

AN ECOLOGICAL APPRAISAL OF DRUITT GARDENS, CHRISTCHURCH



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**For
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1 INTRODUCTION

Druitt Gardens occupies approximately 1.20 hectares in the centre of Christchurch to the south-west of the High Street and the south-east of Sopers Lane. It is bordered by residential houses, the back of shops and two car parks, and is managed as open space by Christchurch Borough Council.

2 METHODS AND SCOPE OF THE SURVEY

An ecological appraisal was carried out of Druitt Gardens over 1.5 days during June 2008. The scope of this survey was to make a preliminary ecological assessment of the proposals for the new Druitt Hall and surroundings, and the landscaping of the gardens, for Christchurch Borough Council. Particular attention was paid to the presence of protected species.

The aim of the survey was to assess the ecological interest of the site and search for and identify any protected species that may be affected by the proposed work, and offer an interpretation where potential impact has been identified. Protected species and habitats are a material consideration under planning law and additionally, local authorities are expected to consider biodiversity in their decision making where there may be impacts, following the Natural Environment and Rural Communities Act 2006

The appraisal included:

- A general vegetation survey
- A bat survey
- Two half day visits to establish the location of breeding birds or birds holding territory

3 RESULTS

3.1 VEGETATION

The vast majority of the site is wooded, and is best described as old amenity woodland with mature to old non-native trees making up a high percentage of the canopy. There are two open grassy areas, several paths and the Druitt Hall in the north of the area. It slopes gently from north to south.

Woodland covers 90% of the site with Holm Oak *Quercus ilex* and Sycamore *Acer pseudoplatanus* the most abundant species with smaller quantities of Horse Chestnut *Aesculus hippocastanum*, Beech *Fagus sylvatica*, Ash *Fraxinus excelsior*, Pedunculate Oak *Quercus robur* and Sweet Chestnut *Castanea sativa*. In the more open areas there are smaller trees of Apple *Malus domestica* and Cherry *Prunus* species. There is very little understorey apart from the occasional old Holly *Ilex aquifolium* and Hawthorn *Crataegus monogyna*, plus some regenerating Elm *Ulmus procera*.

The ground flora is varied. The eastern section is rather grassy with abundant Rough Meadow-grass *Poa trivialis*, with smaller quantities of Yorkshire Fog *Holcus lanatus*. In other areas Ground Elder *Aegopodium podagraria* dominated with little else, and several areas, including the site of the proposed new hall, have abundant Bramble *Rubus fruticosus* agg. The highly invasive non-native Japanese Knotweed *Fallopia japonica* was noted in one area but appears to be regrowth from a larger clump that had been sprayed. The most shaded areas under Holm Oak have very little apart from Ivy *Hedera helix*.

The most notable species in the ground flora is Tutsan *Hypericum androsaemum* which is more usually associated ancient woodland and may be planted here or arrived from a berry 'sown' by a bird.

3.2 BIRDS

Although it is only a small area the gardens provide suitable habitat for a good range of birds, particularly those associated with garden, parkland and woodland habitats. Two visits were made to map the location of singing birds, although it was rather late in the season to do a full census. However, the results (see map 2) do show that most species are associated with areas that have a fairly dense understorey, particularly with species such as Holly, and dense stands of Ground Elder.

Typical species present in these areas include Blackbird *Turdus merula*, Dunnock *Prunella modularis*, Robin *Erithacus rubecula* and Wren *Troglodytes troglodytes*. A Blackcap *Sylvia atricapilla* was heard to the south-west of Druitt Hall near to the site for the proposed new hall. One notable species definitely bred in the garden is Green Woodpecker *Picus viridis*, with a nest located in an old Sweet Chestnut tree (see map 2). This species is included on the latest Amber List of declining and threatened species. Several broods of Blue Tit *Parus caeruleus* and Great Tit *Parus major* were noted and may have fledged from the various nest boxes that have been put up.

Larger bird species that were noted include Jay *Garrulus glandarius*, Magpie *Pica pica* and Woodpigeon *Columba palumbus*.

