The Ecology Co-op
ENVIRONMENTAL CONSULTANTS
Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU

Ecological Assessment

Land at Upper Bognor Road, Bognor Regis, West Sussex

Author: Jess Burkitt BSc (Hons), GradCIEEM
Reviewed by: Paul Whitby BSc (Hons), MCIEEM, CEcol

19th November 2019

Project No: P3457

The Ecology Co-operation Ltd
Registered Office: Greens Court, West Street, Midhurst, West Sussex, GU29 9NQ
Company number: 8905527

Report Summary

1. The Ecology Co-op has been commissioned by the University of Chichester to undertake a Preliminary Ecological Appraisal at Land at Upper Bognor Road, Bognor Regis. A site walkover survey visit was carried out on the 5th November 2019, to evaluate the site for habitats potentially suitable to support EU and UK protected species. The purpose of this report is to record the findings of the survey and identify potential ecological constraints to build two new residential properties within the site.

2. This survey was undertaken by Jess Burkitt BSc (Hons), GradCIEEM.

3. The site comprises ruderal habitat with dense bramble and nettle scrub, saplings, trees and piles of bricks and rubble along with rubbish bins, amenity grassland and some hard-standing. The site does not appear to be regularly managed given the developing scrub growth.

4. The site contains habitat highly suitable for reptiles including the dense scrub, ruderal vegetation and numerous piles of bricks and rubble. The entire site will be cleared under the proposed development plans and therefore a further survey is required to determine the presence or likely absence of reptiles. These surveys can be undertaken between April and mid-October and require a total of eight site visits during suitable weather conditions.

5. No further surveys are required for bats, great crested newts, badgers, and dormice. However, the site does provide highly suitable habitat for nesting birds and therefore the proposed development will need to take the nesting bird season (1st March to 31st August) into consideration. Any vegetation clearance required should be removed outside of the nesting bird season unless it has been thoroughly checked by a suitably qualified and experienced ecologist.

CONTENTS PAGE

APPENDIX 4 – Arun District Council – Adoption Arun Local Plan 2011-2031 (July 2018) 28

1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake an Ecological Appraisal of Land at Upper Bognor Road, Bognor Regis, West Sussex. This report presents the findings of a walkover survey undertaken by Jess Burkitt, a graduate member of the Chartered Institute for Ecology and Environmental Management (CIEEM) on 5th November 2019. It provides details on the potential for any protected species and/or habitats to be present at the site and an assessment of the potential ecological constraints to the two new residential dwellings proposed within the site. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment (EcIA) of the proposal are provided where necessary, and measures to avoid, mitigate and/or compensate for impacts are outlined.

1.2 Background

The site is located in an urban area within the Bognor Regis Campus of the University of Chichester on Upper Bognor Road, Bognor Regis, West Sussex. The central grid reference for the site is SZ 943 995.

This is a small site comprising predominantly dense bramble and nettle scrub habitat, ruderal vegetation, scattered trees, saplings, amenity grassland, hard-standing and piles of rubbish, bricks and rubble scattered throughout the site. The proposed site is surrounded by a newly built flint wall with a small gap along the eastern boundary. The land along the eastern boundary of the site has recently been developed and a new University building has been built along with a Sustainable Drainage Systems (SuDS) pond. The University of Chichester borders the site to the north and west and the B2259 borders the site to the south. Figure 1 shows the boundary of the site.

The proposed development includes the construction of two new residential dwellings and associated hard and soft landscaping.

Figure 1. An aerial image showing the location of the site. The site is outlined by the red arrow. Image produced courtesy of Bing maps (map data ©2019 Bing).

1.3 Policy and Legislation

Legal protection applying to relevant bird, mammal, herpetofauna and invertebrate species and current nature conservation planning policy is outlined in Appendix 1 of this report.

Where possible this report has provided guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (NPPF). Details of the NPPF can be found in Appendix 1 and relevant local planning policy by Arun District Council is provided in Appendix 4.

2 METHODOLOGY

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017)[1], but also considers the Guidelines for Ecological Report Writing, Second Edition (CIEEM 2017)[2] and the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018)[3].

---

[1] CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.

[2] CIEEM (2017). *Guidelines for Ecological Report Writing, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.

[3] CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

2.1 Desk Study

A search for existing records of protected species, species of conservation concern and invasive non-native species was requested from the Sussex Biodiversity Records Centre (SxBRC) within a radius of 1km of the site.

A search of on-line mapping resources was undertaken to identify the location of any features of potential ecological interest including ponds within 500m (relevant to great crested newts *Triturus cristatus*), watercourses (relevant to riparian mammals and crayfish) and connectivity to woodland, scrub, and hedgerow networks (relevant to bats, dormice *Muscardinus avellanrius*) in the wider landscape around the site. The connectivity of the site to these features, buildings, and other semi-natural habitats such as grassland and heathland are also relevant to bats, great crested newts and reptiles.

The MAGIC website resource (www.magic.gov.uk) was used to identify the location of designated sites for nature conservation and European Protected Species (EPS) licences granted in relation to the survey site.

2.2 Field Survey

A site walkover survey was undertaken on 5th November 2019, during which the habitats contained within the site were described and evaluated. Since this site is relatively small scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive Phase 1 Habitat Mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types such as ancient woodland or unimproved grasslands, have simply been listed and described where identified.

Habitats and features at the site were evaluated for their potential to support legally protected species and/or species of conservation interest. In addition, observations of any important plant communities, bird assemblages or other potentially valuable ecological features were recorded.

Details of the preliminary survey methods for each legally protected species are given below. Any site-specific limitations to the survey, e.g. access constraints or seasonal constraints are set out in section 3.11.

2.3 Badgers

Badgers *Meles meles* exploit a range of habitats, including gardens, coniferous woodland, deciduous woodland, mixed woodland and arable land. They live in an underground system of tunnels and nesting chambers, known as a sett, with territories ranging from 30ha to 150ha or more. Habitats within the site and surrounding areas were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths and foraging marks, were recorded.

2.4 Bats

Bats can use a wide range of features for roosting purposes, including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

Trees, buildings, and other structures were broadly assessed for their potential to support roosting bats and further surveys are recommended as appropriate.

The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with the Bat Conservation Trust Survey Guidelines (Collins, J.(ed.) (2016)[4]. Any evidence confirming the presence of bats that was found was clearly recorded including photos and samples (e.g. droppings) where appropriate.

The site was also assessed for its potential to support foraging and/or commuting bats and further surveys recommended where necessary.

2.5 Breeding Birds

Birds can use a wide range of natural and artificial habitats when breeding, including trees, hedgerows, fields, houses and garden sheds. The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton *et al.,* 2015)[5] and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981). Further surveys are recommended as appropriate.

