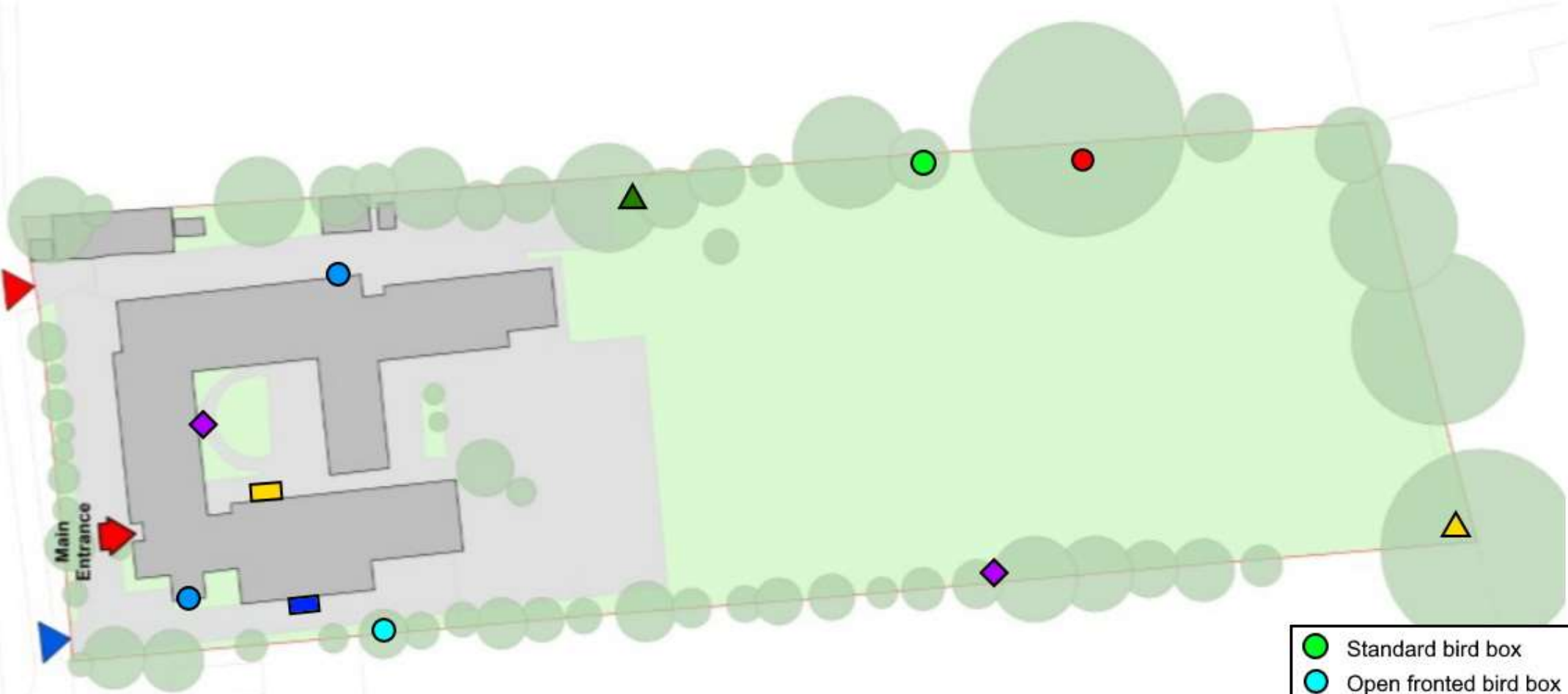
Droxford Junior School

Scale 1:900



-  Site boundary
-  Tree and scrub line
-  Tall ruderal
-  Amenity grassland
-  Ephemeral/short perennial
-  Ornamental planting
-  Buildings
-  Bare ground
-  Individual broad-leaved tree
-  Individual coniferous tree
-  Hedgerow

Map 3. Proposed Locations of Wildlife Habitat Creation



- Standard bird box
- Open fronted bird box
- Sparrow terrace
- House martin box
- Swift boxes
- Bat box
- ▲ Log pile
- ▲ Compost heap
- ◆ Insect hotel

