

FREEMEN'S WAY, DEAL, KENT

Extended Phase 1 Habitat Survey Report

Date of report	12 th March 2019
Date of survey	15 th January 2019
Author	Alexander Watkinson
Reviewer(s)	Jenny Passmore
Client name	Hume Planning Ltd
Corylus reference	19017

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, BES Corylus Ecology Ltd Registered in England No 5005553 Registered Office: Henwood House, Henwood, Ashford Kent TN24 8DH VAT Reg No. 862 2486 14

SUMMARY

• A

CONTENTS

Page Number

1.0	Introduction	1
2.0	Methodology	2
3.0	Results	4
4.0	Evaluation and Recommendations	10
5.0	Conclusion	15

References

Tables (within text)

Table 1 – Bat Habitat Assessment Criteria

Figures

- Figure 1 Phase I Habitat Survey Plan
- Figure 2 Annotated Photographs

Appendices

- Appendix 1 Sensitive Lighting Guidance
- Appendix 2 RHS Pollinators List
- Appendix 3 Reptile Legislation

1.0 INTRODUCTION

- 1.1 Corylus Ecology was requested to undertake an Extended Phase 1 Habitat Survey of Land adjacent to Freemen's Way, Deal, Kent hereinafter referred to as 'the Site'.
- 1.2 The area surveyed is approximately 3.5ha, located at OS grid reference TR 3679 5136. The Site is in a residential setting 1.7km to the south-west of the pier at Deal. The habitats within the Site consist of managed short grassland within the centre and unmanaged Site boundaries of tall ruderal and scrub. A well-kept cemetery borders the northern boundary with garden curtilage forming the southern and western boundaries, to the east are allotments. The proposals for the Site involve the construction of c.100 dwellings along with associated landscaping, including a sports pitch within the eastern half of the Site. Access will be from the existing access point to Freemen's Way to the south-west.
- 1.3 The survey was undertaken by Corylus Ecology on 15th January 2019. The survey includes a Phase 1 Habitat Survey, which provides information relating to the habitats within the Site, and a Protected Species Assessment, which identifies potential for protected species and, if apparent, use by protected species. The survey informs the need for any further protected species surveys.
- 1.4 The objectives of the survey were to:
 - classify and map the habitats within the Site according to those within the Phase 1 manual;
 - determine the potential for protected species to occur within the Site;
 - identify key ecological constraints to allow early avoidance or minimisation of ecological effects through appropriate design; and
 - suggest appropriate recommendations and further surveys where necessary.

2.0 METHODOLOGY

2.1 Desk Study

2.1.1 Desk Study records for reptiles and amphibians were sought from the Kent Reptile and Amphibian Group (KRAG) for land within a 3km radius from the Site. Records of designated sites, priority habitats and granted European Protected Species Mitigation (EPSM) Licences within 3km of the Site were sought from freely available internet resources such as the Multi-Agency Geographic Information for the Countryside (MAGIC) interactive mapping service (DEFRA, 2019).

2.2 Phase I Habitat Survey

2.2.1 The Site was subject to a Phase 1 Habitat Survey on 15th January 2019. The habitats present within the Site were mapped in accordance with the 'Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit' (JNCC, 2003). Habitat areas and features of topographical and/or ecological interest were described in the form of target notes. These were later used to create botanical species lists by target note area and also to create a colour coded Phase 1 Habitat Map. All nomenclature follows Stace (2010). Non-native and invasive species were also identified and mapped where appropriate.

2.3 Protected Species Assessment

2.3.1 The Phase 1 habitat Survey on 15th January 2019 included an assessment of the potential for the Site to support protected species. This type of survey aims to assess the potential for protected species to occur due to the habitats present and does not include any species specific survey methods designed to demonstrate whether the Site is in fact used by such species. The exception is badgers *Meles meles* as field signs associated with this species, including latrines, holes, pushes, paths and hairs, can be searched for.

