Preliminary Ecological Appraisal

1 St James's Road, Hampton Hill, Hampton, Richmond-Upon-Thames, TW12 1DH

Hampton Hick Limited

Status	Issue	Name	Date
Draft	1	Josephine McCarthy, Consultant	09/04/2020
Reviewed	1.1	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR – Company Principal	10/04/2020
Final	1.2	Josephine McCarthy, Consultant	10/04/2020

Consultant's Contact details:
Josephine McCarthy
Consultant
Tel: 07719 549545 **Email:** josephinemccarthy@arbtech.co.uk
Arbtech Consulting Ltd
https://arbtech.co.uk

Guidelines

This assessment has been designed to meet:

- Chartered Institute of Ecology and Environmental Management 'Guidelines for Preliminary Ecological Appraisal Second Edition, December 2017';
- Chartered Institute of Ecology and Environmental Management 'Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine, September 2018'; and
- British Standard 42020 (2013) 'Biodiversity – Code of Practice for Planning and Development'.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> This approach is enshrined in Government planning guidance, for example, paragraph 193 of the National Planning Policy Framework for England.
>
> The desk studies and field surveys undertaken to provide a preliminary ecological appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

In consequence of the scale and intensity of the proposed development, the low impact on ecological receptors identified through both the site survey and search of local biological records, and the passive interface with the mitigation hierarchy, this plan-led report is considered adequate and proportionate. It communicates all relevant information necessary to determine a planning application, or support the recommendations for further surveys.

Executive summary

Arbtech Consulting Limited was commissioned by Hampton Hick to undertake a Preliminary Ecological Appraisal (PEA) at 1 St James's Road, Hampton Hill, Hampton, Richmond-Upon-Thames, TW12 1DH. The survey was completed on 8th April 2020. The aim of the survey was to complete an Extended Phase 1 Habitat Survey of the survey area and all land that will be impacted by the proposals) and to analyse this against a desk study.

Project description

This report was prepared to inform a future planning application with London Borough of Richmond upon Thames. The proposed development is described as:

- Demolition of existing dwelling and construction of nine flats with landscaping and carparking.

Recommendations - This is work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent.

Before a planning decision can be made, further bat dusk emergence/dawn re-entry surveys will be required to establish the presence/likely absence of bat roosts in the suitable features around the building. These must be carried out in the optimal survey period between mid-May and August. Two surveyors are required to provide full coverage of the building.

The survey has concluded that the site overall has negligible ecological value and is dominated by the building and amenity gardens. In developing the site for housing, enhancements will be created resulting in a net gain for biodiversity. The new landscape design will incorporate locally sourced, fruit bearing shrubs and trees to provide foraging resources for urban birds. A variety of bird and bat boxes will be installed creating additional roosting habitat for both species along with any appropriate mitigation to be determined following the results of further bat surveys. Recommendations are also given for precautionary methods of working during construction works. For a complete justification of these recommendations, please go straight to section 4.0 Conclusions, Impacts and Recommendations.

Contents

Introduction and Context

1.1 Background

Arbtech Consulting Limited was commissioned by Hampton Hick to undertake a Preliminary Ecological Appraisal (PEA) at 1 St James's Road, Hampton Hill, Hampton, Richmond-Upon-Thames, TW12 1DH. The survey was completed on 8th April 2020. The aim of the survey was to complete an Extended Phase 1 Habitat Survey of the survey area and all land that will be impacted by the proposals and to analyse this against a desk study.

1.2 Site Context

The site is located at National Grid Reference TQ 1382 7120 and has an area of approximately 0.1ha. The site consists of one residential dwelling with amenity gardens.

1.3 Scope of the report

This report describes the baseline ecological conditions at the site; evaluates habitats within the survey area in the context of the wider environment; and describes the suitability of those habitats for notable or protected species. The PRA element of the survey the report provides a description of all features suitable for roosting bats, and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It identifies significant ecological impacts as a result of the development proposals; summarises the requirements for further surveys and mitigation measures, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

To achieve this, the following steps were taken:

- The desk study area and field survey area (generally 50m from the site boundary or proposed footprint and including the 'zone of influence' of the scheme) have been identified
- A desk study has been carried out.
- Baseline information on the site and surrounding area has been recorded through an 'Extended Phase 1 Habitat Survey', including a Phase 1 Habitat Survey (JNCC 2010) and recording further details in relation to notable or protected habitats and species.
- The ecological features present within the survey area have been evaluated where possible (CIEEM, December 2017).
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Likely impacts on features of value, as a result of the development proposals, have been identified.
- Recommendations for further survey and assessment have been made
- Recommendations for mitigation and enhancements of the developed site have been provided based on current information.

A survey plan is presented in Appendix 1, proposed plans in Appendix 2 (where available), desk study results in Appendix 3 and a summary of relevant legislation is presented in Appendix 4.

1.4 Project Description

This report was prepared to inform a future planning application with London Borough of Richmond upon Thames. The proposed development is described as:

- Demolition of existing dwelling and construction of nine flats with landscaping and carparking.

2.0 Methodology

2.1 Desk Study methodology

The desk study included a 2km radius review of statutory and non-statutory designated sites, Biodiversity Action Plan (BAP) Priority Habitats and granted EPSML records for bats held on Magic database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

To conform to best practice guidelines, biological records data (BRD) within a 2km radius of the site should be obtained. The data search is confidential information that is not suitable for public release and if provided, will be analysed and summarised for presentation in this report.

2.2 Site Survey methodology

The survey was undertaken by Josephine McCarthy (Natural England bat licence number: 2019-41480-CLS-CLS).

The methodology for the Phase 1 habitat survey is based on the best practice publication Phase 1 Habitat Survey Methodology (JNCC, 2010). All land parcels are described and mapped according to JNCC Phase 1 Habitat Classification. Where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management.

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species. The likelihood of the presence of protected species is ranked; the habitats on site are evaluated against their likelihood to provide suitable habitat for protected species.

The ecological value of the survey area has been assessed based on the Guidelines for Ecological Impact Assessment (CIEEM, 2018), and the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill, 2005), using geographic frames of reference. The biodiversity value of any identified designated sites, habitat types and associated species assemblages has been considered. The distribution and extent of invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981 as amended 1996) were also noted throughout the survey area.

The methodology for the PRA is informed by the Bat Conservation Trust publication Bat Surveys for Professional Ecologists – Good Practice Guidelines (Collins, J. (Ed) 2016). All features that will be impacted by the project proposals were assessed for their bat roosting and/or commuting habitat. The surveyor systematically surveyed all features suitable for-bats and signs of bat activity.

<u>For any surveyed buildings:</u>

A non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the building(s) for potential access and egress points, and for signs of bat use. An internal inspection of the building was also made, including the living areas of derelict or abandoned buildings and the accessible roof spaces of all buildings, using an endoscope, torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

For any surveyed trees

A visual inspection from ground level using binoculars and where accessible an internal inspection of suitable roosting features using an endoscope, torch and ladders.

The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for barn owls *Tyto alba*.