PHOTOGRAPHS



Photograph 1: Hedge with small gaps along west boundary



Photograph 2: 'Wild' area with ruderal vegetation, insect hotel and log pile



Photograph 3: Allotment to the east of the site with suitable reptile habitat



Photograph 4: Missing hanging tiles and gaps under hanging tiles that offer suitable roosting habitat for bats

APPENDICES

Appendix 1:

Botanical species list compiled during Phase 1 habitat survey with a qualitative measure of abundance based on DAFOR scale

Appendix 1. Botanical species list compiled during the site visit with a qualitative measure of abundance based on DAFOR scale

The DAFOR scale provides an assessment of the abundance of particular species.

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare. Species can also be Locally Dominant (LD) or Locally Abundant (LA).

Scientific name	Common name	Grassland	Ruderal and ornamental planting	Hedgerow, trees and shrubs
Grasses, sedges and rushes				
<i>Poa annua</i>	annual meadow grass	R		
Bambusoideae	bamboo species		R	
<i>Dactylis glomerata</i>	cock's-foot	R		
<i>Lolium perenne</i>	perennial rye-grass	D		
<i>Holcus lanatus</i>	Yorkshire-fog	O		
Herbs				
<i>Cytisus scoparius</i>	broom	R		
<i>Picris echioides</i>	bristly oxtongue	R		
<i>Allium schoenoprasum</i>	chives		R	
<i>Galium aparine</i>	cleavers		O	
<i>Veronica persica</i>	common field speedwell	R		
<i>Cerastium fontanum</i>	common mouse-ear	R		
<i>Anthriscus sylvestris</i>	cow parsley	R		
<i>Ranunculus repens</i>	creeping buttercup	O		
<i>Rumex crispus</i>	curled dock		R	
<i>Narcissus</i> sp.	daffodil		R	R
<i>Bellis perennis</i>	daisy	O		
<i>Taraxacum</i> agg.	dandelion species	O	O	
<i>Cornus sanguinea</i>	dogwood	R		
<i>Mercurialis perennis</i>	dog's mercury		O	
<i>Geranium molle</i>	dove's-foot crane's-bill	R		
<i>Alliaria petiolata</i>	garlic mustard	R		
<i>Verbascum thapsis</i>	great mullein	R		
<i>Plantago major</i>	greater plantain	R		
<i>Senecio vulgaris</i>	groundsel	R		
<i>Glechoma hederata</i>	ground-ivy	R		
<i>Foeniculum vulgare</i>	fennel		R	
<i>Heracleum sphondylium</i>	hogweed		O	
<i>Arum maculatum</i>	lords and ladies			O
<i>Urtica dioica</i>	nettle (common)		LF	
<i>Mahonia aquifolium</i>	Oregon grape		R	
<i>Lamium purpureum</i>	red dead-nettle	R		
<i>Plantago lanceolata</i>	ribwort plantain	O		
<i>Capsella bursa-pastoris</i>	shepherd purse	R		
<i>Sonchus oleraceus</i>	smooth sow-thistle	R		
<i>Hyacinthoides hispanica</i>	Spanish bluebell		R	
<i>Cirsium vulgare</i>	spear thistle	R		
<i>Clematis vitalba</i>	traveller's joy			R
<i>Veronica montana</i>	wood speedwell	R		
Woody species				
<i>Fraxinus excelsior</i>	ash			R

Scientific name	Common name	Grassland	Ruderal and ornamental planting	Hedgerow, trees and shrubs
<i>Fagus sylvatica</i>	beech			LD
<i>Rubus fruticosus</i> agg.	bramble			O
<i>Prunus</i> sp.	cherry species		O	
<i>Cupressus</i> sp.	cypress species			LD
<i>Sambucus nigra</i>	elder			R
<i>Acer campestre</i>	field maple			R
<i>Crataegus monogyna</i>	hawthorn			O
<i>Corylus avellana</i>	hazel			O
<i>Ilex aquifolium</i>	holly			R
<i>Aesculus hippocastanum</i>	horse chestnut			O
<i>Hedera helix</i>	ivy		O	F
<i>Syringa vulgaris</i>	lilac			R
<i>Quercus robur</i>	pedunculate oak			R
<i>Populus</i> sp.	poplar species			O
<i>Ligustrum</i> sp.	privet species			R
<i>Rosa</i> sp.	rose species	R		
<i>Betula pendula</i>	silver birch			R
<i>Acer pseudoplatanus</i>	sycamore		R	R
<i>Salix</i> sp.	willow species			R