Bat Tree and Habitat Assessment

2.3.2 The aims of these assessments are to determine the suitability of the Site and trees for bats and assess whether further surveys should be undertaken. The table below describes categories for bat tree and habitat assessments:

Table 1	– Bat Habitat	Assessment	Criteria
1 4 5 1 5 1	Dut Hubitut	/	01110110

NEGLIGIBLE	Habitat or tree with negligible features likely to be used by roosting, foraging or commuting bats
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space for shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
	A habitat that could be used by small numbers of commuting bats, such as a gappy hedgerow or unvegetated stream, but isolated i.e. not well connected to the surrounding landscape by other habitat.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but unlikely to support a roost with high conservation status.
	Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens.
Нібн	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
	Continuous, high quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats, such as river valleys, hedgerows, lines of trees and woodland edge.

3.0 RESULTS

3.1 Desk Study

Statutory Designated Sites

- 3.1.1 The Thanet Coast and Sandwich Bay Ramsar Site covers a large area including the Lydden valley and the coastal stretch between Ramsgate and Deal. There is 2,182ha of habitat protected under this designation including rocky shore, estuary, sand dune, maritime grassland, saltmarsh and grazing marsh. The wetland habitats support 15 British Red Data Book invertebrates, as well as a large number of nationally scarce species. The site attracts internationally important numbers of turnstone *Arenaria interpres*, and nationally important numbers of nationally important numbers of four wader species: ringed plover, golden plover, grey plover and sanderling, as well as Lapland bunting. The site is used by large numbers of migratory birds.
- 3.1.2 Sandwich Bay to Hacklinge Marshes Site of Special Scientific Interest (SSSI) is a large designated area extending from Ramsgate in the north to Deal in the south, covering a similar area to the Ramsar Site described above. The Site is within the SSSI Impact Risk Zone: unit 61 and 62 of the SSSI which support fen, marsh and swamp habitats are located 2km to the north-west of the Site and unit 46, supporting neutral grassland, is 1.7km to the north-north-west. This area is described in the citation as containing the most important sand dune system and sandy coastal grassland in south-east England and also includes a wide range of other habitats such as mudflats, saltmarsh, chalk cliffs, freshwater grazing marsh, scrub and woodland. There are outstanding assemblages of both terrestrial and marine plants as well as invertebrates, including many nationally rare and scarce species. The area provides an important landfall for migrating birds and supports large wintering populations of waders.

Non-statutory Designated Sites

3.1.3 There are no Non-statutory Designated Sites located within 3km of the Site.

Ancient Woodland

3.1.4 There are no areas of ancient woodland within 3km of the Site.

European Protected Species Licences

3.1.5 There is a single record of European Protected Species Mitigation (EPSM) licence from within a 3km radius of the Site. This relates to bats, permitting the destruction of a resting place of soprano pipistrelle *Pipistrellus pygmaeus* 1.4km to the north of the Site in 2017.

Priority Habitats

3.1.6 Coastal vegetated shingle, a UK Biodiversity Action Plan Priority Habitat, is present along the Deal coastline which is situated 880m east of Site. No other habitats are located within or adjacent to the Site.

Desk Study Records

- 3.1.7 KRAG have provided records for both amphibians and reptiles from within a 3km radius of the Site. Records of slow worm, common lizard, grass snake, common frog, common toad and smooth newt were found. None of these records are located within the Site. No records for great crested newt, palmate newt, adder or sand lizard were found.
 - The closest record of slow worm to the Site is 330m to the east in 2011 within a private residence.
 - The nearest record of common lizard is located 260m to the north-east in 2012 within a private residence.
 - The nearest record of grass snake is from 860m to the west in 2005 within a private residence.
 - The nearest record for common frog is located 45m to the west in 2009 within a private residence.
 - The nearest record for common toad is located 230m to the north-west in 2010 within a private residence.
 - The nearest record for smooth newt is located 650m to the east in 2006 within a recreation ground.

3.2 Phase 1 Habitat Survey

3.2.1 The Site is a large former playing field area which has been since kept managed as short grassland. The boundaries of the Site include hedges, bramble and fences as well as well as larger areas of ruderal vegetation. Occasional small spoil heaps of discarded garden waste are present along the length of the Site where it borders residential houses. Immediately to the south and west of the Site are residential houses and gardens, to the east is allotments and to the north is Deal Cemetery. The habitats present within the Site are shown on Figure 1, with further detail provided by way of specific target notes: these are denoted by the letters 'TN'. Photographs of selected target notes are provided within Figure 2.