2.3 Suitability Assessment

The likelihood of occurrence of protected species is ranked according to the criteria listed in Table 1. The habitats on site were evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Table 1: showing criteria considered when assessing the likelihood of occurrence of protected species

Present	**Species are confirmed as present from the current survey or historical confirmed records.**
High	Habitat and features of high quality for species or species assemblage. Species known to be present in wider landscape (desk study records). Good quality surrounding habitat and good connectivity.
Medium	Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat and ecological conditions required by the species or species assemblage. Within known national distribution of species and local records in desk study area. Limiting factors to suitability, including small area of suitable habitat, some severance or poor connectivity with wider landscape, poor to moderate habitat suitability in local area.
Low	Habitats within the survey area poor quality. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features and conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Very limited poor-quality habitats and features. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species or species assemblage.

For the PRA element of the survey all affected survey features on site were categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins, J. (ed) 2016). The features that dictate the likelihood of roosting bats are summarised in Tables 2 and 3 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 2: Features of a building that are correlated with use by bats

Likelihood of bats being present	Feature of building and its context
Higher	Buildings or structures with features of particular significance for roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data).
Lower	A small number of possible roost sites or features, used sporadically by more widespread species. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.

Table 3: Features of a tree that are correlated with use by bats

Likelihood of bats being present	Feature of tree and its context
Higher	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.
Lower	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.

2.4 Limitations – evaluation of the methodology

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

- Greenspace Information for Greater London (GiGL) were not commissioned to provide biological records data at this stage. The client was advised that biological records are unlikely to contribute to this assessment owing to the negligible habitat on site for anything other than bat species. Local bat records will be commissioned from The London Bat Group to provide local context. There was also no internal access to the roof-void due to current working practices in place in relation to Covid-19. Taken into account during the assessment.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below; full details are included in Appendix 3.

3.2 Designated sites

Details of any statutory and non-statutory designated sites within a 2km radius of the survey site, including their reasons for notification, are provided in Table 4 below.

Table 4: Designated sites within 2km radius of the site

Designated Site Name	Distance from Site (approx.)	Reasons for Notification from Natural England and/or BRD or LPA policy maps
Statutory Sites		
Bushy Park and Home Park, (SSSI).	~630m south-east.	Bushy Park and Home Park SSSI is of special interest for its nationally important saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities.
Oak Avenue, Hampton Local Natures Reserve, (LNR).	~1,500m west.	Once the site of old greenhouses serving the surrounding nursery gardens, this area was re-landscaped with the help of local groups and volunteers. Work included planting a native hedge, constructing footpaths and sowing a wild flower meadow to encourage wildlife. A length of the hedge was laid in the traditional manner early in 2002
South West London Waterbodies (SPA & Ramsar).	~1,700m south-west	The site consists of Kempton Park East Reservoir and Red House Reservoir which lie within the operational boundary of Kempton Waterworks. In addition to the nationally important numbers of gadwall, the site also supports significant numbers of wintering shoveler Anas clypeata. Regular breeding waders on the East Reservoir include lapwing Vanellus redshank Tringa botanus ringed plover Charadrius hiaticula and little ringed plover Charadrius dubius. Avocet Recurvirostra avosetta bred on the East Reservoir in 1996. This represented the first successful inland breeding of this species in the British Isles
Kempton Park Reservoirs, (SSSI).	~1700m south-west	Huge swathes of reed land habitat. The site is regularly visited by bearded tits, sedge warblers and a myriad of other reed dependant species. Dragon fly pond and areas of mud scrape for wading birds of all varieties.
Crane Park Island, (LNR).	~1,800m north-west	Habitats include grassland, wet woodland, reedbed and a pond. Animals include kingfishers, water voles and frogs.
Non-statutory Sites		
		The client was advised that biological records are unlikely to contribute to this assessment owing to the negligible habitat for protected species on site.

Priority habitats within 2km of the site are listed in Table 5.

Table 5: Priority Habitat Inventory within 2km (Magic.gov.uk):

Habitat	Closest distance from site
Deciduous Woodland	~450m north-east
Woodpasture and Parkland	~620m south-west
National Forest Inventory	~750m north-east
Good quality semi-improved grassland	~1,500m west
Open Mosaic Habitat	~1,800m south

3.3 Landscape

A review of the designated sites, aerial photographs (Figure 1), the Magic database and OS maps has been undertaken. Collated together, the site's local habitat is described below:

The site is situated in Hampton, London Borough of Richmond-upon-Thames; a suburban area of west London. The wider landscape contains large expanses of open green space in the form of golf and cricket clubs separated from the development site by dense residential development in all directions. Fulwell Golf course approx. 500m north provides woodland and grassland habitat ideal for bat foraging. There is limited foraging opportunities in the back gardens for less mobile protected species. More suitable habitat is found along the deciduous tree lined banks of the Longford River, located approx. 30m south west of the site. The river could be an important local habitat for several species including reptiles, water voles and foraging bats. Terrestrial connectivity to the river is fragmented by the presence of the A312, to the west, and Windmill Road to the south. There are no water bodies on site. The nearest known standing water habitat with potential to support amphibian species is found approx. 630m south east at Hampton Hill Pond, which adjoins Bushy Park (SSSI); the nearest designated site.

Landscape

Figure 1: Aerial photo of site, showing landscape structure

3.4 Historical records

Local bat records will be commissioned from Surrey Bat Group and when provided, will be analysed and summarised in table 6: Historical records* within 2km of the site

Taxon Group	Common name	Scientific binomial	Record details

*Records from the past 10 years

A search of the Magic database for granted European Protected Species Mitigation Licences (EPSMLs) within a 2km radius of the site has been completed. Displaced protected species from licenced sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence, or will relocate to other suitable habitat in close proximity to the licenced site. The EPSML records show that one protected species licence has been granted within 2km of the site.

Table 7: Granted EPSMLs within 2km of the site

Case reference of granted application	Approx. distance from site	Bat Species Effected	licence Start Date:	licence End Date:	Impacts allowed by licence
EPSM2009-439	~800m west	BLE	03/02/2009	30/06/2010	Destruction of roost

3.5 Field Survey Results

The site consists of an area of managed greenspace located behind residential dwellings and is illustrated in the map in Appendix 1. The weather conditions recorded at the time of the survey are shown in Table 7.

Table 7: Weather conditions during the survey

Date: 08/04/2020	
Temperature	14.5C
Relative Humidity	37%
Cloud Cover	30%
Wind	2.2mph
Rain	None

3.6 Site Feature descriptions and photos

Phase 1 habitat codes in brackets when they first appear in text.