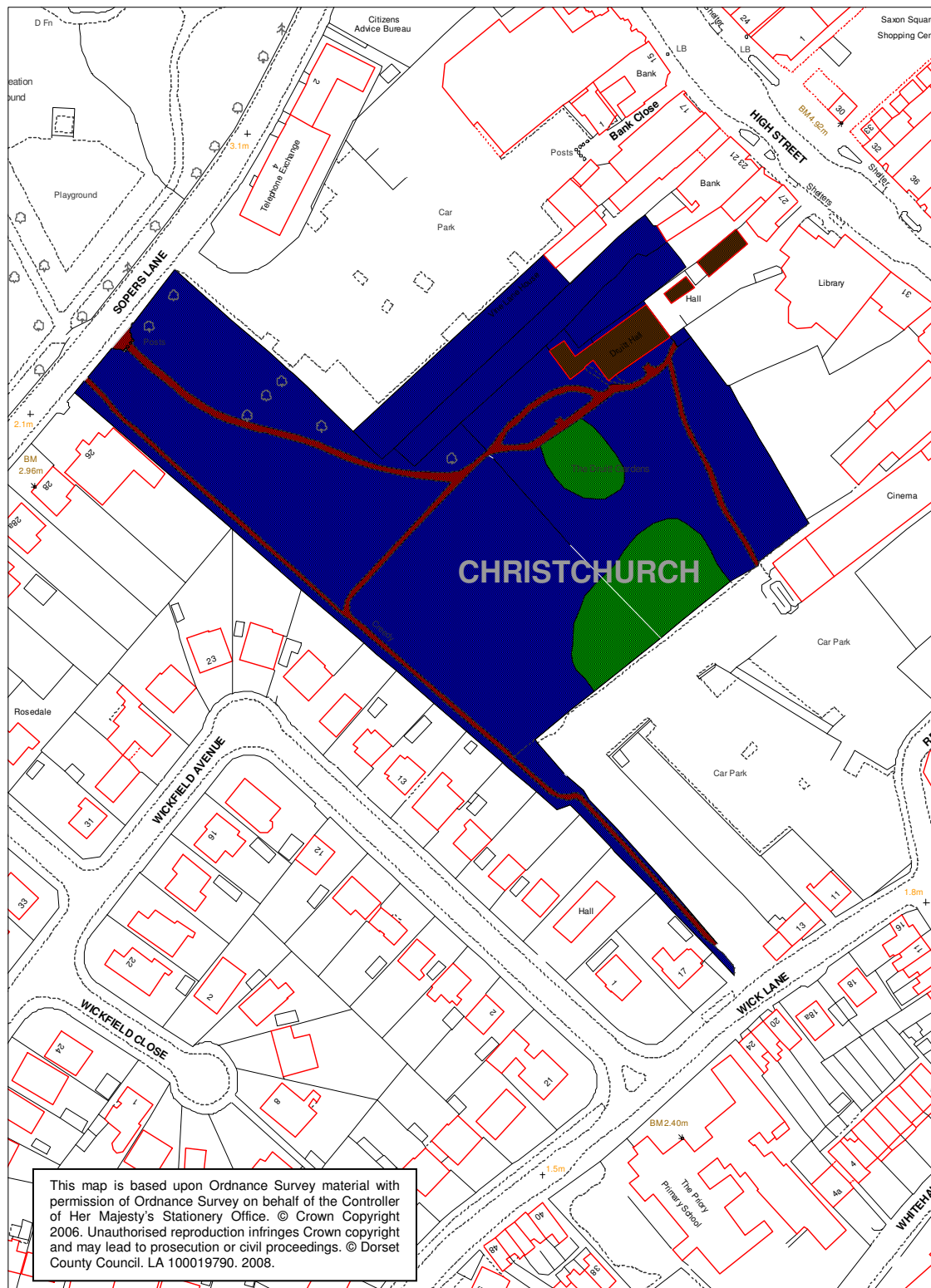
3.3 BATS

A bat survey was undertaken on the evening of 17th June 2008. Although the evening was cool with fresh breeze a good number of bats were seen. From the readout on the Bat Detector they were probably Pipistrelle *Pipistrellus pipistrellus* (the 45Khz species), although Brown Long-eared *Plecotus auritus* may also have been present.