2.6 Dormice

Dormice are found in deciduous woodland and hedgerows, feeding on flowers, pollen, fruits, insects and nuts, favouring hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum* for food and as bedding. The site was broadly assessed for its potential to support dormouse. This included use of on-line mapping resources to assess the surrounding area for connectivity to large blocks of woodland, scrub and extensive hedgerow networks.

A nut search was conducted to look for evidence of dormouse presence within the site during the initial survey visit in accordance with best practice guidance[7]. This involved a systematic search around all hazel present within the site to look for nuts that were characteristically chewed by dormice.

---

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

[5] Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, Leigh., Musgrove, A., Noble, D., Stroud, D., Gregory, R. (2015*) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man.* British Birds 108, pp 708-746.

Further surveys are recommended as appropriate in accordance with best practice guidance (Bright *et al* 2006)[6].

2.7 Great Crested Newt

Great crested newts breed in ponds during the spring and spend the rest of the year feeding on invertebrates in woodland, hedgerows, marshes and tussocky grassland. A desk study was undertaken to identify ponds and wet ditches within 500m of the site that might support breeding great crested newts. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) (Oldham *et al.,* 2000)[7]. The value of the site for terrestrially foraging great crested newts and any features that might be used by hibernating newts has also been assessed.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)[8].

2.8 Reptiles

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis* grass snake *Natrix helvetica* and adder *Vipera berus* are widespread species that can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* have much more restricted and isolated populations on lowland heathland and sand dunes.

2.9 Other Notable Species

The site habitats were broadly assessed for their potential to support species of principal importance for nature conservation (Section 41 NERC Act 2006) and other notable species. This includes mammals such as harvest mouse *Micromys minutus*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, and many bird species. The site was broadly assessed for its potential to support important invertebrate assemblages with particular attention paid to features such as standing deadwood, wet flushes, bare earth banks and botanically rich areas.

---

[6] Bright, P., Morris, P. and Mitchell-Jones, T. (2006). *The dormouse conservation handbook 2nd Ed.* English Nature, Peterborough.

[7] Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetological Journal* 10, 143-155.

[8] English Nature (2001). *Great Crested Newt Mitigation Guidelines.* English Nature, Peterborough.

3 BASELINE CONDITIONS

3.1 Designated Sites and Granted EPS Licences

There are four designated sites within 5km of the proposed development and Table 1 below provides details about these sites, including their distance in relation to the proposed development. The location of these sites is further illustrated in Figure 3.

There is one granted EPS license for mitigation projects within 1km of the site boundaries. The closest EPS license to the site is located approximately 340m away and is dated between 27th March 2017 and 17th March 2022 (see Figure 3). The license has been produced for the destruction of a resting place used by common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* bats.

Table 1. Designated sites within 5km of the proposed site.

Site name	Designation	Features listed on citation	Proximity to the site
Solent and Dorset Coast	SPA	The site extends from the Isle of Purbeck to Bognor Regis following the coastline on either side of the Isle of Wight and into Southampton Water. This area is particularly important for common tern *Sterna hirundo*, Sandwich tern *Thalasseus sandvicensis* and little tern *Sternula albifrons* as much of the sea around their breeding colonies is the ideal habitat for plunge diving for food.	450m south
Felpham	SSSI	A new Palaeocence aged flora, one of three in the country, has been discovered in the Reading beds at this site. This assemblage of fruits and seeds is the most diverse from the Palaeocence strata. Fern stems, leaf fragments and palm stems have also been identified at Felpham.	630m south
Bognor Reef	SSSI	This site comprises a long stretch of foreshore of geological interest and an extensive area of vegetated shingle. There is a small area of old sand dune with an interesting flora. The shingle strip comprises yellow horned poppy *Glaucium flavum*, sea kale *Crambe maritima* and sea beet *Beta vulgaris*. The site is designated as a SSSI due to its geological and fossil interest.	1.2km south west
The Brooks	LNR	A large area comprising meadow, narrow reedbeds and ditches, permanent and temporary ponds and an extensively newly planted floodplain woodland.	1.8km north

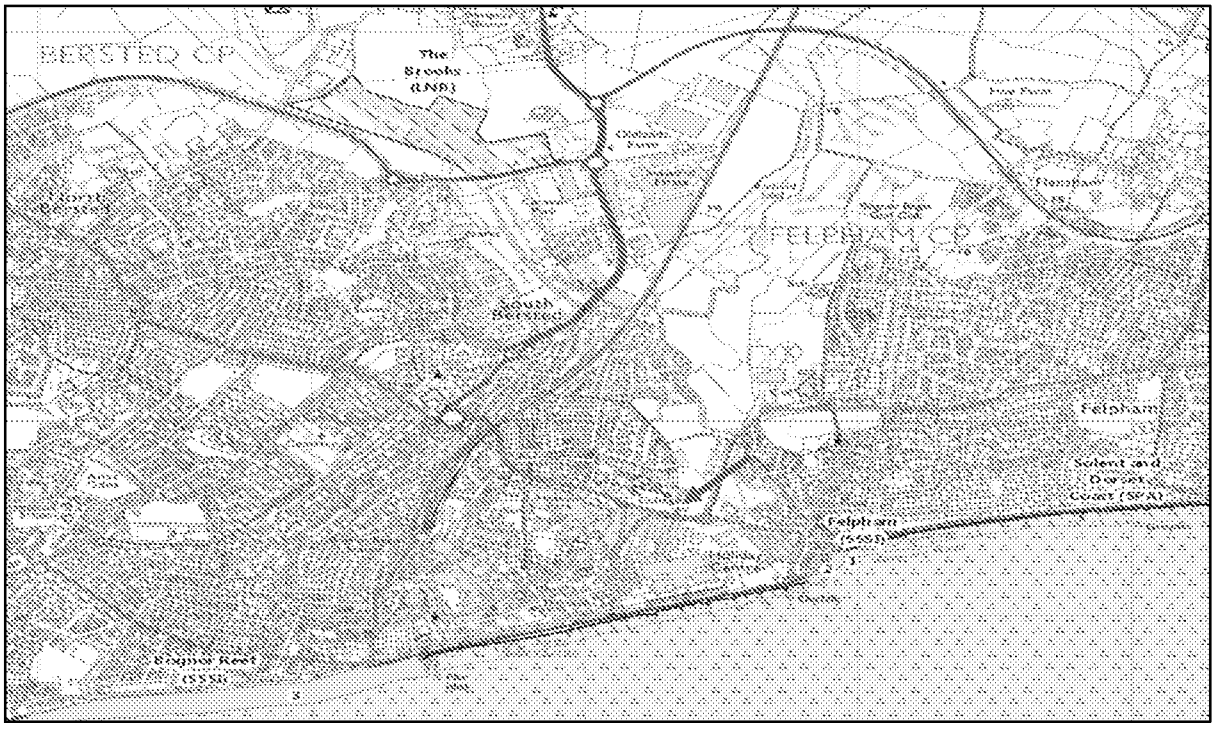


Figure 2. Designated sites within a radius of 2km of the application site. Image produced courtesy of Magic maps (http://www.magic.gov.uk/, contains public sector information licensed under the Open Government Licence v3.0).