Improved Grassland – TN1

3.2.2 The main field area TN1, the grass species present are generally coarse and there are few herbaceous species present, the sward is kept short by cutting management. The grasses include couch grass *Elymus repens*, false-oat grass *Arrhenatherum elatius*, perennial rye-grass *Lolium perenne*, Yorkshire-fog *Holcus lanatus*, cock's-foot *Dactylis glomerata* annual meadow-grass *Poa annua* and rough meadow-grass *Poa trivialis*. The herbaceous species noted include Alexander's *Smyrnium olusastrum* which was dominant at the field margins along with common nettle *Urtica dioica*. Also present at low density was bristly oxtongue *Picris echioides*, ribwort plantain *Plantago lanceolata*, spear thistle *Cirsium vulgare*, field bindweed *Convolvulus arvensis*, broad-leaved dock *Rumex obtusifolius*, white clover *Trifolium repens* and common ragwort *Senecio jacobaea*.

Dense Scrub

- 3.2.3 The Sites north-west boundary TN2 is formed by a c.4m wide area of dense bramble *Rubus fruticosus* sp. agg scrub including common nettle.
- 3.2.4 The Site's eastern boundary TN3 is formed by a c.9m wide area of dense scrub dominated by bramble but also including common nettle, alexanders, cleavers *Galium aparine*, broadleaved dock, cock's foot and common vetch *Vicia sativa*. The boundary line behind consist of a post and wire fence line with elder *Sambucus nigra*, bay *Laurus nobilis* and laurel *Prunus laurocerasus* growing.

Tall Ruderal

- 3.2.5 On the southern boundary of the Site, there is a wide margin of ruderal vegetation TN4 on uneven, mounded ground which has not been managed. The area has a scalloped edge and is up to 10m wide in places. The species noted include false oat-grass, common nettle, hedge bindweed, cleavers, common ivy *Hedera helix ssp. helix*, spear thistle, alexanders, common mallow *Malva sylvestris* and common ragwort *Senecio jacobaea*. Within this area are various items of discarded furniture and spoil piles from the adjacent houses to the south.
- 3.2.6 Located in the north-west corner of the Site is a 3m wide area of tall ruderal vegetation TN5 in the northern corner of the Site. Species include bramble, common nettle, Alexander's as well as a semimature crab apple tree *Malus sylvestris*. There is also garden waste from the adjacent house to the north-west.
- 3.2.7 Along the majority of the Site's southern and eastern boundary, there is a 4m wide margin of tall ruderal habitat TN6. The species here include broad leaved dock, Alexanders, bramble, cock's-foot, common nettle, common ivy, variegated ivy, bind weed, cleavers and spear thistle. In the central part of the boundary, there is an area of dense hedge bindweed and common nettle. There are occasional overhanging bushes and trees from the adjacent garden including holly *llex aquifolium*, buddleia *Buddleia davidii*, leylandi *Cupressus × leylandii*, elder and sycamore *Acer planatus*. Regular small piles of grass clippings, garden waste and brash are dotted along the base of the fencing.

Hedges and Curtilage

3.2.8 The Site's northern boundary is formed by a thick hedge (TN7) which is dominated by garden privet *Ligustrum ovalifolium* and *Euonymus fortunii* 'emerald and gold', choisya *Choisya* sp. with holly, elder and a single yew *Taxus baccata* sapling. There are mature trees located every 20m which are beyond the Site boundary but overhang. Species include field maple *Acer campestre*, false acacia *Robinia pseudoacacia*, sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and alder *Alnus glutinosa*. The

base of the hedge is managed and consist of herb-Robert *Geranium robertianum*, cleavers and common nettle.

