



Bringing Together Over 20 Years of
Ecological Excellence

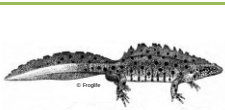
Tyrer Ecological Consultants Ltd, Formby Business Centre, 42 Duke Street, Formby, L37 4AT

Inspection and Assessment in Relation to Bats and Birds

July 2020

Crown Buildings
Chester Street
Wrexham
LL13 8BG

SJ33975050



Crown Buildings, Chester Street, Wrexham, LL13 8BG
Inspection & Assessment in Relation to Bats & Breeding Birds

Document Title	Inspection & Assessment in Relation to Bats & Breeding Birds
Prepared for	Wrexham Borough Council
Prepared by	Tyrer Ecological Consultants Ltd
Authors	Mr. Jonathan Pescod
Surveyor	Mr. Jonathan Pescod
Survey Date	12/05/2020
Reviewed by	Mrs K Wilding
Review date	05/07/2020
Approved by	Mrs. Kylee Wilding
Date of Issue	05/07/2020

Terms of use:

This report has been prepared by Tyrer Ecological Consultants Ltd with all reasonable skill, care and diligence within the terms of the instruction and permissions granted by the client. The results, conclusions and recommendations of this report are proportionate and in line with the British Standard 42020:2013.

Tyrer Ecological Consultants Ltd have produced this report with all due integrity and adhere to the CIEEM Professional Code of Conduct, with the aim of upholding these objectives and the reputation of the profession.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client.

This report and contents therein are to be used only in conjunction with the Planning Application for which the report has been produced. It must not be used for any other purpose, copied, re-produced or sent to any other party other than the Local Planning Authority Department without the express permission of Tyrer Ecological Consultants Ltd. Furthermore the data contained herein must not be copied, re-produced or sent to any other party/organisation whatsoever without the express permission of Tyrer Ecological Consultants Ltd.

Tyrer Ecological Consultants Ltd will however consider forwarding data that is collected as part of its reports to the relevant wildlife records centre.

Executive Summary

As part of an application regarding the office building at the Crown Buildings, Wrexham (Figure 1), a daytime inspection and assessment in relation to bats and breeding birds was undertaken by Tyrer Ecological Consultants Ltd. during May 2020. The survey was commissioned by Wrexham Borough Council and it is understood that proposals entail the internal and external refurbishment of the existing building.

The following key ecological features and associated recommendations have been identified:

Bats: The building has been found to possess Potential Roost Features (PRFs) and in association with the moderate value bat related foraging habitat the structure has consequently been categorised to possess 'Moderate' roost suitability in accordance with current BCT guidance. Based upon this categorisation and when taking the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' 3rd edition (2016) (Figure 5) into consideration then in order to establish if bats are using either building as a roost then this report will recommend two suitably spaced apart dusk emergence or/and dawn re-entry surveys.

Breeding Birds: Opportunities are present to various aspects of the site that could be used by common bird species. *It will therefore be recommended that any demolition/clearance operations are undertaken outside the nesting season (March-August inclusive), unless it can be conclusively demonstrated by a competent ecologist that nesting birds are absent.*

Biodiversity Net Gain: A series of biodiversity enhancement measures are recommended within Appendix II which entail enhancement for nesting birds and invertebrates.

Table of Contents

1.0 Introduction & Reasons for Survey

2.0 Legislation & Policy

3.0 Protected Species in Wrexham

4.0 Survey Methods

5.0 Limitations

6.0 Desk Study Results

7.0 Field Study Results

8.0 Incidental Observations

9.0 Conclusions & Recommendations

10.0 Bibliography

Appendix I: Site Photographs

Appendix II: Biodiversity Enhancement

1.0 Introduction & Reason for Survey

- 1.1 As part of a planning application regarding the office building at the Crown Buildings, Wrexham (Figure 1), a daytime inspection and assessment in relation to bats and breeding birds was undertaken by Tyrer Ecological Consultants Ltd during May 2020. The survey was commissioned by Wrexham Borough Council and it is understood that proposals entail the internal and external refurbishment of the existing building.
- 1.2 As part of the Local Authority's Planning Policies ecological surveys are generally required, particularly where a specially protected species is or may be present and could be affected by the proposals for which the application seeks consent.