A walk around the park showed that they were concentrated in two areas (see map 3). The first area is the line of trees to the north-east and of the hall. The second area is around the small grassy area to the south of the hall. Up to six bats were seen at a time feeding around the canopy of old trees.

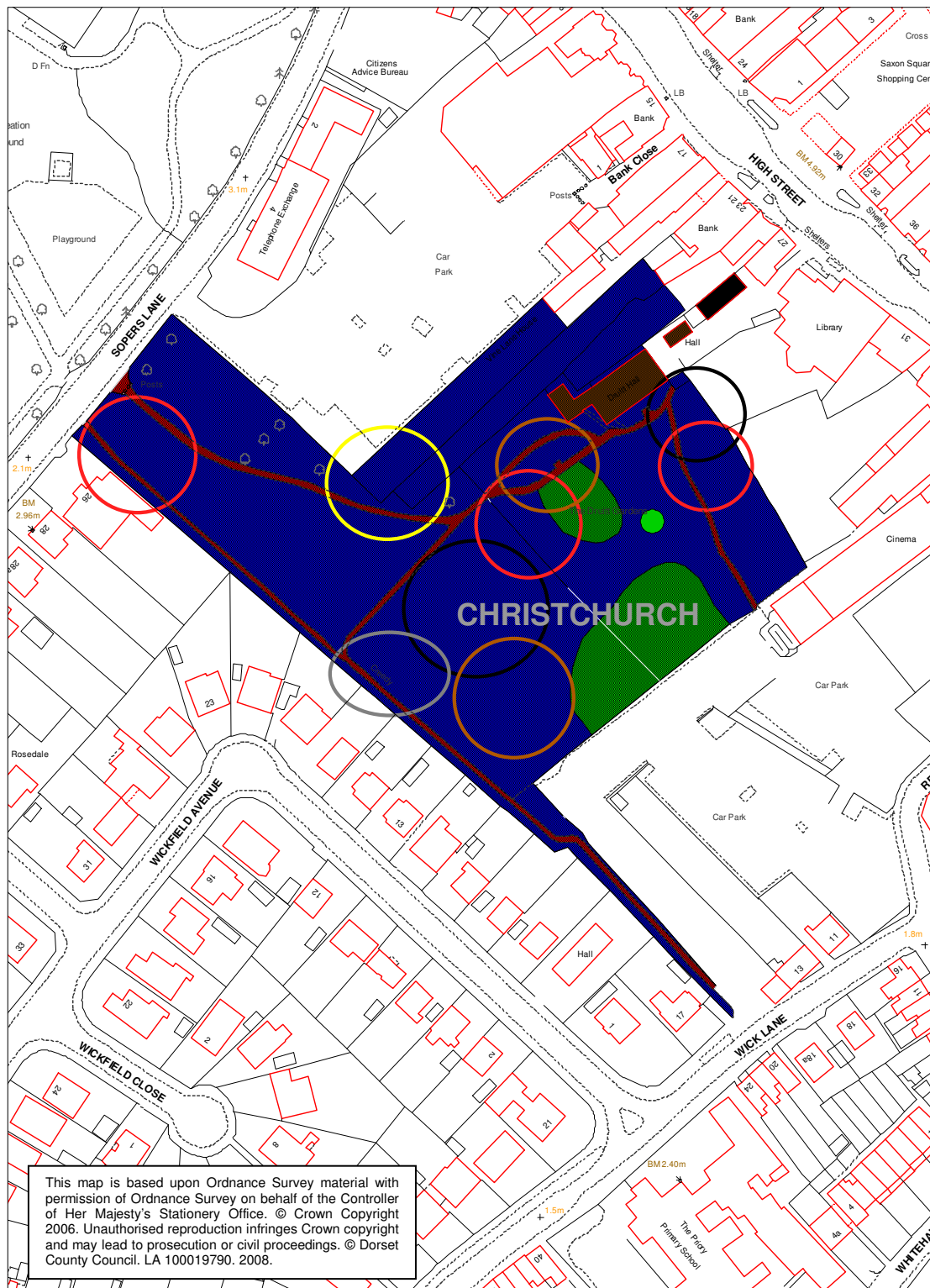
Where the bats roost is not known, none were found in the roof space of Druitt Hall that evening. The nearest bat roost with Pipistrelles on the DERC database is 1.3 km to the north-west. Some of the larger trees with holes and branch splits offer suitable habitat for bats.