- 3.2.9 There is a species-poor section of Leyland cypress *X Cupressocyparis leylandii* hedge TN8 along the western boundary of the entrance way which extends around the corner to form the first 15m of the southern boundary. The trees are 3.5m high and the sides have been cut recently. A cherry *Prunus* sp. also marginally overhangs the Site from the garden beyond.
- 3.2.10 The Site's north-east boundary is formed by a metal railing fence with a newly planted hedge behind TN9. The species within this hedge are either holly or yew. The hedge has started to become overgrown by hedge bindweed, cock's-foot, bramble, spear thistle, broadleaved dock and common nettle in places.
- 3.2.11 The Site's western boundary is formed by a close board fence line with dense scrub vegetation TN10 including barberry *Berberis* sp., hawthorn *Crataegus monogyna*, elder, common ivy, bramble and privet.

Boundary Features

- 3.2.12 There is closeboard fencing TN11 running for 15m along the southern boundary of the Site. Several of the fencing panels has fallen and there is heavy ivy cover on a further 15m of fencing.
- 3.2.13 There is a concrete post and wire mesh fencing TN12 for 20m along the southern boundary. There is heavy ivy and honeysuckle *Lonicera periclymenum* coverage for the first 6m and bramble coverage for the final 2m. The central section has S1, including grass clippings and brick piles along the base.
- 3.2.14 There is a brick wall that runs for a small section of the northern boundary, with a height of 1.5m. TN13
- 3.2.15 The fencing along the eastern side of the entrance way is concrete post and wire TN14.

Hardstanding

3.2.16 A concrete plinth 5m x 8m is located in the northern corner of the Site, TN15.

Spoil

- 3.2.17 The following spoil piles were identified:
 - S1 consists of grass clippings and a brick pile along the base of fencing
 - S2 consists of brash piles and grass clippings in the area of tall ruderal in the northern corner of the Site.
 - S3 is a brash pile at the eastern end of TN11
 - Small grass clippings and brash piles, S4, are scattered along the base of TN12
 - S5 comprises of discarded furniture along the southern boundary of the Site.

3.3 Protected Species Assessment

Bat Tree Assessment

3.3.1 All suitable trees within and adjacent to the Site boundary were assessed for their potential to support day roosting bats. The mature trees along the northern boundary (TN7) were all assessed but no bat features such as cracks or woodpecker holes were noted as the trees were in good health without any signs of advanced age. Similarly, note was made of a mature field maple *Acer campestre* T1 in the northern corner of the Site and large mature Turkey oak *Quercus cerris* T2 along the southern boundary as these were mature trees however these trees appear to be in healthy condition, with no features identified that could support roosting bats. It is considered that this tree has 'Negligible' suitability for bats under the Bat Conservation Trust Survey Guidelines (Collins, 2016).

Great Crested Newts

3.3.2 There are no ponds located within the Site and no ponds identified within 1km of the Site boundary. The habitat on Site is sub-optimal for great crested newts, only suitable for individual movements across the landscape and there may be limited foraging and opportunities for shelter in the marginal parts of the Site. However overall the terrestrial habitat is sub-optimal. Therefore there are no further surveys or recommendations with regard to great crested newts.

Reptiles

3.3.3 Regarding reptile habitat, the majority of the Site is managed short grassland which is regularly cut and provides sub-optimal habitat for use by reptiles. However the majority of the field is fringed by large margin of bramble scrub and ruderal vegetation, particularly in the central part of the southern boundary where a wide margin of over 10m wide has been left unmanaged and has multiple spoil piles. There is sufficient suitable habitat around the margins of the Site to support reptiles. It is thought the Site could support low to medium populations of common species such as slow worm and common lizard. There is also suitable neighbouring habitat for reptiles with allotments to the east and a cemetery grounds to the north. If the neighbouring habitats support reptiles, this would act as a source population and/or strengthen the viability of any on-site population.

Badger

3.3.4 There was no evidence of badger, such as latrines, setts, tracks or snuffle holes, within or adjacent to the Site.

Dormice

3.3.5 There is no suitable habitat for dormice; the hedgerows TN7 and TN10 are thick but contain a low percentage of native woody species. The Site is isolated in the wider landscape, unconnected to any areas of woodland or scrub.