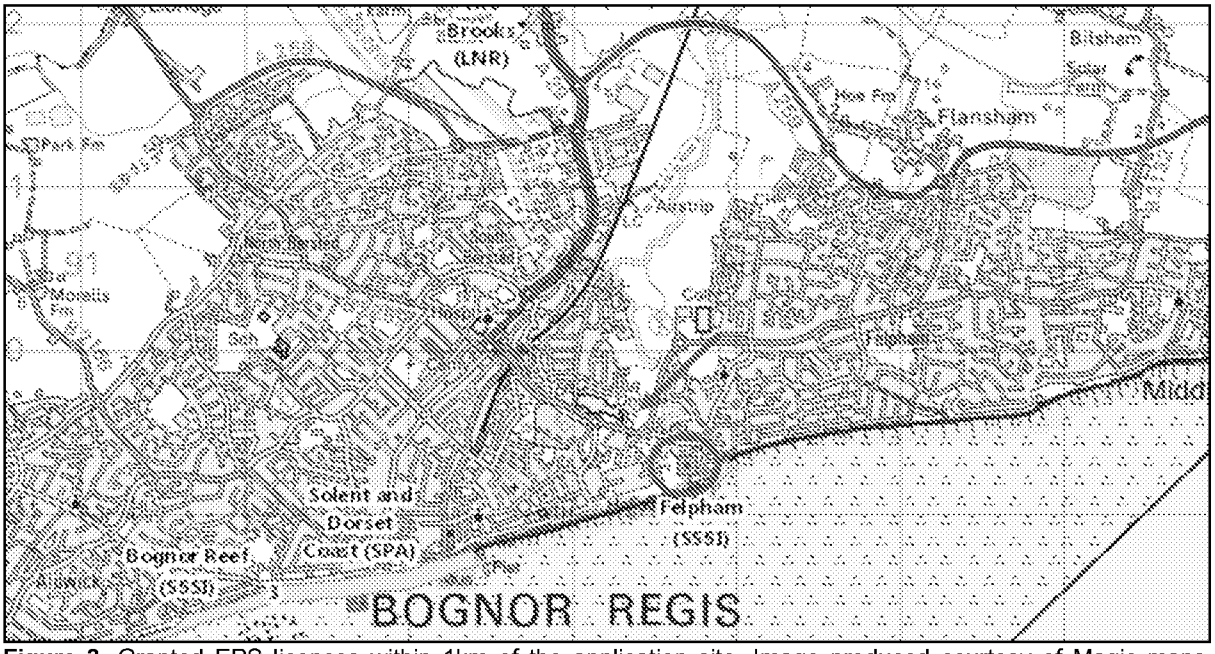


Figure 3. Granted EPS licences within 1km of the application site. Image produced courtesy of Magic maps (http://www.magic.gov.uk/, contains public sector information licensed under the Open Government Licence v3.0).

3.2 Habitats

The main body of the site comprises brambles *Rubus fruticosus,* ivy *Hedera helix*, young hawthorn *Crataegus monogyna*, docks *Rumex spp.*, cleavers *Galium aparine*, teasel *Dipsacus fullonum*, hedge bindweed *Calystegia sepium*, common nettles *Urtica dioica,* numerous rubbish piles, brick and rubble piles and old discarded bins (Figure 4).

The northern boundary of the site comprises hard-standing, some amenity grassland, a flint wall and

an existing university building that is to be retained. There are piles of bricks and rubble (see Figure 5), dense nettle and bramble scrub with hedge bindweed, large patches of bristly oxtongue *Helminthotheca echioides* and evening primrose *Oenothera biennis*. The eastern boundary comprises a new flint wall, hard-standing with dense scrub, hedge bindweed, ground ivy *Glechoma hederacea*, and more piles of brick and rubbish. The new university buildings development (Figure 6) and SuDS pond border the site along this boundary.

The western boundary of the site comprises amenity grassland with common sorrel *Rumex acetosa*, dandelion *Taraxacum spp.*, docks, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens*, ragwort *Jacobaea vulgaris*, creeping buttercup *Ranunculus repens*, horsetail *Equisetum hyemale*, and Yorkshire fog *Holcus lanatus* (Figure 7). There are very dense patches of scrub, saplings and a large sycamore *Acer pseudoplatanus* tree which is covered in ivy and brambles. In addition, some hazel, sweet chestnut *Castanea sativa* saplings, hedge bindweed, and alder *Alnus glutinosa* is present. There are also two existing cottages to be retained with some ornamental borders which have not been managed. The southern boundary borders Upper Bognor Road with a high wall and very dense vegetation (see Figure 8). Dense bramble and nettles, the invasive porcelain berry vine *Ampelopsis brevipedunculata*, hedge bindweed, rose *Rosa spp.*, fruit trees including apple *Malus domestica*, teasels, cleavers, broadleaved docks *Rumex obtusifolius*, and alder.

Figure 4. The proposed site at Upper Bognor Road, Bognor Regis.

Figure 5. The piles of bricks, rubble and dense bramble and nettle scrub within the proposed site.