Most of the habitat on site consists of amenity grassland [J1.2]. The gardens are urban in character and extend around a central residential dwelling, [J3.6]. Perennial ryegrass dominates with patches of forbs and ephemerals which include abundant green alkanet. Common nettle, cleavers and red dead-nettle are present with bluebells, forget-me-nots and lesser celandine. The shaded perimeters have a ground cover of ivy and sparse bramble. The gardens are enclosed by timber fencing to all sides [J2.4]. These are lined within by scattered trees, [A3]. Tree species include lawsons cypress, yew and holly saplings. Deciduous species include ash, walnut, goat willow, hazel, apple and hawthorne. Introduced shrub are also present. [J1.4]. Minor patches of disturbed and bare ground are found below the tree lines and around the site and contain small brash and wood piles, strewn with other items. A final area of hardstanding driveway is located at the entrance. This is the extent of the habitats on site.

The building on site, (designated B1,) is a brick-built dwelling with a pitched, hipped roof. The roof is formed of pan tiles which for the most part are tightly interlocked. However, there are gaps in some raised examples on the south elevation which have created suitable roosting habitat for crevice dwelling species of bat. A missing section of mortar on the north west corner, close to the eaves, has another suitable gap. An internal inspection of the loft space was not conducted due to current working practices in place in relation to Covid-19 government guidelines. As such, it was not possible to inspect the loft for evidence of bat activity or to check the condition of any roof lining present. Any gaps in the lining, particularly below the raised roof tiles, could provide bat access to the roof-void. No other points of entry for bats were identified. The eaves are entirely sealed with tight fitting soffits and the brickwork and flashing around the chimney stacks contain no suitable gaps. The lower walls and all flat surfaces below the roof were searched for evidence of bat activity, e.g. bat droppings and feeding remains. The single-story additions contained no suitable gaps or internal access for roosting bats.

Photo 1: B1 - Looking north-west at the south-east elevation of the site from the pavement opposite on Windmill Road.	

Photo 2: Looking west at the east elevation and entrance to the site from St. James's Road.	

Photo 3: Looking south across the east of the site.	
Photo 4: Looking north across the east of the site.	

Photo 5: Looking east across the site from the west corner.	
Photo 6: Looking west across the site at the neighbouring west boundary.	

Photo 7: Looking west along the south west boundary with the A312.	
Photo 7: Looking south-west along the north-west boundary to the rear of B1.	

Photo 7: Looking south at B1 from the north corner.	
Photo 7: Looking north east along the north boundary from the rear of B1.	

Photo 7: Gaps below raised roof tiles on the south elevation of B1. (>5). These have created gaps which are suitable for crevice dwelling species of bat. It is unknown if these gaps provide bat access to the roof-void.	
Photo 7: Gap created by missing mortar on the north-west corner. This gap provides roosting provision for crevice dwelling species and possible bat access to the roof-void if any gaps are present in any roof lining below.	

4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

Likelihood of the presence of protected species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat. The likelihood of occupancy of protected species is ranked according to the criteria listed in Table 1.

Where this report supports a planning application, the ecological interest of the study area (including the survey area) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity. It is clearly stated where a preliminary value can be given and where further information is required.

Likelihood of the presence of bats

There are three possible outcomes of the PRA element of the survey, each with specific recommendations. These are outlined below:

Confirmed bat roost

Best practice survey guidelines (Collins, 2016) recommends additional surveys for confirmed roosts. Three further surveys are required to characterise the bat roost present including species, roost type and access points to inform a European protected species mitigation licence (EPSML) application with Natural England. Surveys must be completed during the active bat season (May – September). At least two of the surveys should be completed during the optimal survey period mid-May to August, and at least on the surveys should be a dawn re-entry survey (Collins, J. 2016).

Low, moderate or high likelihood of a bat roost present

Best practice survey guidelines (Collins, 2016) recommends additional surveys for features assessed as having low to high suitability for roosting bats. One, two or three further surveys are required to confirm presence or likely-absence of a bat roost, based on a low, medium or high roost likelihood evaluation. Surveys must be completed during the active bat season (May – September). If more than one survey is recommended, at least one of them should be completed during the optimal survey period mid-May to August, and at least one the surveys should be a dawn re-entry survey (Collins, J. 2016). If two or one further survey is recommended these surveys must be completed during the optimal survey period (mid-May to August). For low and moderate roost likelihood evaluation the survey effort recommended at this stage is iterative and if bats roosts are confirmed in the building, a further survey will be required to provide sufficient information to inform an EPSML application to Natural England.

Negligible likelihood of a bat roost present

Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. However, if bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted for further advice.

4.2 Evaluation

Taking the desk study and site survey results into account, the following conclusions for ecological factors has been reached.

Table 7: Evaluation of site

Ecological Factor	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
Designated sites	The Magic database shows the site itself is not subject to any statutory or non-statutory designation and there are none close by. The two nearest designated sites are: ➢ Bushy Park and Home Park, (SSSI). ~630m south-east. ➢ Oak Avenue, Hampton Local Natures Reserve, (LNR). ~1,500m west. While it is unknown if there are any local wildlife sites nearby, the site is entirely surrounded by residential development, with roads forming three of its boundaries. There would be no terrestrial connectivity to any proximate wildlife site.	None. The development proposal is not of sufficient scale or proximity to have any impacts on these sites.	None.	None applicable.
Notable habitats and plants	The Magic database shows there are no priority inventory habitats on or adjacent to the site. The nearest being deciduous woodland located approx. 450m north-east of the site. Given the distance, the development does not fall within the zone of influence of the proposed works. It should be noted however, that the Longford River is located approx. 30m from the proposed site on the far side of Windmill Road, and does fall within the zone of influence. The river is likely to be an important resource for local wildlife. On site, there are numerous low to moderate quality trees which could be	The river is sufficiently separated from the development site so as not to be impacted by the development given the scale of the proposed works. The risk posed to the retained	The retained trees on site will be protected during construction in line with BS5837:2012. A full arboricultural assessment, following the guidance of the British Standard BS5837:2012 Trees in relation to design, demolition and construction, has been commissioned by the client. This includes a full survey of all of the trees within the site and influencing distance of the site, along with an arboricultural impact assessment, tree protection and arboricultural method statement if required.	Enhancements for biodiversity: Small areas of any new landscaping should be designed for biodiversity through the incorporation of wildlife friendly planting, e.g. Supply feeding areas. These could include a range of wild flowering plants to provide nectar for a range of species such as butterflies and bumblebees and will attract insects for bats to feed on. Any new trees planted on site should include fruit bearing species such as rowan, wild service, cherry, and hawthorne, or seed-bearing species such as silver birch. These will provide a food source for urban birds.