Breeding birds

3.3.6 The Site contains suitable habitat for nesting birds within the hedgerows and dense bramble around the perimeter of the Site.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Overview

- 4.1.1 An Extended Phase 1 Habitat Survey has been undertaken at Land Adjacent to Freemen's Way, Deal, Kent, in January 2019. The proposals for the Site involve the construction of c.100 dwellings along with associated landscaping, including a sports pitch within the eastern half of the Site. Access will be from the existing access point to Freemen's Way to the south-west.
- 4.1.2 The Site falls within 3km of parts of the Thanet Coast and Sandwich Bay Ramsar Site and is within the SSSI Impact Risk Zone for the Sandwich Bay to Hacklinge Marshes SSSI, Located 2.7km to the north. These designated areas support a range of coastal and intertidal habitats and are important for a range of nationally scarce plants and species as well as being an important resource for migratory birds. It is not considered that development of the field would have a direct impact on the SSSI or species it supports. For this particular SSSI, consultation with Natural England is not required for the residential development proposals, the citation states that consultation is required if: *Any residential development of 100 or more houses outside existing settlements/urban areas*.
- 4.1.3 No rare, endangered or invasive botanical species or habitats have been recorded within or adjacent to the Site. The Site comprises of species common for area of managed grassland and unmanaged tall ruderal and scrub boundaries.

4.2 Protected Species Assessment

Bat Tree Assessment

4.2.1 A bat tree assessment of all suitable trees within and immediately adjacent to the Site was undertaken. No potential bat roosting features were found on any of the trees and no further surveys are required.

Bat Habitat Assessment

4.2.2 The Site has been assessed as having 'Low' suitability for foraging and commuting bats (Collins, 2016). The Site is moderately sized (3.66ha) however the majority of the on-site habitats provide low quality bat habitat being regularly managed short improved grassland. The suitable habitats for bats are restricted to the boundaries of the Site where species poor hedgerows and scrub is located. The Site supports marginal areas which are likely to provide invertebrates for local bats, with likely sub-optimal foraging in the grassland. As the Site is situated in a largely residential area, any bats roosting in the surrounding buildings may depend on the remaining 'green space' offered by the combination of the cemetery, allotment and the Site. The impact of the proposals have to be considered in relation to foraging and commuting bats.

- 4.2.3 The Site supports generally poor quality habitats for foraging and the south-western boundary of the Site which backs onto the houses of Freemans Way, is poor. However, the hedgerow along the north-western boundary (TN10) and along the whole of the northern and north-eastern boundary (TN7) are good linear features for commuting and foraging bats. The proposals include the retention of the majority of the dense scrub and the northern hedgerow. Whilst no direct impacts are predicted, there may be indirect impacts on bat dispersal corridors through lighting within the proposed development.
- 4.2.4 It is considered that the proposals will not have a significant effect on the local bat population and no bat activity surveys are recommended. However, a sensitive lighting strategy should be followed in order to minimise the indirect impacts of the proposals on foraging and commuting bats in the local area. This will include minimising light spill onto the hedgerow and the scrub, woodland and pond habitats to the west. Technical specifications for a sensitive lighting strategy are provided in Appendix 1.
- 4.2.5 The key vegetated linear features should be retained and protected from further removal. It is recommended that a buffer is created along these boundaries and that they are not part of the curtilage of the new properties. Carefully planned sensitive lighting to avoid or reduce the level of impact on bats should also be designed to maintain these areas as dark as possible to lessen impacts on bats.

Great Crested Newt

4.2.6 The habitat on Site is sub-optimal for great crested newts and there are no ponds within the Site and neither are there any ponds within 1km of the Site. Therefore there are no recommendations for further surveys with regard to great crested newts.

Reptiles

- 4.2.7 Suitable habitat for reptiles has been identified around the margins of the Site. The proposals involve a residential development including the provision of sports pitch at the eastern end of the Site. The suitable on-site reptile habitat at the margins will be impacted by the proposals. Therefore reptile surveys are recommended in order to assess what populations are present and characterise the likely impacts of the development.
- 4.2.8 Under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) it is an offence to intentionally kill or injure a reptile. To avoid committing an offence under the Act, precautions must be put in place to reduce threats to reptile species but also to mitigate against the effects of development. Mitigation for the more common British reptile species does not require a licence from Natural England but a mitigation strategy should be designed for approval by the planning authority for the protection and conservation of reptiles. This will include the most appropriate method of moving the reptiles from the development area and whether this would be best achieved by translocation or habitat manipulation.