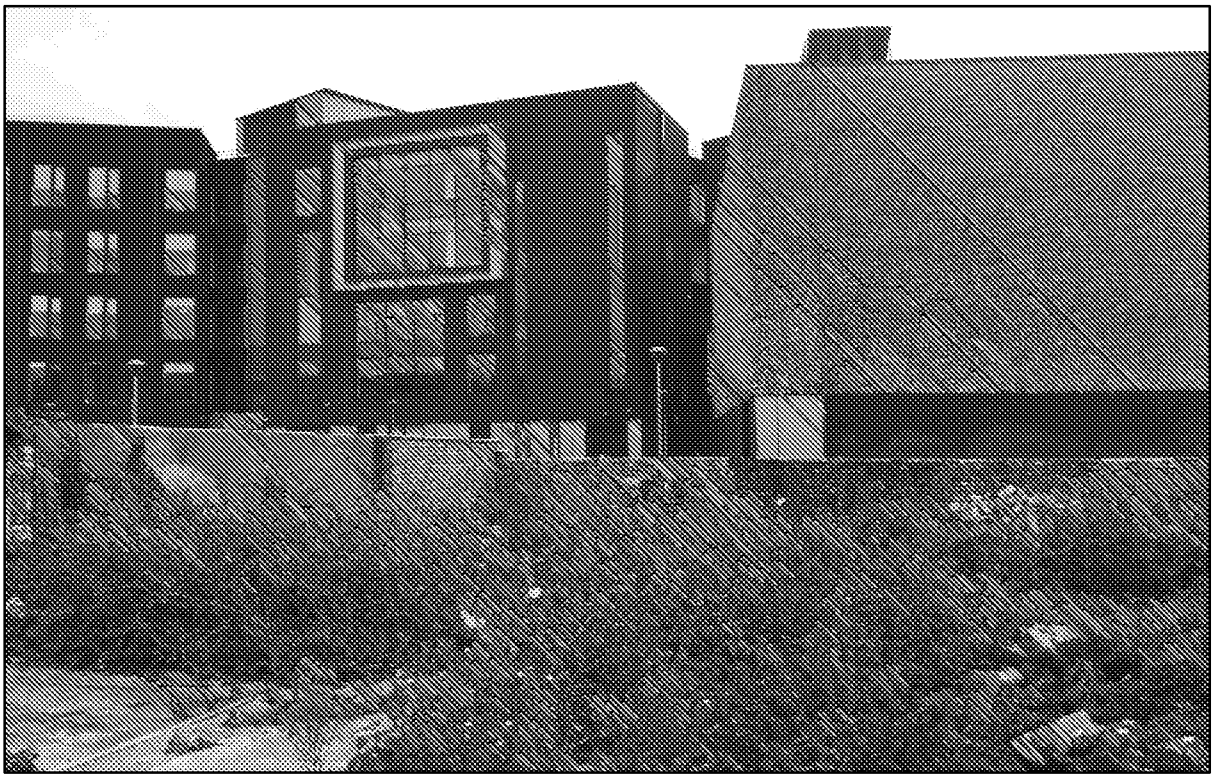


Figure 6. The newly built flint wall surrounding the site, along with the new University Campus Building adjacent, completed within the last 18 months.

Figure 7. The very dense scrub along the southern boundary of the site and the amenity grassland along the western boundary.

Figure 8. The ruderal vegetation and dense scrub habitat with piles of rubbish, bricks and rubble scattered throughout.

3.3 Badgers

No signs of any badger activity were seen during the survey assessment, though there are habitats of value for this species within the site and surrounding landscape. It is likely that if any setts were situated within 30m of the site boundary, then some evidence of badger activity would have been observed.

Records of badgers are not provided by the records centre, due to the sensitive nature of this information.

3.4 Bats

There are no buildings or trees within the site that offer suitable roosting features for bats. There are no hedgerows or tree lines present, although the main body of the site comprises dense bramble scrub habitat and ruderal vegetation which may offer suitable foraging habitat for these species. The urban location of the site limits the amount of suitable foraging habitat available to bats and in addition the University Campus is well lit at night.

SxBRC provided nine bat records in the search area comprising one identified species along with four records for unidentified species of bat within the search area which are detailed in Table 2 below.

Table 2. Bat records returned within a 1km radius of the site.

Species	Number of Records
Common pipistrelle	5
Unidentified bat species	4

3.5 Breeding Birds

All of the dense scrub, saplings, and scattered trees have the potential to support a variety of common nesting birds. The site offers limited low value habitat to ground nesting birds due to the location of the site in an urban, busy, built-up area with continuous disturbance.

SxBRC provided numerous bird records for the search area concerning a total of 177 species. Most of these species are relatively common and widespread, but the list includes 21 species of principle importance for conservation (S41 NERC Act 2007), and 35 species listed on Schedule 1 of the Wildlife and Countryside Act. In addition, 33 species are red listed on the Birds of Conservation Concern.

S41 NERC species recorded in the search area include grey partridge *Perdix perdix*, lapwing *Vanellus vanellus*, curlew *Numenius arquata*, herring gull *Larus argentatus*, cuckoo *Cuculus canorus*, nightjar *Caprimulgus europaeus*, lesser spotted woodpecker *Dendrocopos minor*, skylark *Alauda arvensis*, yellow wagtail *Motacilla flava*, dunnock *Prunella modularis*, ring ouzel *Turdus torquatus*, song thrush *Turdus philomelos*, spotted flycatcher *Muscicapa striata*, starling *Sturnus vulgaris*, house sparrow *Passer domesticus*, lesser redpoll *Acanthis cabaret*, linnet *Linaria cannabina*, yellowhammer *Emberiza citronella*, goldfinch *Carduelis carduelis*, hawfinch *Coccothraustes Coccothraustes*, reed bunting *Emberiza schoeniclus* and corn bunting *Emberiza calandra*.

Schedule 1 species recorded within the search area include garganey *Anas querquedula*, common scoter *Melanitta nigra*, velvet scoter *Melanitta fusca*, purple heron *Ardea purpurea*, spoonbill *Platalea leucorodia*, *Gavia spp.*, red throated diver *Gavia stellate*, black-throated diver *Gavia arctica*, great northern diver *Gavia immer*, honey-buzzard *Pernis apivorus*, red kite *Milvus milvus*, marsh harrier *Circus aeruginosus*, osprey *Pandion haliaetus*, merlin *Falco columbarius*, hobby *Falco Subbuteo*, peregrine *Falco peregrinus*, little ringed plover *Charadrius dubius*, whimbrel *Numenius phaeopus*, ruff *Calidris pugnax*, wood sandpiper *Tringa gareola*, Mediterranean gull *Larus melanocephalus*, black tern *Chlidonias niger*, barn owl *Tyto alba*, kingfisher *Alcedo atthis*, hoopoe *Upupa epops*, Cetti's warbler *Cettia cetti*, black redstart *Phoenicurus ochruros*, fieldfare *Turdus pilaris*, redwing *Turdus iliacus, firecrest Regulus ignicapilla,* golden oriole *Oriolus oriolus*, brambling *Fringilla montifringilla*, serin *serinus serinus*, and snow bunting *Plectrophenax nivalis*. A large number of these species are however associated with wetlands or coastal habitats that are not relevant to the context of the site.

3.6 Dormice

The site comprises largely of scrub habitat of low value for dormice. However, the site itself lacks connectivity to the any hedgerows or woodland parcels in the wider landscape therefore isolating this habitat from the wider landscape.

While no records of this species were provided by SxBRC, this species is known to be under-recorded and could occur in any suitable habitat.

3.7 Great Crested Newts and Other Amphibians

No ponds are contained within the site, however five ponds were located within 500m using background mapping and aerial imagery. Pond 1 is within 15m of the site boundary and has been created in the last 18 months to function as a SuDs for the new university development (see Figure 1 and Figure 9). Ponds 2, 3 and 4 are all located within Hotham Park which is a parcel of broadleaved woodland used regularly by the public as there are numerous footpaths throughout the site. Pond 5 appears to be located within the grounds of The Ocean Hotel. The connectivity between the ponds appears to be poor and the curbed, busy B2259 road and large areas of hard standing act as barriers to movement for this species.

The site contains suitable habitat for amphibian foraging and hibernation with the dense scrub and ruderal vegetation and piles of bricks and rubble throughout.