MAP 1. Broad habitats found at Druitt Gardens



Blue = woodland **Green** = grassland **Brown** = Buildings **Red** = main paths

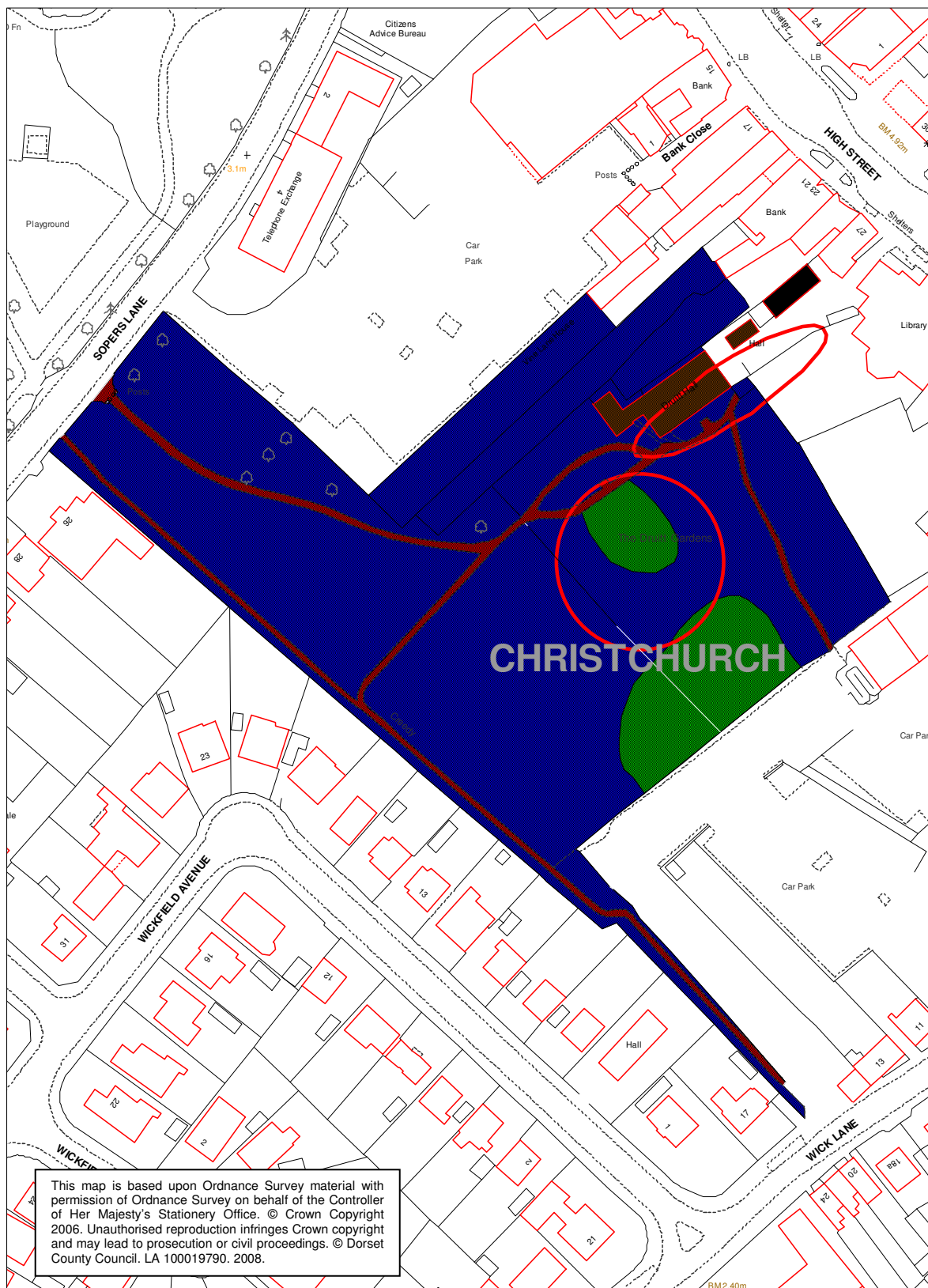
MAP 2. Distribution of singing birds



Red = Robin **Black** = Blackbird **Brown** = Wren **Grey** = Dunnock **Yellow** = Blackcap

Green dot is the location of the Sweet Chestnut tree supporting a Green Woodpecker's nest

MAP 3. Main feeding areas for bats



The red lines indicate the main feeding areas for bats seen on 17th June 2008

4 ECOLOGICAL CONSTRAINTS

With the proposals for the replacement of the hall and the landscaping of the gardens there are some species that will need specialised surveys or may require licences to move or relocate them. These species are typically those included on Schedules 1 and 5 of the Wildlife and Countryside Act 1981 (as amended). In the case of Stag Beetle and bats they receive further protection under European law. The following paragraphs detail those species or groups present on site that are protected under such legislation.

4.1 *Birds*

Wild birds, their active nests, eggs and young are all protected under the Wildlife & Countryside Act 1981 (WCA) [as amended]. Some birds are afforded special protection under Schedule 1 of this act and licensing arrangements are in place which cover disturbance to these species. Any future works carried out on or around the hall and landscaping works such as tree felling in the gardens will have to take place outside of the main bird breeding season, or surveys will have to be undertaken to establish that no disturbance will be caused by such activities.

4.2 *Mammals*

4.2.1 Bats

Bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and by EC Directive 92/43/EEC, which is enforced in the UK by the Conservation (Natural Habitats, &c.) Regulations 1994) (known as the Habitats Regulations). Bats are also listed on Appendix 3 of the Bonn Convention and all species except the Common and Soprano Pipistrelles on Appendix II of the Bern Convention. Licences from Natural England are usually required where work affects a known roost as these animals are European Protected Species.