- 4.2.9 A reptile survey entails setting out heat traps (squares of roofing felt) which the reptiles use to thermoregulate. Froglife (1999) recommend that a minimum of 10 heat traps are set out per hectare. However, the density may be increased in areas where more suitable habitat is present and to cover all the suitable habitat areas. Once set, the heat traps are left to bed in for a few days and are then checked on seven occasions in suitable conditions. The number and species of reptile and breeding conditions are recorded. The optimal survey period for reptiles is March – September.
- 4.2.10 If reptiles are present within the Site, suitable mitigation would need to be designed. Likely mitigation may include a fencing and trapping programme to relocate animals out of working areas during construction, combined with the creation of enhanced terrestrial habitat to receive displaced animals, including the installation of log piles and hibernacula as well as suitable management of grassland and scrub habitats here. An area suitable for reptiles would ideally be retained within the Site large enough to support a long-term reptile population, and ensuring it does not become isolated from populations within the wider countryside.

Badger

4.2.11 No signs of badger were found and no further surveys are required.

Dormice

4.2.12 There is no suitable habitat for dormice on Site and there are no recommendations regarding dormice.

Breeding Birds

4.2.13 The hedgerows, trees and dense scrub within the boundaries of the Site are likely to be used by breeding birds during the core breeding period (March – August). All wild birds, including eggs and chicks, are protected against injury or killing and their nests are protected against damage or destruction when in use by the Wildlife and Countryside Act (1981). It is understood that the majority of boundary habitat within the Site will be retained as part of the proposals. It is therefore recommended that if the removal of any of the dense scrub or hedgerows is required it is undertaken outside the core bird breeding season, limiting this work to the period 1st September to 1st March. If these dates do not coincide with planned schedules, the vegetation should be checked by a suitably experienced ecologist before works commence. If any active nests are present, works in the vicinity of the nest would have to cease until fledging has occurred and the nest is no longer in use.

4.3 Recommendations with regard to NPPF

4.3.1 The National Planning Policy Framework (July 2018) sets out planning policies on the protection of biodiversity and geological conservation through the planning system. Section 15 of the National Planning Policy Framework^[I] (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 measurable net gains for biodiversity.
- 4.3.2 Regarding NPPF and the enhancement of the Site to benefit local wildlife, it is recommended that the following measures are included within the scheme to enhance biodiversity:
 - Enhancing the hedgerows forming the boundary of the Site by planting up the hedgerow gaps with
 native species and planting species-rich hedgerows through the interior of the development area,
 such as alongside roads, between gardens and around garage/refuse areas should be made.
 These should be species-rich and include heavily flowering and fruiting native species such as
 hawthorn, blackthorn, bullace, hornbeam, hazel, spindle, field maple, holly and guelder rose,
 alongside honeysuckle and dog-rose to thicken the vegetation.
 - Maintaining a grassy headland/margin of at least 1.5m at the base of the boundary hedgerows to allow landscape connectivity for small mammals including hedgehogs. Any closeboard fencing installed would need to be fitted with minimum 12cm square gaps to allow continued movement of hedgehogs through the landscape.
 - Generous planting of native trees including fruit trees which will benefit people and wildlife.
 - Provision of four log piles to provide a refuge for small mammals and increase invertebrate diversity.
 - To provide roosting space for birds, it is recommended that four colonial house sparrow boxes are
 incorporated into the eastern eaves of the proposed houses. Ready-made wooden or woodcrete
 (*Schwegler*) boxes are widely available. Alternatively, nesting spaces for sparrows can be
 incorporated into the soffits when the house is being constructed with an entrance formed by
 cutting away a 32mm slot in the back of the soffit board against the external wall.
 - Generous native and nectar-rich planting should be incorporated into the development. Climbing
 plants can be included on the proposed buildings and fences to soften the visual impact of a new
 development whilst enhancing biodiversity by attracting invertebrates, such as moths, and
 providing bird nesting opportunities. Species such as honeysuckle *Lonicera pericyclemum*, ivy *Hedera helix*, clematis *Clematis* spp, jasmine *Jasminium* spp., and single-flowered roses *Rosa* spp.
 are all suitable.