SxBRC provided five amphibian records in the search area. This included one record for smooth newt *Lissotriton vulgaris*, one record for palmate newt *Lissotriton helvetica*, and three records for common frog *Rana temporaria*. All five records are approximately 840m from the boundary of the site, dated in 1993, 1996 and 1999. No records for great crested newts were identified within 1km of the site.

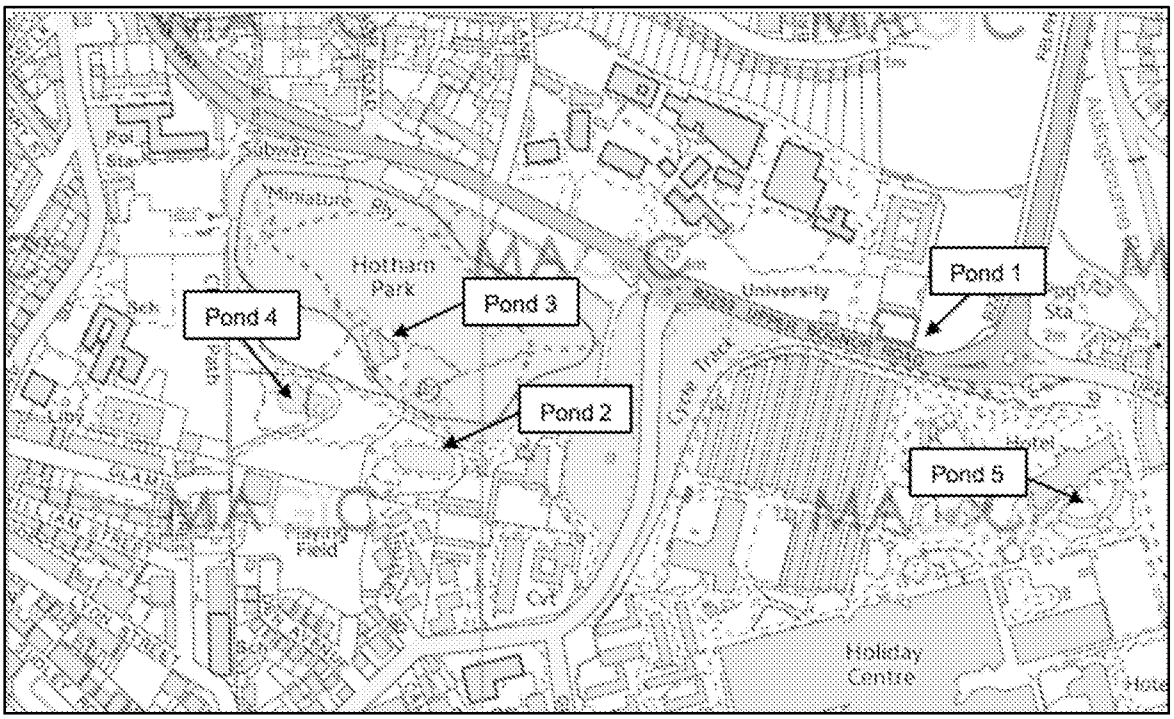


Figure 9. The location of the ponds within 500m of the site. Images produced courtesy of Magic maps (http://www.magic.gov.uk/, contains public sector information licensed under the Open Government Licence v3.0).

Table 3. The details of the ponds located within 500m of the proposed site.

Pond	NGR	Description	H.S.I value	Interpretation	Survey recommendations
1	SZ 943 995	This is a newly created (18 months) SuDS pond which has been created as part of the new development adjacent to the site. The pond is approximately 15m away from the proposed site.	0.62	'average' suitability	No further surveys are required due to pond being isolated from other water bodies within 250m of the site. In addition, the pond is newly constructed and therefore it is unlikely that great crested newts will have colonised this pond.
2	SZ 939 994	This waterbody is located close to Hotham Park Café which is within Hotham Park, a parcel of broadleaved woodland used by the public. The large waterbody looks to be used for recreation	N/A	Could not be accessed.	No further surveys required due to the distance from the site and the B2559 acting as a barrier to movement for great crested newts.

		and is approximately 390m away from the proposed site.			
3	SZ 938 995	A pond located within Hotham park and located approximately 420m away from the proposed site.	N/A	Could not be accessed.	No further surveys required due to the distance from the site and the B2559 acting as a barrier to movement for great crested newts.
4	SZ 938 995	This pond is located within Hotham Park and is located approximately 475m away from the proposed site.	N/A	Could not be accessed.	No further surveys required due to the distance from the site and the B2559 acting as a barrier to movement for great crested newts.
5	SZ 945 993	This appears to be a water feature at The Ocean Hotel which is approximately 190m away from the proposed site.	N/A	Could not be accessed.	No further surveys are considered necessary considering the proximity of this pond to the site, which is situated the other side of the B2259.

3.8 Reptiles

The scrub and ruderal habitat present within the proposed development site is potentially suitable for common reptile species, particularly common lizard and slow worm. The dense scrub structure, piles of bricks and rubble provide suitable refuges, whilst the habitats present are likely to provide invertebrate prey sources and areas of compacted ground close to hard-standing provide basking opportunities.

SxBRC provided three reptile records in the search area. This includes two records for slow worm, one record for grass snake and one record for common lizard. The closest of these records was for common lizard at 235m from the boundary of the site, dated in 1996.

3.9 Invasive Non-native Species

During the walkover survey, porcelain berry vine was identified growing within the dense scrub habitat. Porcelain berry is native to Japan and China. The vines of porcelain berry are similar to grape vines and are aggressive and grow quickly to form large mats over existing vegetation. The vines climb up and around trees and shade out shrubs and seedlings of native plants. Porcelain berry produces small, hard berries which vary in colour from violet to green and turquoise (see Figure 10).

SxBRC provided 74 records of 26 species in the search area. The closest of the records was for Japanese knotweed *Fallopia japonica* was at 255m from the boundary of the site, dated in October 2008.

Figure 10. The vibrantly coloured berries of the invasive porcelain berry vine identified within the site.

3.10 Other Notable Species

The dense vegetation could create suitable foraging and hibernation habitat for the European Hedgehog however the habitats within the site are unsuitable for other notable species.

SxBRC identified 21 records for European hedgehog, three records for European water vole *Arvicola amphibius* and one record for European rabbit *Oryctolagus cuniculus*. The closest records are for European water vole dated in April 2014 and 300m away and European hedgehog dated in November 2018 and located 420m away from the proposed site.

3.11 Survey Limitations

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

The vegetation within the proposed site was very dense and therefore some the site could not be accessed fully however this is not considered to limit the objectives of the survey.

4 IMPACT APPRAISAL

4.1 Designated Sites

The application site is approximately 450m from the Solent and Dorset Coast SPA and therefore there is the potential for increased visitor numbers at this designated site leading to disturbance to the populations of breeding and over-wintering birds. It is possible that the local planning authority may request that a Habitat Regulations Assessment (HRA) be undertaken.