Appendix 2:
Suitable Plants for Bats

Appendix 2: Suitable plants for bats (Taken from 'Gardening for Bats' by Bat Conservation Trust, 2005)

Type of Plant	Species	
Flowers for borders	<ul style="list-style-type: none"> • Aubretia • Bluebell • Candytuft • Cherry pie • Corncockle • Cornflower • Corn marigold • Echinacea • Evening primrose • Field poppy • Honesty • Ice plant • Knapweed • Mallow • Mexican aster • Michaelmas daisy 	<ul style="list-style-type: none"> • Night-scented stock • Oxeye daisy • Phacelia • Poached egg plant • Primrose • Red campion • Red valerian • Scabious • St John's wort • Sweet William • Tobacco plant • Verbena • Wallflowers • Wood forget-me-not • Yarrow
Herbs	<ul style="list-style-type: none"> • Angelica • Bergamot • Borage • Coriander • Fennel • Feverfew • English marigolds 	<ul style="list-style-type: none"> • Hyssop • Lavender • Lemon balm • Marjoram • Rosemary • Sweet cicely • Thyme
Trees, shrubs and climbers	<ul style="list-style-type: none"> • Bramble • Buddleja • Dog rose • Elder • English oak • Gorse • Guelder rose • Hawthorn 	<ul style="list-style-type: none"> • Hazel • Honeysuckle • Hornbeam • Ivy • Jasmine • Pussy willow • Rowan • Silver birch
Wildflowers for pond edges and marshy areas	<ul style="list-style-type: none"> • Bog bean • Bugle • Creeping Jenny • Hemp agrimony • Lady's smock • Marsh mallow • Marsh marigold 	<ul style="list-style-type: none"> • Marsh woundwort • Meadowsweet • Purple loosestrife • Water avens • Water forget-me-not • Water mint • Yellow flag iris

Appendix 3:
Information on Bird and Bat Boxes and Insect Hotels

Appendix 3. Information on bird and bat boxes and insect hotels

Type	Typical species	Height	Additional information
<p>Standard bird box e.g. Schwegler 1B</p> 	Blue tits, great tits	2-4m	<ul style="list-style-type: none"> Position on a building or tree, angled north and east (away from prevailing winds) and tilt forward slightly. Chances of occupation can be increased by positioning boxes near vegetation.
<p>Sparrow terrace E.g. Schwegler 1SP</p> 	House sparrows	≥ 2m	<ul style="list-style-type: none"> Should be fixed onto a sturdy building, not onto fences or garden sheds due to its weight.
<p>Open-fronted bird box e.g. Schwegler 2H</p> 	Robins, wrens	≤ 2m	<ul style="list-style-type: none"> Mount on a tree or shrub Conceal amongst foliage to keep well hidden from predators.
<p>House martin nests E.g. 9A-1 Schwegler</p> 	House martins	≥ 2m	<ul style="list-style-type: none"> Position out below eaves in a sheltered location Should be in an open area so that it is less accessible to predators and birds are not obstructed as they leave the nest.
<p>Bat box e.g. 2F Schwegler</p> 	Bats	2.5-5m	<ul style="list-style-type: none"> Site on mature trees with 1 or 2 boxes per tree South-east to south-west facing Away from lighting Near to vegetation without it obscuring entrance
<p>Insect hotel</p> 	Invertebrates	≥ 1m	<ul style="list-style-type: none"> Position in sunny location on a tree, fence or wall near to bee-friendly vegetation Ensure it is accessible with no vegetation blocking the entrance