- It is recommended that a range of nectar-rich plants are considered for any landscape planting and flowering plants should be made available for as long as possible through the year, by planting a combination of plants which flower during spring, summer and autumn. This would benefit local wildlife by providing more nest building opportunities and food sources for small mammals, birds and invertebrates. Species such as lavenders, heathers and honeysuckles are good nectar sources for bumblebees and other insects, and honeysuckle can also be used by birds to forage and nest in. A list of nectar rich species for bumblebees prepared by the RHS is given in Appendix 2.
- If the mature trees on the northern and southern boundaries of the Site are within the same ownership, bird boxes should be mounted on them to provide additional opportunities for woodland birds. For example, the CedarPlus OpenFront Wooden Flycatcher Box is an open-fronted nest box suitable for spotted flycatcher *Muscicapa striata*. Spotted flycatchers are summer migrants from South Africa and are often found in woodland with open glades where they catch insects on the wing. The boxes should be positioned between 2 4m above ground level on trees with a good vantage point. The Schwegler 2B Tree Creeper Nest Box with Predator Protection. Tree creepers *Certhia familiaris* prefer to build their nest in contact with the trunks of trees. For this reason, the above box is open at the rear (the tree side) to encourage nesting and to allow the birds to search amongst the bark cracks for prey.
- Nest boxes should be incorporated into the proposed new dwellings for threatened bird species such as house sparrow *Passer domesticus*. House sparrow is on the BTO's Birds of Conservation Concern 'Red List'. Ready-made wooden or woodcrete colonial boxes are widely available, such as the *Schwegler 1SP Sparrow Terrace* or similar. They should be installed during the construction process in groups beneath the eaves of the buildings and they should be placed out of direct sunlight, preferably on the eastern elevations and at least 3m above ground level. They should not be placed directly above any windows or doors. Alternatively, nesting spaces for house sparrows can be incorporated into the soffits by cutting away a 32mm slot in the back of the soffit board against the external wall. Sparrows are colonial, so three of these slots should be created in four separate locations.

5.0 CONCLUSIONS

- 5.1 An Extended Phase I Habitat survey has been undertaken at land at Freemen's Way, Deal in January 2019.
- 5.2 The margins of the Site support suitable reptile habitat and a reptile survey have been recommended.
- 5.3 No further protected species surveys have been recommended.
- 5.4 A sensitive lighting strategy should be followed in order to minimise the indirect impacts of the development on the local bat population.
- 5.5 Regarding breeding birds, recommendations have been made in relation to the timing of the removal of any scrub or hedges; this should be undertaken outside the bird breeding season, limiting this work to between 1st September and 1st March, or supervision would be required.
- 5.6 Recommendations for enhancing the ecological value of the proposed Site under the National Planning Policy Framework have been suggested. These include native planting of hedgerows, planting of climbing plants and nectar-rich plants and the provision of bird boxes.

REFERENCES

Beebee, T, Griffiths, R. 2000. *Amphibians and Reptiles*. Harper Collins Publishers, Hammersmith, London.

Cope, T, Gray, A 2009. Grasses of the British Isles Botanical society of the British Isles.

Corbett, G. B. Harris, S 1996 The Handbook of British Mammals 3rd Edition Blackwells Science.

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

DEFRA. 2019. MAGIC website. Available from: http://magic.defra.gov.uk/. February 2019

Institute of Lighting Professionals (ILP) and Bat Conservation Trust (BCT). (2018). *Guidance Note 8: Bats and Artificial Lighting.*

JNCC (Joint Nature Conservation Committee) 2004. The Bat Workers Handbook. JNCC, Peterborough.

- JNCC (Joint Nature Conservation Committee) 2003. Handbook for Phase I Habitat Survey. A technique for Environmental Audit. JNCC, Peterborough.
- Rose, F. 1989. Grasses, Sedges and Rushes of the British Isles and North-Western Europe. Viking.

Rose, F. 2006. The Wild Flower Key Frederick Warne.

Stace, C. (2010) 'New Flora of the British Isles, 3rd Edition'. Cambridge University Press