4.2 Habitats

The dense bramble and nettle scrub, ruderal habitat, scattered trees and saplings will have to be cleared to make way for the construction of two new residential properties. This will result in a loss of suitable habitat for reptiles, amphibians, nesting birds and European hedgehog. Further species-specific surveys are recommended below to prevent and minimise risk in harming protected species.

Overall, unmitigated the removal of the habitats within the proposed site would decrease the ecological value of the site. However, with the appropriate mitigation and enhancement outlined in the following sections, the removal of these habitats presents a negative impact at site level.

4.3 Badgers

No signs of badger activity were identified during the assessment and no badger setts have been identified on or near to the proposed construction zone. No further mitigation for badgers is advised, however if any signs of digging by large animals is identified on or near to the site prior to construction, then an ecologist should be contacted for advice. The impact upon badgers considered to be **neutral** given the likely absence of this species.

4.4 Bats

No potential roosting features such as buildings or mature trees are present that might support bats and no further surveys or mitigation measures are necessary for this group of species.

The ruderal habitat, dense bramble scrub and scattered trees and saplings provide suitable foraging habitat for bats which will be lost due to the proposed development. There is also the potential for artificial lighting to disturb commuting bats. Unmitigated, this would have a **likely** negative effect on bats at a **local level**.

Suitable foraging habitat should be replaced elsewhere within the site including planting of a native species hedgerow that is no less than 20 metres long and is planted at a density of five trees per linear metre to help to offset the loss of scrub habitat. The hedge should comprise hawthorn *Crataegus monogyna*, field maple *Acer campestre*, hazel, blackthorn *Prunus spinosa*, pedunculate oak *Quercus robur*, guelder rose *Viburnum oplus* and dogwood *Cornus sanguinea* and must only be cut in February each year to a height of 2 metres. This will ensure the fruiting bodies upon the hedge will remain

available for wintering birds.

New roosting opportunities should be incorporated into the new residential dwellings proposed. A Beaumaris Woodstone Bat Box (Figure 11) should be installed on each of the new dwellings on the southern and/or eastern external face at a height of at least 3 metres and the proposed development should include an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 3).

With the above prescribed mitigation and enhancement implemented in full, the proposed development will have a **likely positive** effect on bats at the **local level**.

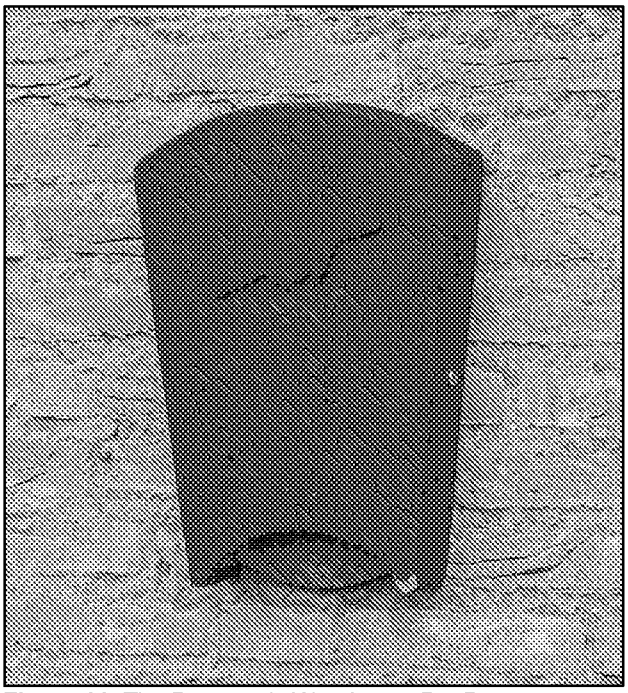


Figure 11. The Beaumaris Woodstone Bat Box.

4.5 Breeding Birds

All the hedgerows, scrub and tree habitat contained in the site has a high potential to support a variety of common nesting birds. It will be essential for any future development to consider the nesting bird season and any vegetation removal and/or building demolition should be timed outside of the nesting bird season (typically 1st March to 31st August), unless features are first searched by a suitably qualified ecologist and no active nests are found.

The new native planting recommended in section 4.4 will create new nesting opportunities for a range of common nesting birds and a Vivara Pro WoodStone Sparrow Nest Box (Figure 12) can be integrated into the masonry of the new dwellings or fixed to an external wall at a height of three metres above the ground to provide new nesting habitat for this declining species.

With the mitigation and enhancements outlined above the proposed development has the opportunity to result in a **likely positive** effect on breeding birds at a **site level**.

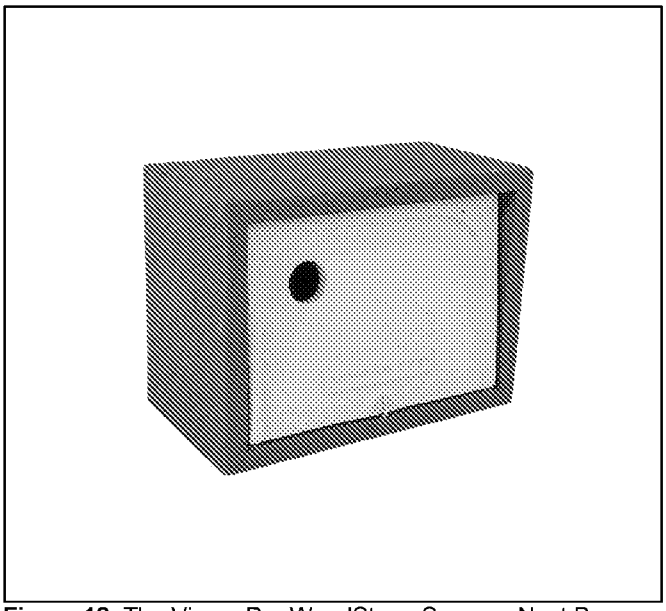


Figure 12. The Vivara Pro WoodStone Sparrow Nest Box.

4.6 Dormice

The dense bramble scrub habitat contained within the site has some potential to support dormice, however this is a small area of low value habitat that is isolated with limited connectivity to suitable habitats within the wider landscape. SxBRC did not identify any records for this species within 1km of the proposed site and due to the absence of connecting habitats that are sufficient to support a viable population of this species, it is highly unlikely that dormice would be identified within the site at any time.

As there will be no direct impacts upon this species, there is a **likely neutral** impact upon dormice.

4.7 Great Crested Newts

Ponds 2, 3, and 4 described in section 3.7 are all located beyond 250m of the site and this is considered to be the most regularly used terrestrial habitat zone from a breeding pond. The curbed B2259 main road acts as a barrier to movement for this species as it is located between the site and the ponds. Pond 5 is located within the grounds of The Ocean Hotel within 250m of the site, however there is hardstanding and the curbed B2259 road acting as barriers to movement between this pond and the site.