A survey of bats was undertaken on the evening of the 17th June. This confirmed the presence of bats on the site and a good number were seen feeding around the canopy of the trees to the east and south-east of Druitt Hall (see map 3). The reading on the bat detector indicates that they are probably Pipistrelles *Pipistrellus pipistrellus*.

No bats were found in the roof space of the hall, but the fact that they are present on the site means that a survey of the existing hall is required prior to any work carried out. The gardens contain a significant number of old trees, particularly Holm Oak and Horse Chestnut, which have holes and branch splits that could be used by bats. If such trees are to be felled or crown reduced a bat survey will be required prior to the work taking place.

4.2.2 Badgers

No signs of Badgers were noted during the survey and there are no records from nearby in the DERC database.

4.3 *Invertebrates*

Druitt Gardens is a known site for the Stag Beetle *Lucanus cervus*, which is listed on Schedule 5 of the WCA. This species has a peculiarly south-eastern distribution in Dorset from Highcliffe west to Broadstone and north to Verwood, and is therefore largely confined to a much urbanised environment. Enhancement of the habitat for this species within the new landscaping proposals areas is desirable and can be achieved through the provision of standing and lying dead wood and stumps.

This species was not seen during the present survey but was recorded in 1999.

4.4 Reptiles

Common reptiles including Slow Worm *Anguis fragilis*, Grass Snake, *Natrix natrix*, Adder, *Viperus berus* and Common Lizard, *Lacerta vivipara*) are protected under Schedule 5 of the WCA.

While no reptiles were seen during the survey work, but it is likely that Slow Worm will be present and will need to be taken into consideration when any work starts on demolishing the old hall and building the new hall. The standard way of undertaking a reptile rescue is to place tins around the area concerned and relocate any animals captured.