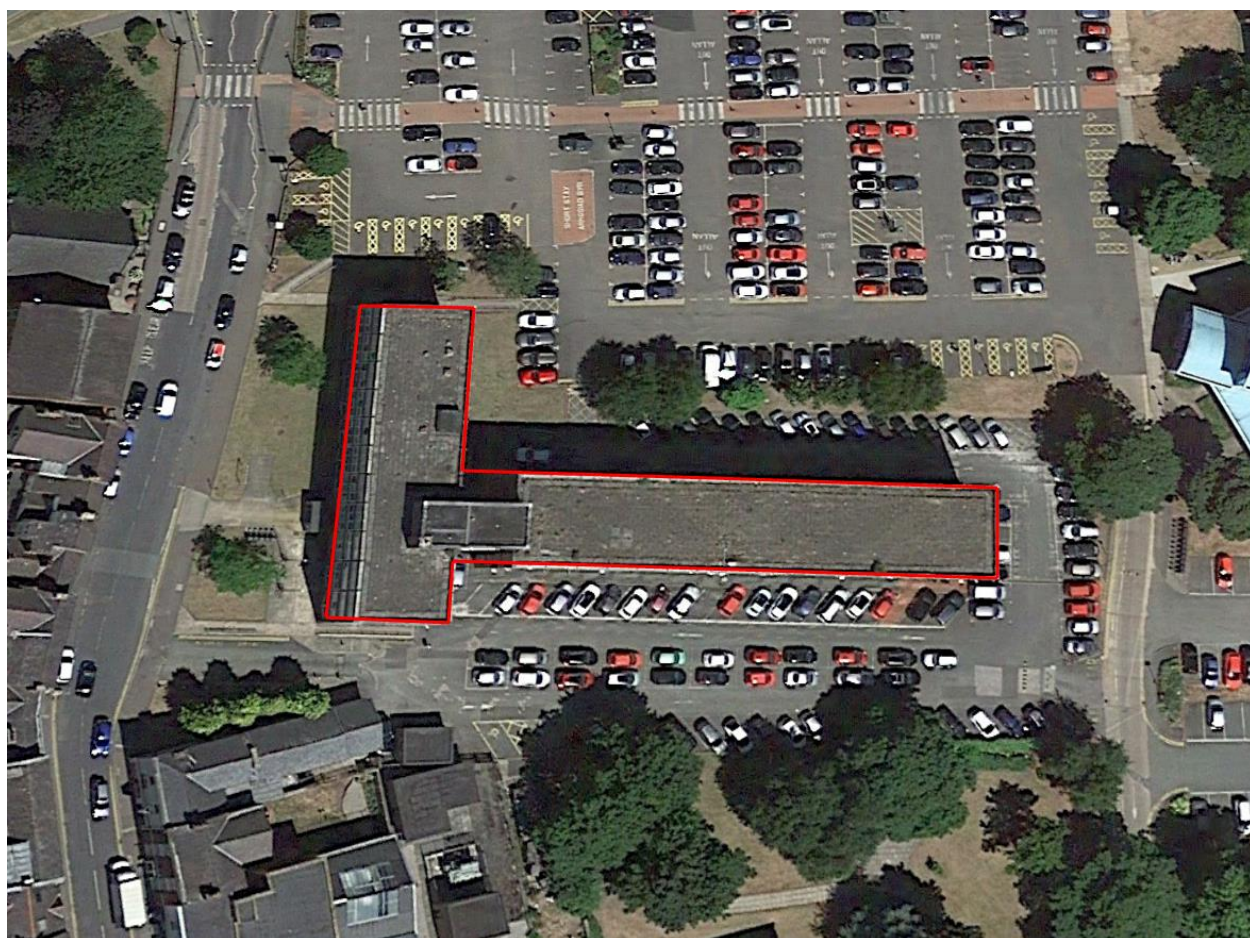


Figure 1: Red line boundary of the Crown Buildings (Google Earth 2020)

- 1.3 The aim of the inspection was to ascertain if the building is of value to bats and breeding birds; if it was found to be suitable for bats or signs of use was located then more detailed surveys would be recommended i.e. dusk/dawn emergence/re-entry surveys during the main active season of bats which is May – August. If bat/s or their roost/place of rest/shelter is subsequently affected by the work, then a European Protected Species Mitigation Licence would be required to proceed with the development.
- 1.4 The inspection was carried out during the optimum time of May – August.
- 1.5 In addition to bats the site was assessed for its potential to offer nesting provision for breeding birds; if the survey results indicate that such species may be affected by the proposals then recommendations will be made accordingly.