Pond 1 is located in close proximity to the proposed site however due to its isolation from other ponds within 250m and the pond having been created within the last 18 months, it is highly unlikely that great crested newts have colonised this pond.

It is recommended that if the proposed development does not proceed within three years of this assessment, then an environmental DNA (eDNA) assessment should be carried out on Pond 1, due to the potential for this pond to be colonised by this species in the long-term.

The proposed development is considered to have a **likely neutral** impact upon amphibians.

4.8 Reptiles

The proposed development would result in the loss of suitable reptile habitat at the site through the clearance of scrub and ruderal habitat. Should a reptile population be present, this action would risk killing or injuring individuals, as well as resulting in the long-term loss of foraging habitat and in the absence of mitigation, this would have a **likely negative** impact on this species at **site level.** Therefore, further surveys are recommended to determine the presence or likely absence of reptiles

The standard approach to reptile presence/absence surveys requires a minimum of eight site visits, first to set out artificial refuges ('reptile mats'), followed by seven survey visits. The optimal months for survey are April, May and September but they can be undertaken at any time from April to October, provided weather conditions are suitable.

If presence of reptiles is confirmed through such a survey, a reptile mitigation strategy is likely to be required by the planning authority. This would probably involve the capture and translocation of reptiles to a suitable receptor site nearby.

The impact upon reptiles remains **unknown** until further survey work to determine the presence or likely absence of this group of species has been completed.

4.9 Invasive Non-native Species

Porcelain berry vine was identified growing within the dense bramble scrub during the site walkover and may spread further throughout the site and local area during the construction process, which would have a **likely negative** impact at the **site level**. Therefore, it is recommended that porcelain berry vine is removed from site in a safe and secure manner. There are two removal options; chemical and/or manual. The chemical method involves the application of glyphosate to the cut stump of large vines or to the leaves. The manual method involves pulling young vines at any time of the year and ensuring the root is removed in its entirety. All of the removed plant material should then be destroyed by burning, or as disposal as 'controlled garden waste' to avoid any seeds taking root.

With the implementation of these measures listed above, the proposed development would have a **certain positive** impact at a **site level** through the removal of this invasive species and prevention of spreading within the landscape.

4.10 Other Notable Species

There is suitable habitat within the proposed site for foraging and hibernation by European hedgehog and the impact is considered **unknown** as further survey techniques have not been produced with regards to this species. However, a precautionary approach will be implemented throughout the construction phase. A suitably qualified ecologist should undertake a hand search of any scrub habitat to be removed within the site. If any hedgehogs are identified in hibernation (between November and

early March usually), then either the area where the hedgehog is found should remain undisturbed or at the discretion of suitably qualified ecologist, it may be possible to move the animal with the material that is hibernating in to a safe location.

Any excavations should be covered overnight, rubbish, food and food waste should be stored in secure bins and any chemicals should be stored safely. If hedgehogs or other notable species are identified during construction, work should cease, and advice should be sought from a qualified ecologist.

5 CONCLUSIONS

The proposed development of this site would result in the loss of dense bramble and nettle scrub, scattered trees and saplings, amenity grassland and hard-standing. However, there are opportunities to enhance, mitigate and compensate for the proposed works, for example through native planting, wildflower meadow and habitat creation. In addition, bat roosting and bird nesting habitat can be introduced through the installation of roosting/nesting features along the site boundaries to demonstrate a long-term increase in the site value for wildlife in line with the recommendations in the National Planning Policy Framework (NPPF). The precautionary mitigation outlined in section 4.5 must be followed to avoid breach of the Wildlife and Countryside Act.

If any protected species are found during the proposed work, work should be stopped immediately, and an ecologist must be contacted immediately for advice.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, info@ecologyco-op.co.uk, www.ecologyco-op.co.uk, Office: 01798 861800.

APPENDIX 1 – Wildlife Legislation and National Planning Policy

Introduction

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

The 'Birds Directive', 'Habitats Directive' and 'Natura 2000 Sites'.

The Council Directive 79/409/EEC on the Conservation of Wild Birds ("the Birds Directive") sets a framework for the protection of wild birds. Under the directive, several provisions are made including the designation and protection of 'Special Protection Areas' (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive") directs member states of the EU to take measures to maintain favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the directive (for example Bechstein's bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*. Together with 'Special Areas of Conservation' (SPAs), designated under the Birds Directive, SACs form a network across Europe of protected areas known as the 'Natura 2000 sites'.

Annex IV lists species in need of more strict protection, these are known as "European Protected Species (EPS)". All bat species, common dormice *Muscardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

The 'Habitats Regulations'

The Conservation of Habitats and Species Regulations 2017 (the "Habitats Regulations") is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 ("the 1994 regulations") in England and Wales.

'Natura 2000' sites receive the highest level of protection under this regulation which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where 'likely significant effects on the integrity of the site are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to;

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb wild animals of such species;
- Deliberately take or destroy their eggs (where relevant);
- Damage or destroy a *breeding or resting place* of such an animal;
- Possess, control, sell or exchange any live or dead animal or plant, of such species;
- Deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for

specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- A licence can be granted for the purposes of "preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Regulation 53 (2) (e).
- A licence can be granted if "there are no satisfactory alternatives" to the proposed action.
- A licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act (1981) as amended.

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrium w-album*.

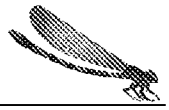
The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

Natural Environment and Rural Communities (NERC) Act (2006)

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a



statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Protection of Badgers Act (1992)

The Badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a Badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2019)[9] sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

Paragraph 174b, which states that council policies should "*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*" The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005) [10]. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,

---

[9] [9] HM Government (2019). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf.

[10] HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.* Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.

- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.
The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade. Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

Birds of Conservation Concern (BoCC)

In 1996, the UK's leading non -governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every 5 years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2015 (Eaton et al, 2015), which provides an up to date assessment of the conservation status of birds in the UK.

References

Protection of Badgers Act (1992). HMSO London. Available at: http://www.legislation.gov.uk/ukpga/1992/51/contents

Circular 06/2005 (2005). Government Circular: Biodiversity and geological conservation – statutory obligations and their impact within the planning system. Office of the Deputy Prime Minister, London. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf

Council Directive 79/409/EEC on the Conservation of Wild Birds ("the Birds Directive"). Available at: http://jncc.defra.gov.uk/page-1373

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive"). Available at: http://jncc.defra.gov.uk/page-1374

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations"). Available at: http://jncc.defra.gov.uk/page-1379

Countryside and Rights of Way (CRoW) Act (2000). HMSO London. Available at: http://www.legislation.gov.uk/ukpga/2000/37/contents

Defra (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Available at: www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services.