	removed or damaged a result of the development.	trees on and proximate to the site, will be during construction only. This includes the risk of compaction and damage to tree roots from heavy machinery.	A construction method statement will need to be provided by the contractors to show how pollutants from the development, such as noise, dust and debris will be controlled to avoid any impacts. This will also protect the nearby river from any airborne pollutants.	
Invasive and Non-native species	No schedule 9 species were present.	None.	None.	None applicable.
Bats	The building, B1, has a moderate habitat value for supporting roosting bats. This is due to the presence of raised roof tiles on the south elevation which have created gaps which are suitable for crevice dwelling species of bat. Missing mortar on the north west corner provides another suitable roosting space for bats. Gaps below roof tiles are favoured by urban bats such as common and soprano pipistrelles. The nearby river provides an excellent foraging resource for urban bats increasing the likelihood that bats are in the local area.	The development proposals include the demolition of the building. Any bat roost present would be destroyed. This could result in death/injury or disturbance of bats.	Two bat emergence/re-entry surveys are required during the active bat season (Mid-May – Aug; sub-optimal period mid-May to September), to confirm presence/likely-absence of a bat roost in the building. The surveys must be completed during the optimal survey period, mid-May to August inclusive. Two surveyors are required to provide full coverage of the building. The survey effort recommended at this stage is iterative and if bats are recorded emerging from the buildings, a third survey will be required to provide sufficient information to inform a European Protected Species Mitigation Licence (EPSML) application to Natural England, once planning permission has been granted.	To be determined following further survey.
Birds	Although no birds' nests were observed on site during the survey, sparrows, blue-tits,	If the privet and hawthorne	If maintenance works to trees and hedgerows are undertaken during the active	The client has expressed a wish to enhance the site for biodiversity and achieve net gains as a result.

	wrens and robins were observed using the hawthorne and introduced shrubs for perching and collecting nest material. As sparrows do not stray far from their nests it is likely a local population is nearby. Residential gardens are an important habitat for this and other urban species.	hedgerows are removed, there will be a loss of foraging, nesting and perching habitat for sparrows and other urban birds. Any bird nest present in the trees and hedgerows during maintenance works and construction works could be disturbed or abandoned.	breeding period, 1st March to 31st August, a close inspection of the trees should be undertaken immediately prior to the commencement of works. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained trees so as not to disturb any nearby nesting birds during construction works.	Contextually appropriate enhancements could include the use of artificial bird nest boxes to be incorporated into the design of the new building; Sparrow Terraces/nest boxes should be positioned at the eaves of the new roofs and can be incorporated into the fabric of the building during construction. Recommended models include: Schwegler Sparrow Terrace 1SP and Schwegler Build-in House Sparrow Nest Box. A variety of bird boxes could be added to any retained trees on site to provide nesting habitat for a range of garden species including robins which were also observed during survey. E.g. Schwegler 2H Open Fronted Robin Box. The Schwegler 1 and 2 series provide a variety of hole sizes and shapes to suit a range of different bird species. A combination of at least three of the above is recommended. As above, fruit bearing trees should also be planted to provide foraging resources for urban birds.
Reptiles	No suitable habitat.	None.	None.	N/A
Amphibians	There are no ponds on site and none known within 500m of the site.	None.	None.	N/A.
Badgers	No suitable foraging habitat for badgers found on site. No evidence of badger activity was found on site i.e. latrines or foraging ‘snuffle’ marks.	None.	None.	N/A

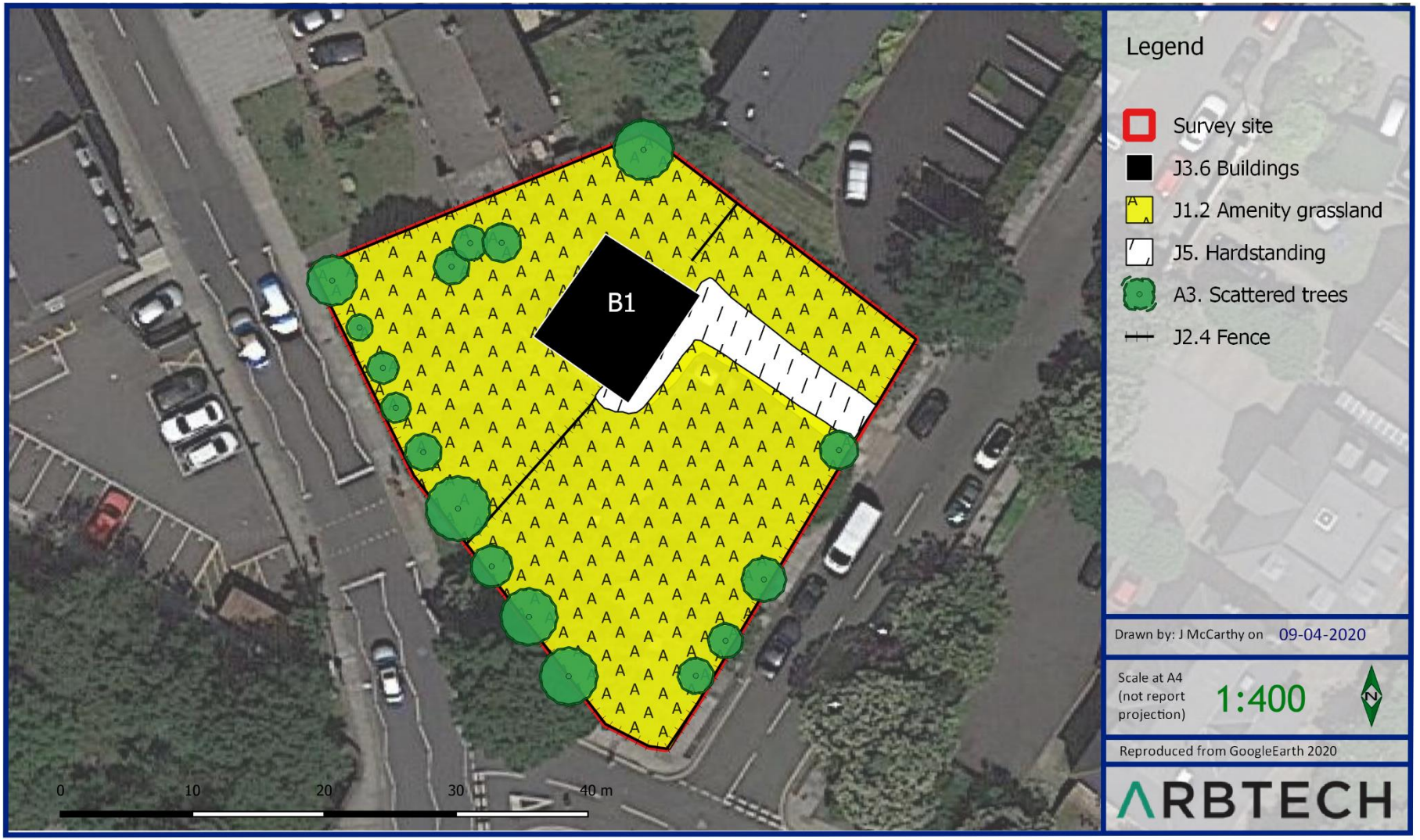
Dormouse	No suitable habitat.	None.	None.	N/A
Other Terrestrial Mammals	**Hedgehogs** The site provides a small amount of suitable habitat for foraging and commuting hedgehogs via connection to residential gardens. This is limited to one boundary only as the site is bounded by roads to three sides. There is a low risk that hedgehogs could be on site and use the brash piles on site for refuge.	The proposed development will result in the loss of a small area of amenity grassland that offers foraging resources for hedgehogs. Any hedgehogs present on site during construction works could be injured or killed.	The following recommendations are given in order to mitigate against potential harm to terrestrial mammals during the development works. Site clearance works should be carried out under a precautionary method of working in order to protect hedgehogs. All brash clearance should be carried out by hand. • Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. • Security lighting to be directed away from the undergrowth. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • Materials should be stored above ground level on pallets to avoid animals using these as refugia.	Due to adjacent roads, the site is not suitable for hedgehogs which should be encouraged to remain within any suitable habitats off site. To avoid creating potential ecological traps. Site appropriate enhancements for other urban species should be undertaken as above.
	Water Vole No suitable habitat.	**Water Vole** None.	**Water Vole** None.	**Water Vole** N/A
	Otter No suitable habitat.	**Otter** None.	**Otter** None.	**Otter** N/A