- 1.6 If additional surveys are required following the initial site visit the report will outline the details of those further requirements.

2.0 Legislation & Policy

- 2.1 Planning Policy Wales, 10th Edition (2018) is the Welsh Government's policy document and it describes the land use context for using land sustainably. The document supports every strategy published by the Welsh Government and it is supplemented by a variety of Technical Advice Notes (TAN's) and any circulars.

- 2.2 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

Wrexham Borough Council prepared a plan, namely the 'Wrexham Unitary Development Plan (1996 – 2011)', which was formally adopted in February 2005 and supersedes any previous development plans for the area. A new plan, the 'Wrexham Local Development Plan 2 (2013 - 2028)', which will replace the current adopted plan, is currently under review. Until this new plan is adopted, the Wrexham Unitary Development Plan remains in effect.

- 2.3 Planning authorities must therefore follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.
- 2.4 The first priority for planning authorities is therefore to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or pro-gain have been fully considered.
- 2.5 Planning authorities should ensure that features and elements of biodiversity value are retained on site, and enhanced or created where ever possible, by adopting best practice site design and green infrastructure principles. The provision of up to date ecological survey information will assist in this process. Where necessary, planning authorities should seek to modify the development proposal through discussion with the applicant at the earliest possible stage. Biodiversity and green infrastructure modifications should draw on the issues and opportunities identified in a preliminary assessment. In some circumstances, it will be appropriate to attach planning conditions, obligations or advisory notes to a permission, to secure biodiversity outcomes.
- 2.6 When all other options have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes, offsite compensation for unavoidable damage must be sought. This should normally take the form of habitat creation, or the provision of long-term management arrangements to enhance existing habitats and deliver a net benefit for biodiversity.

Where the adverse effect on the environment clearly outweighs other material considerations, the development should be refused.

- 2.7 The Environment (Wales) Act 2016 ("the Act") - requires local planning authorities to have regard to area statements in the development of Local Development Plans.

Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

“A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.”

- 2.8 All British bats and their ****roosts** are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2017. When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the 2017 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.
- 2.9 The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained.
- 2.10 Use of Buildings by Bats
- a) Summer breeding roost
 - b) Hibernation roost
 - c) Transitional or temporary roost

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

****** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats & Species Regulations 2017 (Regulation 43 (d) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

- 2.11 All wild birds no matter how common, their eggs, young and nests whilst being built or occupied are protected under both the Wildlife and Countryside Act (1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided and any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March-August) as long as it can be conclusively established by a suitably experienced ecologist that the nest/s is/are no longer in use. On occasions nests can become unoccupied during the main breeding season but the status of the nest/s should be determined by a suitably experienced ecologist before any damage takes place.

3.0 Protected Species in Wrexham

- 3.1 Up to eleven bat species have been recorded in Wrexham, many of which use built structures for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the common pipistrelle

bat (*Pipistrellus pipistrellus*); its abundant status in Wrexham is mirrored throughout the UK.

- 3.2 The number of breeding Barn owls (*Tyto alba*) within rural parts of Wrexham is moderately high across areas of countryside where suitable environs exist; they are constantly under threat from loss of habitat and nesting opportunities.

4.0 Survey Methods

- 4.1 BCT Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' 3rd edition (2016) state:-

"The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive."

Desktop Study

- 4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 3.0km of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGIC – provided by Defra) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Satellite imagery was reviewed using sources such as Google Earth (© 2019/20) to determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

Field Survey

- 4.4 The daytime survey was conducted on 12th May 2020 when the building was inspected for potential places that may be of value to bats and to determine if evidence of use was present. A full external assessment was achieved whereby all external facets were inspected for viable ingress/egress opportunities for loft or crevice-dwelling bats. The building was consequently assessed for its suitability for bats in line with the previously mentioned Bat Conservation Trust 'Good Practice Guidelines'.
- 4.5 Trees in the immediacy of the building were assessed from ground level with the aid of binoculars to appraise them for their capacity to support roosting bats. Features favoured by roosting bats include extensive holes, crevices and fissures amongst others. In addition to assessing individual trees for their value to roosting bats, their value was assessed in respect to commuting/foraging value.
- 4.6 The criteria for roost assessment is based upon the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' 3rd edition (2016) (see Figure 2).