Defra (2013) Progress Update. Available at: www.gov.uk/government/publications/biodiversity-2020-simple-guide-and-progress-update-july-2013.

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R. (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. Available at: British Birds 108 • December 2015 • 708–746 https://britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf

Natural Environment and Rural Communities (NERC) Act (2006). HMSO London. Available at: http://www.legislation.gov.uk/ukpga/2006/16/pdfs/ukpga_20060016_en.pdf

National Planning Policy Framework (NPPF) (2018) Department for Communities and Local Government. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

Wildlife and Countryside Act (WCA) (1981). HMSO London. Available at: http://www.legislation.gov.uk/ukpga/1981/69/contents

APPENDIX 2 – Great Crested Newt 'Habitat Suitability Index' Values

Table 1. HSI calculation for Pond 1 assessed during the site walkover.

	Pond 1	
NGR	**SZ 943 995**	
SI attribute	**SI value**	**Notes**
Location	1.00	SE England
Pond area	0.04	21m^2
Pond drying	1.00	Rarely
Water quality	0.67	Moderate
Shade cover	1.00	0%
Waterfowl	1.00	Absent
Fish presence	0.67	Possible
No. ponds	1.00	4
Terrestrial habitat	0.67	Moderate
Macrophytes	0.71	40%
H.S.I. value	**0.62**	**'Average' suitability**

APPENDIX 3 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust[11] should be considered while designing the lighting scheme. This includes the following measures:

Do not:

- provide excessive lighting. Use only the minimum amount of light needed for the task.
- directly illuminate bat roosts or important areas for nesting birds

Avoid:

- installing lighting in ecologically sensitive areas such as: near ponds, lakes, rivers, areas of high conservation value; sites supporting particularly light-sensitive species of conservation significance (e.g. glow worms, rare moths, slow-flying bats) and habitat used by protected species.
- using reflective surfaces under lights.

Do:

- consider employing a competent lighting designer who will apply the principals of providing the right light, in the right place, at the right time and controlled by the right system.
- minimise the spread of light to at, or near horizontal and ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required.
- consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures.
- consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- use temporary close-boarded fencing until vegetation matures, to shield sensitive areas from lighting.
- limit the times that lights are on to provide some dark periods. The task being lit often varies, for example roads are less used after 23.00hrs and car parks are empty. A lighting designer can vary the lighting levels as the use of the area changes reducing lighting levels or perhaps even switching installations off after certain times. This use of adaptive lighting can tailor the installation to suit human health and safety as well as wildlife needs.

[11] Bat Conservation Trust (2018) *Artificial Lighting and Wildlife - Interim Guidance: Recommendations to help minimise the impact artificial lighting. Available at: http://www.bats.org.uk/pages/bats_and_lighting.html*

Further reading:

Buglife (2011) *A review of the impact of artificial light on invertebrates.*

Royal Commission on Environmental Pollution (2009) *Artificial light in the environment.* HMSO, London. Available at: https://www.gov.uk/government/publications/artificial-light-in-the-environment

Rich, C., Longcore, T., Eds. (2005) Ecological Consequences of Artificial Night Lighting. Island Press. ISBN 9781559631297.

CPRE (2014) *Shedding Light: A survey of local authority approaches to lighting in England.* Available at: http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: https://www.gov.uk/guidance/light-pollution

Institution of Lighting Professionals (2011) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. Available at: https://www.theilp.org.uk/resources/free-resources/

APPENDIX 4 – Arun District Council – *Adoption Arun Local Plan 2011-2031 (July 2018)*

Policy Number/Title	Policy Summary
Policy C SP1 Countryside	Outside the Built-Up Area Boundaries (as identified on the Policies Maps) land will be defined as countryside and will be recognised for its intrinsic character and beauty. Development will be permitted in the countryside where it is: a. for the operational needs of agriculture, horticulture, forestry, the extraction of minerals or the management of waste as part of a waste site allocation within the West Sussex Waste Local Plan; or b. for quiet, informal recreation; or c. for green infrastructure; or d. for the diversification of the rural economy; or e. for road and/or cycle schemes; or f. in accordance with other policies in the Plan which refer to a specific use or type of development. 7 Settlement Structure & Green Infrastructure The Council will take into account cumulative impact of development in the consideration of planning applications. To ensure better management of the rural-urban fringe in those areas where significant new development is proposed, early consideration will need to be given to landscape and biodiversity enhancement, woodland management, recreation provision and access routes.
ENV SP1 (Natural Environment)	Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.7 that are recognised for the species and habitats contained within them.
ENV DM1 (Designated Sites of biodiversity or geological importance)	a. Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as listed in Tables 17.1 - 17.7 or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Consideration will be given to the exact designated features present on the site, their scarcity/rarity and recognition of the protection offered by their existing status. Development on wildlife sites with the highest value will only be permitted exceptionally where the following can be demonstrated: i. There is no alternative solution (which shall be adequately demonstrated by the developer). ii. There are reasons of public health or public safety or iii. There are benefits of primary importance to the environment or iv. There are imperative reasons of overriding public interest.

	Notwithstanding the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined. b. In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to; i. The European, National or Local status and designation of the site; ii. The nature and quality of the site's features, including its rarity value; iii. The extent of any adverse impacts on the notified features of interest; iv. The need for compensatory measures in order to re-create remaining features of habitats on or off the site. c. Where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.
Policy ENV DM3 Biodiversity Opportunity Areas	Development shall: a. Retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones b. Be designed in order to minimise disturbance to habitats Development proposals that do not reasonably address opportunities for enhancing these through their design, layout and landscaping or access/management shall not be permitted. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified on the Policies Maps or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence must be proposed within the planning permission.
ENV DM4 (Protection of trees)	Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development: a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or b. Would enhance the survival and growth prospects of other protected trees; c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland. Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be

	provided. The planting of new trees shall form an integral part of the design of any development scheme. Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given. Where there are existing trees on or adjacent to a development site, developers shall be required to provide: d. Land and tree surveys e. A tree constraints plan f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees.
ENV DM5 (Development and biodiversity)	Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.
W SP1 (Water)	Arun District Council will encourage water efficiency measures in order to protect the District's water resources and enhance the quality of the water environment which supports a range of habitats and ecosystems. Development will be encouraged to make active use of surface water as a design feature and permitted where it identifies measures to improve and enhance waterbodies, coastal habitats or provides additional flood relief. The Council will also support development that: a. is appropriately located, taking account of flood risk and promotes the incorporation of appropriate mitigation measures into new development, particularly Sustainable Drainage Systems that reduces the creation and flow of

	surface water and improves water quality; 63 Water stressed areas - final classification (July 2013) b. reduces the risk to homes and places of work from flooding whilst increasing biodiversity; c. delivers a range of community benefits including enhancing the quality of life and providing greater resistance to the impact of climate change.

End.