5.0 Bibliography

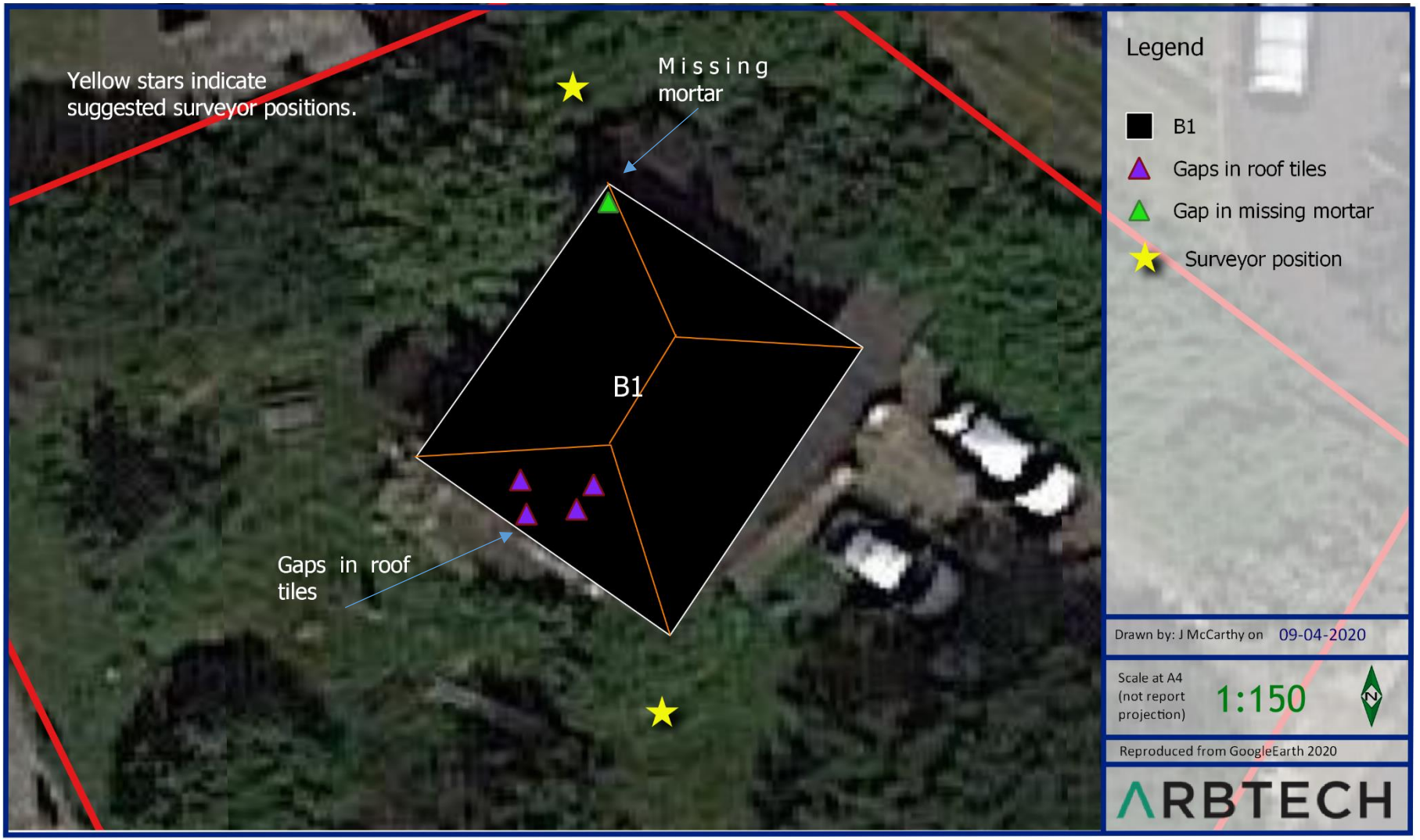
- British Trust for Ornithology (2016) www.bto.org/about-birds/nnbw/putting-up-a-nest-box
- BS 42020, Biodiversity – Code of practice for planning and development (2013) http://www.eoebiodiversity.org/pdfs/BS42020.pdf
- BS 42020, Biodiversity – Code of practice for planning and development (2013) http://www.bsigroup.com/LocalFiles/en-GB/biodiversity/BS-42020-Smart-Guide.pdf
- Cheffings, C. and Farrell, L. (eds.) (2005) The Vascular Plant Red Data List for Great Britain. Joint Nature Conservation Committee, Peterborough.
- CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester. http://www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal Institute of Ecology https://www.cieem.net/data/files/Publications/Guidelines_for_Preliminary_Ecological_Appraisal_Jan2018_1.pdf Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London. https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected? http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf
- Google Earth (2020) accessed on 08/04/2020.
- Gregory R.D., et al (2009). Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. https://www.bto.org/sites/default/files/u12/bocc3.pdf
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) http://jncc.defra.gov.uk/page-1377
- HMSO: The Protection of Badgers Act 1992 (as amended) http://www.legislation.gov.uk/ukpga/1992/51/contents
- HMSO: Countryside & Rights of Way Act (2000) http://jncc.defra.gov.uk/page-1378
- HMSO: Natural Environmental and Rural Communities Act (2006) http://www.legislation.gov.uk/ukpga/2006/16/contents
- HMSO: The Conservation of Habitats and Species Regulations (2017) http://www.legislation.gov.uk/uksi/2017/1012/contents/made
- JNCC (2004) Bat Workers Manual, 3rd Edition. http://jncc.defra.gov.uk/page-2861
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Magic database (2019) http://www.magic.gov.uk/MagicMap.aspx accessed on 08/04/2020.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

- National Planning Policy Framework, 2018 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol. http://www.wildlifeco.co.uk/wp-content/uploads/2014/03/badgers-and-development.pdf
- Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000) Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155. https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file
- Paul Edgar, Jim Foster and John Baker (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf
- Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf

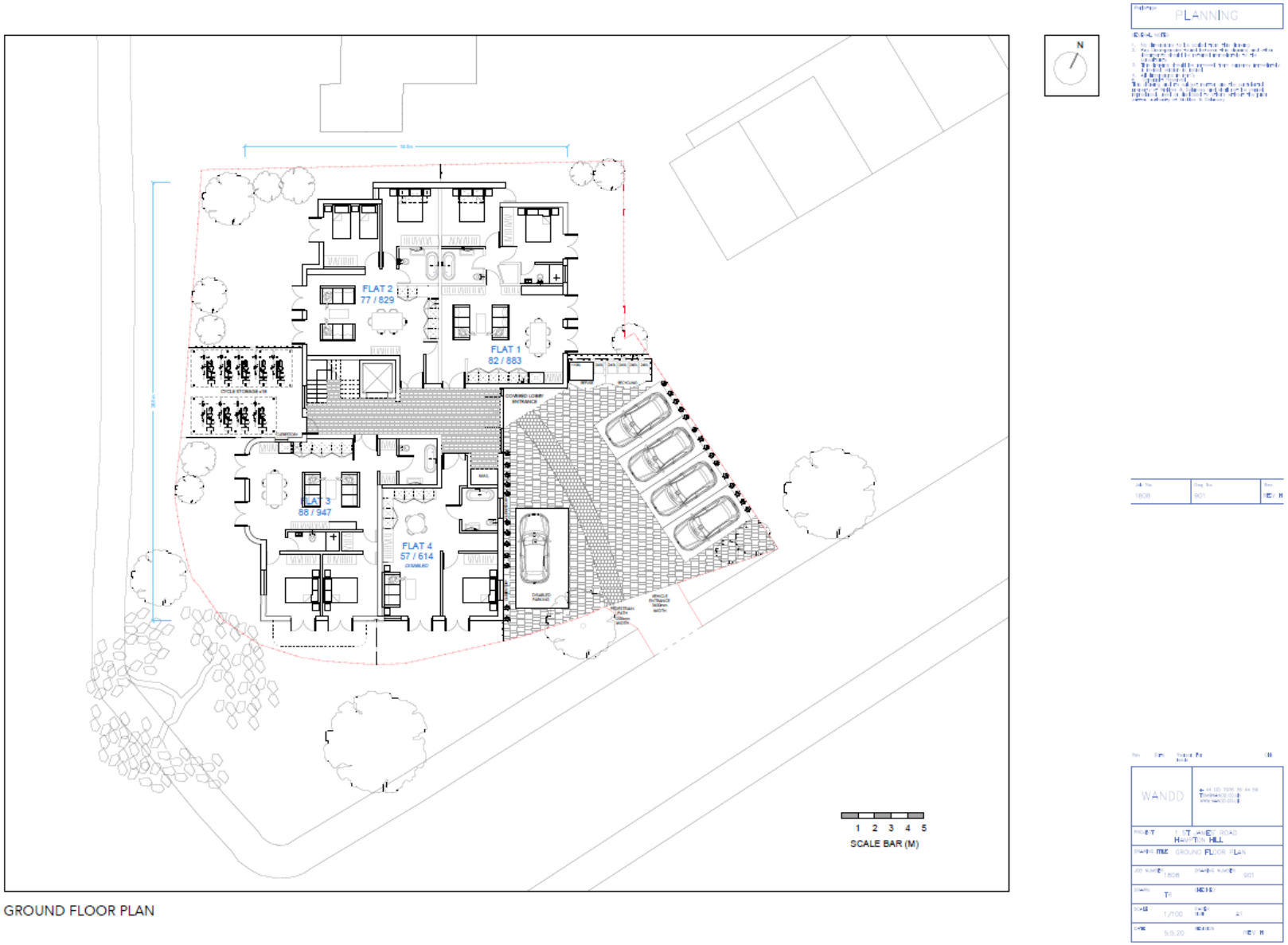
Appendix 1a: Phase 1 Habitat Survey Map



Bat Emergence and re-entry survey plan showing bat habitat



Appendix 1: Proposed Site Plan

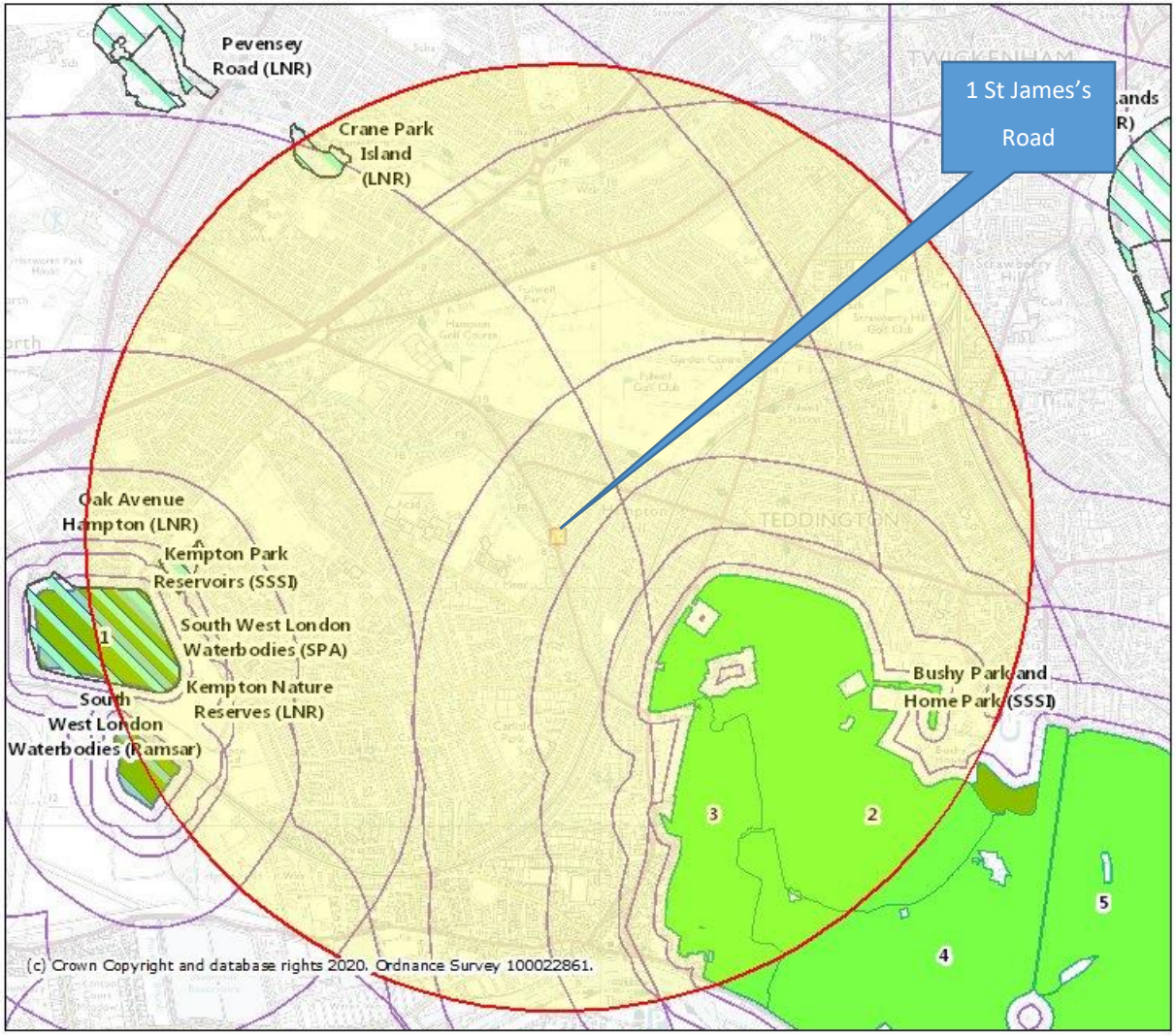


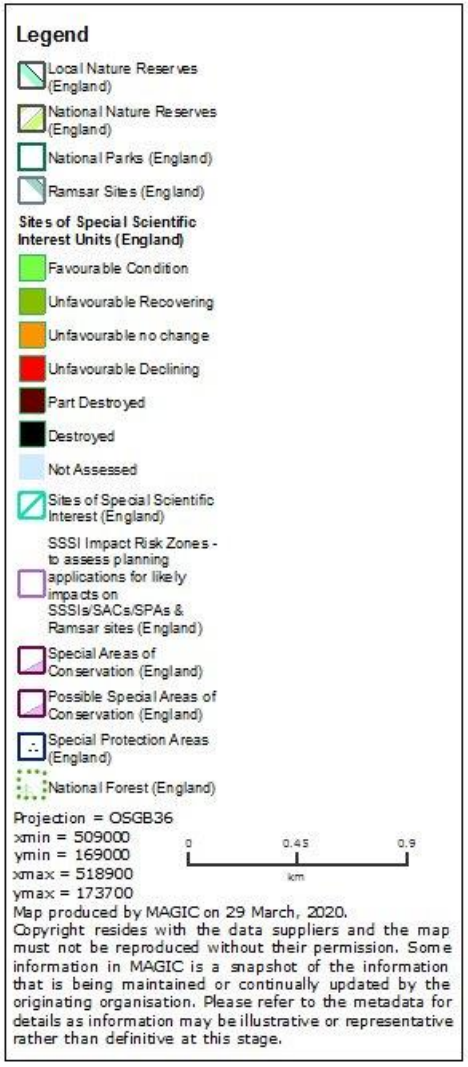
GROUND FLOOR PLAN

Appendix 3: Desk Study Information

MAGiC

Designated Sites





MAGiC

Habitats

Legend

- Priority Habitat Inventory - Coastal Saltmarsh (England)
- Priority Habitat Inventory - Coastal Sand Dunes (England)
- Priority Habitat Inventory - Coastal Vegetated Shingle (England)
- Priority Habitat Inventory - Maritime Cliffs and Slopes (England)
- Priority Habitat Inventory - Mudflats (England)
- Priority Habitat Inventory - Saline Lagoons (England)
- Saline Lagoons (Wales)
- Saltmarsh (Wales)
- Sand Dunes (Wales)
- Priority Habitat Inventory - Calaminarian Grassland (England)
- Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)
- Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
- Priority Habitat Inventory - Lowland Calcareous Grassland (England)
- Priority Habitat Inventory - Lowland Dry Acid Grassland (England)
- Priority Habitat Inventory - Lowland Meadows (England)
- Priority Habitat Inventory - Purple Moor Grass and Rush Pasture (England)
- Priority Habitat Inventory - Upland Calcareous Grassland (England)
- Priority Habitat Inventory - Upland Hay Meadows (England)
- Priority Habitat Inventory - Lowland Heathland (England)
- Priority Habitat Inventory - Mountain Heaths and Willow Scrub (England)
- Priority Habitat Inventory - Upland Heathland (England)
- Priority Habitat Inventory - Limestone Pavements (England)

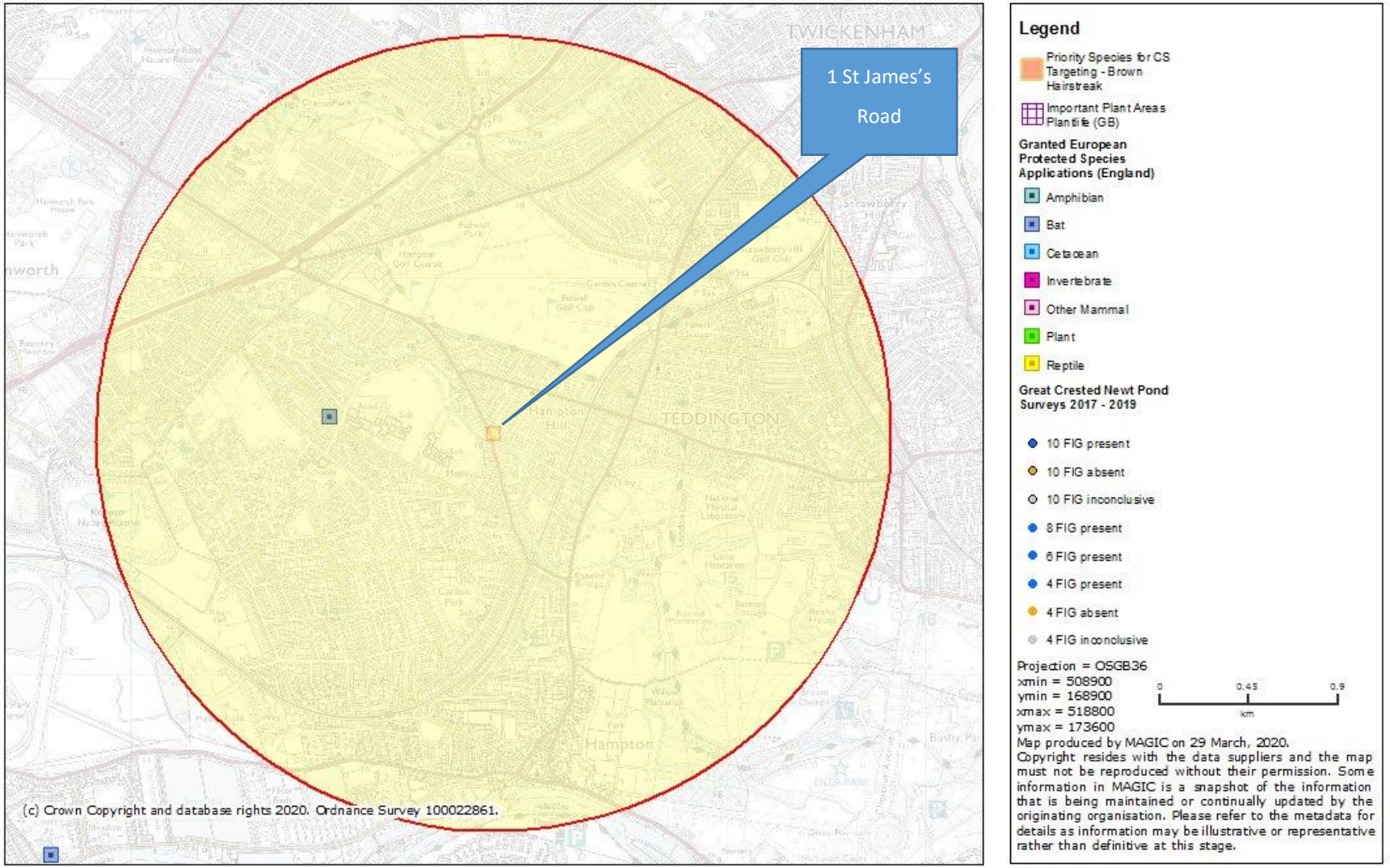
Projection = OSGB36
xmin = 508900
ymin = 168900
xmax = 518800
ymax = 173600