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ^b). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ^c	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or 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 ^a and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 2: BCT guidelines extract

- 4.7 The survey was conducted at a time when bats are within their main active season (May-August inclusive) by the following surveyor:

Table 1: Surveyor credentials

Name	Description
Jonathan Pescod BSc. MRes	Ecologist with two years' experience undertaking a variety of survey types. Mr Pescod is also an accredited agent on the Class 2 Natural England bat license of Mrs. K. Wildling.

- 4.8 Whilst a data search of localised bat records was not sourced, a sufficient level of information on which to establish the potential use of the site by bats could be gathered from the daytime site visit. The UK Guidelines for Assessing and Using Biodiversity Data (CIEEM, 2016) state: *“where the development site is limited to a single building or is otherwise very small and comprises structures of low potential value for bats, data searches may be of limited value in terms of the information they can provide”*.

Furthermore, taking into consideration the nature of the immediate habitat bat species that are likely to be present can be anticipated.

- 4.9 The results, conclusions and recommendations are based on multiple factors including:

- Practical experience of surveyor
- Knowledge of bat/bird species relevant to the site location and geographical range
- Nature of the immediate and surrounding habitat in relation to foraging/hunting opportunities
- Condition of the building
- Presence/absence of a loft space

- Presence/absence of roost/nesting potential
- Value of roost/nesting potential – if present

4.10 An assessment of the buildings and developmental footprint in relation to breeding birds was conducted in tandem with the investigation for bats, when birds are within their main breeding season (March-August inclusive). Both interior and exterior elevations of the buildings were inspected for historic signs of birds that show a high dependency upon built structures, of which some of these species are in a state of decline. These might include the following:

- **Starling (*Sturnus vulgaris*):** Birds of Conservation Concern (BoCC) red status
- **House sparrow (*Passer domesticus*):** BoCC red status
- **House martin (*Delichon urbica*):** BoCC amber status
- **Swift (*Apus apus*):** BoCC amber status

4.11 Additional to the capacity to support common species of bird for breeding purposes, the application site was also subject to an assessment for its ability to support particularly notable species. This includes specially protected species such as Barn owl (*Tyto alba*), protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended).

5.0 Limitations

5.1 There are no significant constraints that would hinder the gathering of ecological information on which to base sound conclusions and recommendations.

6.0 Desk Study Results

6.1 The proposed development site is located within the centre of the town of Wrexham, to the north-west border of Wales. The immediate habitat is represented by a mixture of urbanised business/recreational habitat with associated hardstanding car parks and roads, interspersed with modest wooded parkland areas (Figure 3).

6.2 The contiguous landscape to all aspects continues in similarity to that of the immediate with further favourable environs including the Erddig Country Park approximately 1.9km to the South, which contains a mix of deciduous woodland including veteran trees and a number of waterbodies of varying sizes including the Clywedog River and Black Brook. The Sontley Marsh and Gatewen Marsh Sites of Special Scientific Interest lie approximately 2.2km to the South and 1.8km to the North-West respectively, providing additional favourable habitat in the form of wetland and further woodland. The previously identified habitats that occur in proximity to the survey area can be considered as being of (broadly) moderate ecological value for the species for which the survey was undertaken (i.e. bats and breeding birds), subject to them being present in the locality. Where good quality habitat is present close to buildings, the percentage use of those buildings by bats/birds increases given that roost/nest opportunities are available and vice versa.



Figure 3: Position of the study site within the contiguous landscape

- 6.3 An online search of Magic Maps revealed no European Protected Species Mitigation Licences (EPSMLs) within a 3.0km radius of the application site (Figure 4). A search of Tyrer Ecological Consultants Ltd.'s biological records revealed encounters with Brown Long-eared (*Plecotus auritus*), Common Noctule (*Nyctalus noctula*), Common Pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), Lesser Horseshoe (*Rhinolophus hipposideros*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*) bat encounters within the search radius; the records date from 2018 to 2019 and have been submitted to the relevant local records centre.
- 6.4 The application site falls within the impact zone for the aforementioned statutorily designated sites; it is however considered highly unlikely that the proposed development at will have any impact upon nearby designated sites or the qualifying species species/habitats for which they have been designated due to the low impact nature of the works.