IMPACT OF PROPOSED WORKS

THE HALL

The proposed demolition and replacement of the hall in the north of the site will not damage any plant species of particular importance. However there are one or two individual trees of interest that should be retained including a fine Pedunculate Oak. Part of the area has a dense understorey of Bramble and this provides suitable habitat for nesting birds. It is desirable that this habitat is replaced in another part of the site.

THE GARDENS

For the landscaping of the gardens it is proposed to take down a significant number of trees, either because the trees are in a poor condition or because they pose a risk to public safety and for the re-design of the gardens.

Some tree removal is desirable to allow more light and warmth into the gardens and to allow for natural regeneration, the planting of new trees, and the development of a healthy and more diverse scrub and field layer. However, crown reduction and pollarding should also be considered alongside options to remove trees. Those trees that need to be considered for retention include those of historical or ecological importance such as several of the old Holm Oaks and the very old fruit trees in the south-east of the site.

High stumps, up to say 2 metres, could be left as this will provide valuable habitat for Stag Beetle and other invertebrates. If possible timber from any trees should be stacked in the woodland areas rather than removed.

ENHANCEMENT OPPORTUNITIES

With the proposed works to the hall and gardens there is the good opportunity to improve the site for biodiversity.

- Trees

Ideally the canopy should be thinned to allow more light to the ground and create small glades. Younger Sycamore particularly require thinning or removing as they are too close to old trees and in some cases may over top some of the older trees. Some of the Holm Oak is shading areas that may be required for the re-landscaping, but old trees could be considered for retention where they show characteristics of veteran trees with wounds and holes which provide a habitat for breeding birds and roosting bats.

- Shrubs

Apart from the occasional Elder and Holly and some regenerating Elm there is very little in the way of a shrub layer within the woodland areas of the gardens. To provide more habitat for breeding birds and to provide more structure within the woodland areas it would be desirable to plant native shrub species applicable to the soil type such as Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana* and more Holly.

- Woodland ground flora

At present the woodland ground flora is very poor and largely dominated by Ivy or the invasive Ground Elder. In selected areas, especially by well used paths, it would enhance the woodland ground flora to plant some native woodland plants such as Bluebell *Hyacinthoides non-scripta*, Primrose *Primula vulgaris*, Wood Anemone *Anemone nemorosa* and Wood Spurge *Euphorbia amygdaloides*. Taller evergreens such as Butcher's Broom *Ruscus aculeatus* and Ferns *Dryopteris* sp. would add structure.

- Grassland areas

At present the grassland areas are very species poor with very few herbs. To make these areas visually more attractive and more attractive to invertebrates it would be desirable to plant species such as Bird's-foot-trefoil *Lotus corniculatus*, Common Knapweed *Centaurea nigra*, Cat's-ear *Hypochaeris radicata*, Oxeye Daisy *Leucanthemum vulgare* and Red Clover *Trifolium pratense*. At the edge of the grassy areas small shrubs could be planted, particularly those with valuable nectar sources for invertebrates such as Dog-roses *Rosa canina*.