0 0.45 0.9
km

Map produced by MAGIC on 29 March, 2020.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

MAGiC

EPSL's


1 St James's Road
TWICKENHAM
TEDDINGTON
Hampton
(c) Crown Copyright and database rights 2020. Ordnance Survey 100022861.
Legend
Priority Species for CS Targeting - Brown Hairstreak
Important Plant Areas Plantlife (GB)
Granted European Protected Species Applications (England)
Amphibian
Bat
Cetacean
Invertebrate
Other Mammal
Plant
Reptile
Great Crested Newt Pond Surveys 2017 - 2019
10 FIG present
10 FIG absent
10 FIG inconclusive
8 FIG present
6 FIG present
4 FIG present
4 FIG absent
4 FIG inconclusive
Projection = OSGB36
xmin = 508900
ymin = 168900
xmax = 518800
ymax = 173600
0
0.45
0.9
km
Map produced by MAGIC on 29 March, 2020.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

New legislation (2020)

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 came into force when Britain left the European Union on 31st January 2020. It covered amendments relevant to this survey to:

Wildlife and Countryside Act 1981: England and Wales (x1 amendment)

Conservation of Habitats and Species Regulations 2017 (x29 amendments)

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1.000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many annex II species): a strict protection regime must be applied across their entire natural range within the EU, both within and outside Natura 2000 sites.

Annex V species (over 90): Member States must ensure that their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

SACs and SPAs up to 12 nautical miles from the coast (i.e. 'territorial waters') are afforded protection in the UK under the Conservation of Habitats and Species Regulations 2017 which consolidate all amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994.

The Conservation of Offshore Marine Habitats and Species Regulations 2017 consolidate and update the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007. The 2017 Regulations introduce amendments which transfer responsibility for European nature conservation in the Welsh offshore region to Welsh Ministers. This gives Welsh Ministers similar powers in Welsh offshore waters to those currently exercised by Scottish Ministers in Scottish offshore waters. These regulations transpose into national law Council Directive 92/43/EEC on the

conservation of natural habitats and of wild fauna and flora (Habitats Directive), and elements of Council Directive 2009/147/EC on the conservation of wild birds (Wild Birds Directive) in the UK offshore area. They came into force on 30th November 2017. These regulations apply to the UK's offshore marine area which covers waters beyond 12 nautical miles, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area. The Conservation of Habitats and Species Regulations 2017 form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12nm in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as "*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*". However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of 'migration' and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European protected species mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests':

- The action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992

- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agency's to define what would constitute a licensable activity. It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as "Schedule 1" birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Reptiles (Amphibians and reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

<u>Effects on development works:</u>

A European protected species mitigation (EPSM) licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

An EPSM licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned

above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

An EPSM licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Dormice

Hazel Dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White clawed crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking
- Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

An EPSM licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any land owner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*

- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

National Planning Policy Framework (England)

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Scottish Planning Policy (Published: 23 Jun 2014)

The SPP sits alongside the Scottish Government planning policy documents. The National Planning Framework (NPF) provides a statutory framework for Scotland's long-term spatial development. The NPF sets out the Scottish Government's spatial development priorities for the next 20 to 30 years.

A Natural, Resilient Place - Valuing the Natural Environment (National Planning Framework Context) Paragraph 193. The natural environment forms the foundation of the spatial strategy set out in NPF3. The environment is a valued national asset offering a wide range of opportunities for enjoyment, recreation and sustainable economic activity. Planning plays an important role in protecting, enhancing and promoting access to our key environmental resources, whilst supporting their sustainable use.

Policy Principles: Paragraph 194. The planning system should:

- Facilitate positive change while maintaining and enhancing distinctive landscape character;

- **Conserve and enhance protected sites and species, taking account of the need to maintain healthy ecosystems and work with the natural processes which provide important services to communities;**
- Promote protection and improvement of the water environment, including rivers, lochs, estuaries, wetlands, coastal waters and groundwater, in a sustainable and co-ordinated way;
- Seek to protect soils from damage such as erosion or compaction;
- Protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value;
- Seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats; and
- Support opportunities for enjoying and learning about the natural environment.

Planning Policy Wales (Draft 2018)

Paragraph 5.42 of the document refers to Biodiversity and Ecological Networks and states:

The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in The State of Natural Resources Report (SoNaRR) (published by Natural Resources Wales and Area Statements should be taken into account. Development plan strategies, policies and individual development proposals must take into account the need to:

- Promote the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily designated sites are properly protected and managed;
- Safeguard protected species; and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil; and
- Seek enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Environment (Wales) Act 2016 and the Biodiversity Duty

The Environment (Wales) Act introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience. This new duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006 (referred to as the NERC Act). Part 1 of the Act deals with Sustainable management of natural resources including Biodiversity and Resilience of Ecosystems Duty. The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC

Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

5.44 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

a) Diversity between and within ecosystems;
b) The connections between and within ecosystems;
c) The scale of ecosystems;
d) The condition of ecosystems (including their structure and functioning); and
e) The adaptability of ecosystems.

5.45 In fulfilling this duty, planning authorities must have regard to:

a) The list of habitats of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
b) The State of Natural Resources Report (SoNaRR), published by NRW; and
c) Any Area Statement that covers all or part of the area in which the authority exercises its functions.

5.46 A proactive approach towards facilitating the delivery of biodiversity and resilience outcomes should be taken by all those participating in the planning process. In particular, planning authorities should demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions. The broad framework for implementing the duty and building resilience through the planning system includes addressing:

- Diversity: to ensure mechanisms are in place to minimise further loss and that circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. This means development should provide a net benefit for biodiversity, and at the very least, with no significant loss of habitats or populations of species, locally or nationally;
- Extent: to ensure mechanisms allow for the maintenance of existing assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new habitat. This means that planning choices should incorporate measures which seek the creation and restoration of green networks and linkages between habitats and maintaining and
- enhancing other green infrastructure features and networks;

- Condition: this is more complex to address, not least because of the interactions of various factors which underpin habitats. At the very least planning approaches should not compromise the condition of ecosystems. By taking an integrated approach to development, for example, which considers both direct and wider impacts and benefits it should be possible to make a positive contribution through the planning system; and
- Connectivity: to take opportunities to develop functional habitat and ecological networks across landscapes, building on existing connectivity and quality and encouraging habitat creation and restoration. The opportunities could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors (including transport and river corridors) and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change.