MAGiC



Figure 4: Magic map 3km radius search (MAGiC Maps 2020)

7.0 Field Study Results

Bats

- 7.1 The Crown Buildings consist of an interconnected set of three flat-roofed structures constructed of brick and with a concrete façade beneath the windows, forming an “L” shape, with four storeys along either wing and five in the central connecting section. The building is currently in use as a council office, and appears in relatively good aesthetic condition. The footprint of the building is to estimated maximum measurements of 80m x 40m x 20m (L x W x H).
- 7.2 Due to the construction of the property, loft spaces are absent, therefore, the structure is concluded to be devoid of suitability respective to the preferred breeding requirements of loft-dwelling bat species such as the Brown long-eared bat (*Plecotus auritus*), as this is a species which prefers open, unrestrictive and darkened loft spaces with consistent thermal qualities. Notwithstanding this, an absence of breeding suitability for this species does not necessarily preclude potential for occasional use, if viable external egress/ingress opportunities are available. During the investigation, no evidence of loft-dwelling species was identified and the immediate habitat, although suitable for some bats species is not considered suitable for the specific foraging requirements of Brown Long Eared bats.
- 7.3 Similarly, it could not be ascertained if material such a traditional bitumen underfelt has been applied beneath the flat roof; where present, roof linings may significantly improve the probability of occupancy by crevice-dwelling species of bat such as the common pipistrelle (*Pipistrellus pipistrellus*), whereby bats are able to roost between external materials and underfelt, provided external access opportunities exist.

During the investigation, no evidence of crevice-dwelling bats was identified upon appraisal of the property; however, this is often the case due to the cavity-inhabiting nature of this species group.

NB: The breeding roosts of pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony, but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.

- 7.4 The external assessment of the Crown Buildings found the structure to be generally well sealed throughout, notwithstanding this two viable ingress opportunities were identified, namely:

- A minor gap above a sash window
- A major gap into the wall cavity at ground level

- 7.5 No trees within the immediacy of the building were found to pertain to above 'negligible' bat roost potential, given an absence of potential roost features that might include holes, splits, cracks, caverns, cavities, or hollows. However, the trees and bushes in the immediacy of the site are valuable to bats locally in that they provide semi-permanent landmarks which aid commuting and provide cover from predators, whilst also supporting the flying insects that form the staple component of a bats diet – this offering foraging value.

Birds

- 7.6 A number of opportunities that favour the nesting habits of various bird species exist across the site, in the form of the aforementioned gaps, and in the vegetation adjacent to the building. Although no historical evidence of nesting was identified upon inspection, the presence of nesting birds within the nesting period (March-August inclusive) is considered to be possible. A full list of birds observed using the site is given below:

- Blackbird (*Turdus merula*)
- Blue Tit (*Cyanistes caeruleus*)
- Jackdaw (*Corvus monedula*)
- Pied Wagtail (*Motacilla alba*)

- 7.7 No areas considered to be suitable for the breeding habits of any Schedule 1 WCA-listed species were identified on site and no evidence of such species was located across the full extent of the survey area.

8.0 Conclusions & Recommendations

- 8.1 The Crown Buildings has been found to possess Potential Roost Features and in association with bat related foraging habitat the structures collectively have consequently been categorised to possess 'Moderate' roost suitability in accordance with current BCT guidance (Figure 2). Based upon this categorisation and when taking the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' 3rd edition (2016) (Figure 5) into consideration then in order to establish if bats are using either building as a roost then two suitably spaced apart, (at least two weeks) dusk emergence or/and dawn re-entry surveys will be required between the months May-August inclusive.

Bat Conservation Trust

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Figure 5: Recommended number of surveys

8.2 In the event that the presence of roosting bats at the building is initially established then an additional survey may be required and a European Protected Species Mitigation Licence (EPSML) and subsequent granting of a licence from Natural Resources Wales will be required for the development to legally proceed where bat roosts will be destroyed, altered, obstructed or damaged or if bats will be disturbed or capture/exclusion is required prior to demolition. However, it should be noted that if a breeding roost is discovered then work that will result in any of the above actions cannot take place until after the breeding season, which is broadly May- end of August inclusive.

8.3 Natural Resources Wales provide online information and guidance concerning the requirement for EPSML's and the following extract is included in that guidance:
 When would works require a licence?

"A licence is required for anything that would be an offence under the Regulations (covered in section 2.9 of this report). For example, this could include works which would disturb (as defined in the legislation) bats, damage a bat roost, or damage or destroy a breeding site.