APPENDIX I: Species recorded from Druitt Gardens, June 2008

Species	Common Name
<i>Acer platanoides</i>	Norway Maple
<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground-elder
<i>Aesculus hippocastanum</i>	Horse Chestnut
<i>Agrostis capillaris</i>	Common Bent
<i>Agrostis stolonifera</i>	Creeping Bent
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Arctium minus</i>	Lesser Burdock
<i>Arum maculatum</i>	Lords-and-Ladies
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Bellis perennis</i>	Daisy
<i>Calystegia sepium</i>	Hedge Bindweed
<i>Capsella bursa-pastoris</i>	Shepherd's-purse
<i>Carex divulsa</i> subsp. <i>divulsa</i>	Grey Sedge
<i>Castanea sativa</i>	Sweet Chestnut
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium vulgare</i>	Spear Thistle
<i>Crataegus monogyna</i>	Hawthorn
<i>Dactylis glomerata</i>	Cock's-foot
<i>Elytrigia repens</i>	Common Couch
<i>Epilobium montanum</i>	Broad-leaved Willowherb
<i>Euphorbia exigua</i>	Dwarf Spurge
<i>Euphorbia lathyris</i>	Caper Spurge
<i>Fallopia japonica</i>	Japanese Knotweed
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Geranium robertianum</i>	Herb Robert
<i>Geum urbanum</i>	Wood Avens
<i>Hedera helix</i>	Ivy
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Hyacinthoides hispanicus</i>	Spanish Bluebell
<i>Hypericum androsaemum</i>	Tutsan
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Ilex aquifolium</i>	Holly
<i>Lactuca serriola</i>	Smooth Lettuce
<i>Lamium album</i>	White Dead-nettle
<i>Lapsana communis</i>	Nipplewort
<i>Lonicera nitida</i>	Wilson's Honeysuckle
<i>Malus domestica</i>	Apple
<i>Myosotis arvensis</i>	Field Forget-me-not
<i>Oenanthe crocata</i>	Hemlock Water-dropwort
<i>Pentaglottis sempervirens</i>	Alkanet
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Plantago major</i>	Greater Plantain
<i>Poa annua</i>	Annual Meadow-grass
<i>Poa trivialis</i>	Rough Meadow-grass
<i>Prunella vulgaris</i>	Self-heal
<i>Quercus ilex</i>	Holm Oak
<i>Quercus robur</i>	Pedunculate Oak

Species	Common Name
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rumex sanguineus</i>	Wood Dock
<i>Sagina procumbens</i>	Procumbent Pearlwort
<i>Sambucus nigra</i>	Elder
<i>Senecio jacobaea</i>	Common Ragwort
<i>Sisymbrium officinale</i>	Hedge Mustard
<i>Sonchus oleraceus</i>	Smooth Sow-thistle
<i>Stellaria media</i>	Common Chickweed
<i>Taraxacum officinale</i> agg.	Dandelion
<i>Taxus baccata</i>	Yew
<i>Tilia cordata</i>	Small-leaved Lime
<i>Trifolium dubium</i>	Lesser Trefoil
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
<i>Ulmus procera</i>	English Elm
<i>Urtica dioica</i>	Common Nettle
<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell
<i>Viola odorata</i>	Sweet Violet
Lichens	
<i>Diploicia canescens</i>	
<i>Flavoparmelia caperata</i>	
<i>Flavoparmelia soredians</i>	
<i>Hyperphyscia adglutinata</i>	
<i>Hypotrachyna revoluta</i>	
<i>Lecanora expallens</i>	
<i>Lepraria incana</i>	
<i>Lepraria lobificans</i>	
<i>Melanelia fuliginosa</i> ssp. <i>glabratula</i>	
<i>Parmelia sulcata</i>	
<i>Parmotrema perlatum</i>	
<i>Physcia tenella</i>	
<i>Punctelia subrudecta</i>	
<i>Ramalina farinacea</i>	
<i>Xanthoria parietina</i>	
Bryophytes	
<i>Lunularia cruciata</i>	
<i>Metzgeria furcata</i>	
<i>Riccia sorocarpa</i>	
<i>Bryum capillare</i>	
<i>Hypnum cupressiforme</i>	
<i>Orthotrichum affine</i>	
<i>Syntrichia laevipila</i>	
Invertebrates	
<i>Parage aegeria</i>	Speckled Wood
<i>Strangalia maculata</i>	a longhorn Beetle
Birds	
<i>Columba palumbus</i>	Woodpigeon

Species	Common Name
<i>Corvus corone</i>	Carrion Crow
<i>Erithacus rubecula</i>	Robin
<i>Garrulus glandarius</i>	Jay
<i>Parus caeruleus</i>	Blue Tit
<i>Parus major</i>	Great Tit
<i>Pica pica</i>	Magpie
<i>Picus viridis</i>	Green Woodpecker
<i>Prunella modularis</i>	Dunnock
<i>Sylvia atricapilla</i>	Blackcap
<i>Troglodytes troglodytes</i>	Wren
<i>Turdus merula</i>	Blackbird
Mammals	
<i>Sciurus carolinensis</i>	Grey Squirrel