NRW can only grant a licence if the following three tests are met:

1) The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest (IROPI) including those of a social or economic nature and beneficial consequences of primary importance for the environment,

2) There is no satisfactory alternative,

3) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range; this last test might require that the work is modified to avoid or minimise adverse effects (mitigation), or that an alternative breeding site/resting place or habitat is provided instead to safeguard the FCS (compensation). Either way, you will need the advice of an ecological consultant. Along with filling in the licence application form, the ecological consultant will need to write a method statement (within the EPSML) explaining how the work will be done to minimise any detrimental effects.

If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. However, in these circumstances Natural Resources Wales would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found

during the course of the activity. If protected species are found, cease the work until you have assessed whether you can proceed without committing an offence.

When might I work without a licence?

There might be situations in which you could continue without a licence. If the work can be organised in such a way that there would be no offences committed (i.e. no damage or destruction of a breeding site/resting place, no capturing, killing or injuring of individuals) then there is no need for a licence. This is a difficult area legally and your ecological consultant will be able to advise you further.

Developers should be aware that if work is held up or modified and there is a possibility that animals will be disturbed, or a breeding site / resting place will be unavailable to them (even if only temporarily), they should apply for a licence in good time.

Example: If a building with a bat roost requires re-roofing or repair work, you would not need a licence if:

- the existing materials are replaced like-for-like (i.e. similar type of roofing slates, similar felt or membrane),
- the same access points are retained and there are no structural changes made to the roost,
- the work is done whilst bats are absent and is completed before they would normally return to the roost.

NB: Where more detailed bat surveys are recommended, following an initial investigation, then Local Authorities on the advice of their ecological advisors, may not determine the application until such time that all relevant information is gathered, i.e. by conducting dusk/dawn surveys. The advice that is provided by the ecological advisors is also in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2017. Therefore it would be prudent to make enquiries to the relevant departmental Planning Officer before submitting a Planning Application that includes an ecological survey report that recommends more detailed surveys.

- 8.4 Installation of lighting as part of any future development, that exceeds current levels, may have a negative impact upon foraging/commuting bats, particularly if increased light spillage occurs in areas of that are currently free from/with low levels of illumination which includes the parameters of the site boundary to the south-west.

If inappropriate and ill designed lighting is implemented then there is likely to be an adverse impact upon bats; see extract below from Bat Conservation Lighting Guidelines.

Type of lamp (light source)

The impact on bats can be minimised by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur

There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels

The light should be as low as guidelines permit. If lighting is not needed, don't light.

Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further information.

- 8.5 Provision for bats is recommended to be incorporated within the development proposals, the specification for which is to be determined by the bat ecologist. As an example, an integrated bat box within a south gable elevation of the proposed new dwelling would increase the value of the site for roosting bats (Figure 6)

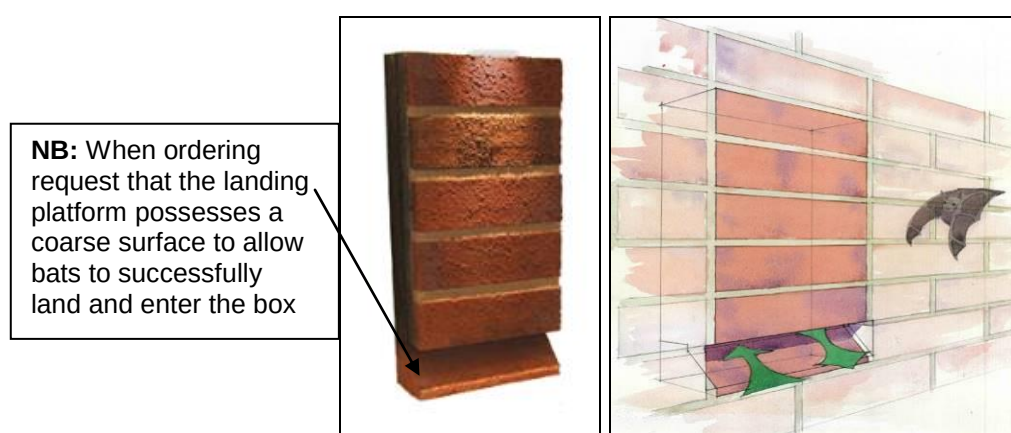


Figure 6: Indicative integrated bat box compensation

- 8.6 A selection of suitable bird nesting opportunities exist at the site and the wider area, therefore, it is recommended that demolition and any clearance operations are undertaken outside the nesting bird season (March-August inclusive) unless it can be conclusively demonstrated by a suitably experienced professional¹ ecologist that nesting birds are absent; notably within the bird boxes.
- 8.7 To improve opportunities for nesting birds on site, enhancement for nesting birds is recommended to be incorporated into the new development as per Appendix II.

¹ Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as “a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.”

9.0 Bibliography

- **Bat Conservation Trust (BCT)**, 2018. *Bats and artificial lighting in the UK: Bats and the Built Environment series*. Available from: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>
- **CIEEM et al**, 2019. *Biodiversity Net Gain: Good practice principles for development*. Available from: www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf
- **CIEEM**, 2017. *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Available from: www.cieem.net/data/files/Publications/Guidelines_for_Preliminary_Ecological_Appraisal_Jan2018_1.pdf
- **CIEEM**, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland*, 2nd edition. Available from: www.cieem.net/data/files/Publications/EclA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
- **CIEEM**, 2016. *UK Guidelines for Accessing and Using Biodiversity Data*. Available from: www.cieem.net/data/files/Publications/Guidelines_for_Accessing_and_Using_Biodiversity_Data.pdf
- **Collins, J (ed.)**, 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd edition. The Bat Conservation Trust, London.
- **GOV.UK**. 2016. Environment (Wales) Act 2016. Available on the World Wide Web via www.legislation.gov.uk/anaw/2016/3/section/6/enacted. Accessed 2020.
- **GOV.Wales**. 2018. Planning Policy Wales - <https://gov.wales/planning-policy-wales>. Available on the World Wide Web. Accessed 2020
- **Magic Maps Application**, 2020. Available from: www.natureonthemap.naturalengland.org.uk/MagicMap.aspx
- **Mitchell-Jones, A. J.**, 2004. *Bat mitigation guidelines*. External Relations Team, English Nature, Northminster House, Peterborough, PE1 1UA.
- **Mitchell-Jones, A. J. (ed.)**, 1987. *The bat worker's manual*. Dept. BWM, Nature Conservancy Council, Northminster House, Peterborough, PE1 1UA.

Appendix I: Site Photographs



Plate 1: North-West elevation of the Crown Buildings



Plate 2: North elevation of the Crown Buildings



Plate 3: South elevation of the Crown Buildings



Plate 4: Minor gap above sash window in North-West inside corner



Plate 5: Major gap leading to wall cavity on western end of North face

Appendix II: Biodiversity Enhancement

Enhancement

House sparrow

The 'Sparrow Terrace' has been designed to help redress the balance of falling house sparrow numbers. The current UK population is half what it was in 1980 and this is thought to be due to habitat destruction and lack of suitable nesting spaces. Sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families.

The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of agricultural buildings such as barns under eaves or overhanging roofs on a North - North East elevation

<http://www.nhbs.com/title/174850/1sp-schwegler-sparrow-terrace>



Swift

The type of entrance possessed by the WoodStone Swift Nest Box is preferred by swifts and discourages competing species such as house sparrows.

This box should be installed at least five metres above ground level, ensuring that there is unobstructed access for birds entering and leaving, preferably being placed in a sheltered locality under eaves or overhanging roofs on a North- North East elevation



https://www.nhbs.com/woodstone-swift-nest-box?bkfno=217160&ca_id=1495&qclid=EAlaIqobChMI4Ovj4pXq5wIVFZ3VCh3_oQWGEAkYASABEqJ1Z_D_BwE

Invertebrates

Bee and Bug Houses will provide valuable habitat on site for solitary bees and other insects. At a time when many of our native insects are struggling, this is a fantastic way to give them a helping hand. Top chambers can feature wooden nesting tubes in wooden blocks, together with bamboo tubes of various sizes. Alternatively holes can be drilled into existing timber to create novel designs - perfect for attracting ladybirds, earwigs and lacewings. Other chambers can be filled with miscellaneous items such as pine cones to provide nooks and crannies for insects, aiding to provide habitat for insects that predate natural garden pests such as aphids. Natural materials, such as straw or bark, will provide an excellent winter habitat for lacewings, ladybirds, woodlice, earwigs and many other bugs. A range of other novel ideas can be used.

For example, see link - www.nhbs.com/bee-and-bug-biome

