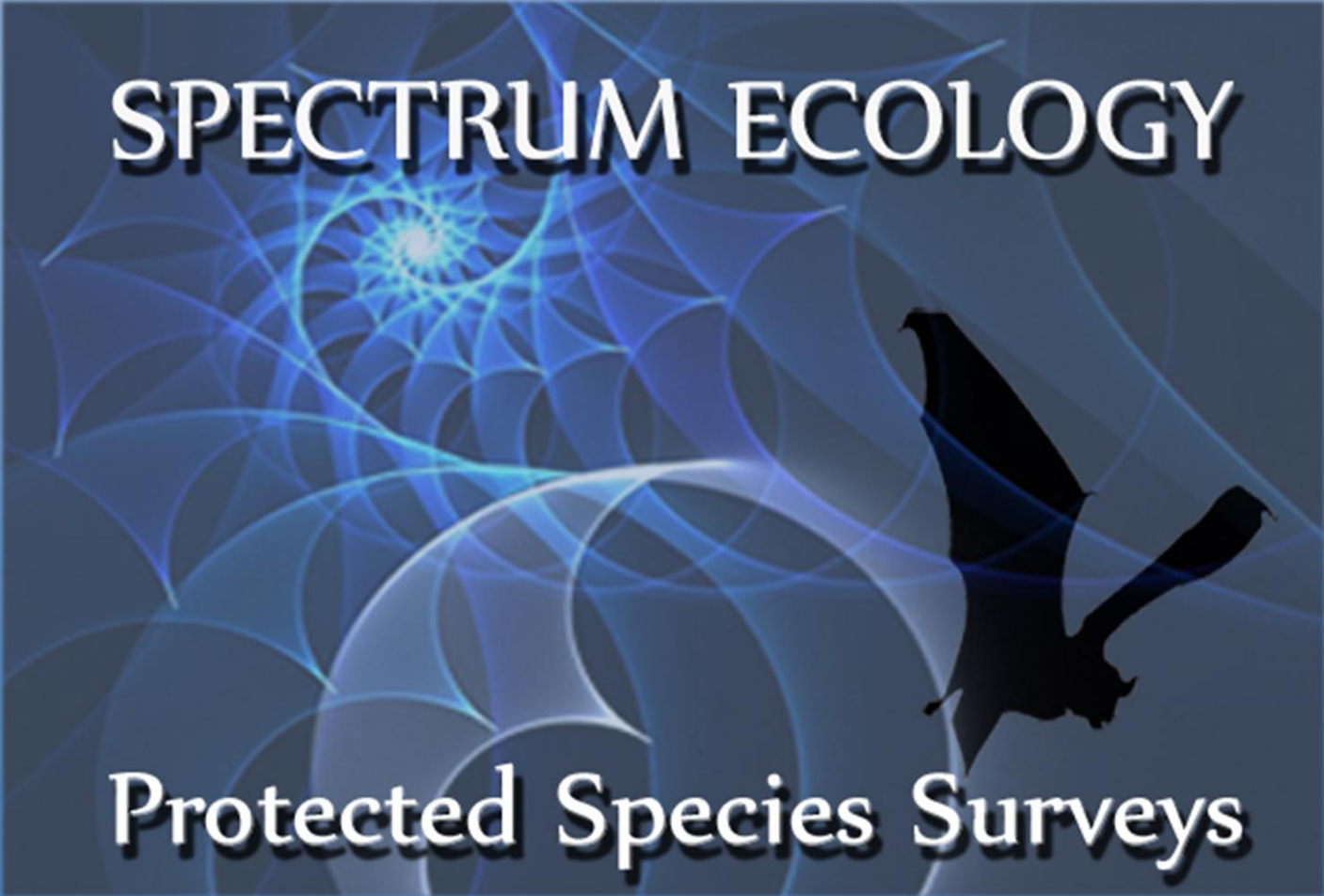


SPECTRUM ECOLOGY

The background of the top section is a dark blue rectangle. It features a complex, glowing blue fractal pattern on the left side, resembling a spiral or a complex web. On the right side, there is a black silhouette of a bat in flight, facing right. The overall aesthetic is scientific and ecological.

Protected Species Surveys

Preliminary Ecological Assessment Survey Report
Land to west of Prince Charles Hospital
Merthyr

Report Prepared for:
Christopher Edmunds

March 2020

SPECTRUM ECOLOGY
Ecological & Protected Species Surveys

Disclaimer

This document has been prepared by Spectrum Ecology, for Christopher Edmunds of Interserve Construction Ltd solely as a baseline ecological survey report. Spectrum Ecology accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Information on legally protected, rare or vulnerable species may appear in ecological reports. In such cases it is recommended that appropriate caution be used when circulating copies. Whilst all due and reasonable care is taken in the preparation of reports, Spectrum Ecology accepts no responsibility whatsoever for any consequences of the release of this report to third parties.

NON-TECHNICAL SUMMARY

Spectrum Ecology was commissioned by Christopher Edmunds of Interserve Construction Ltd to undertake a baseline ecological survey of land located to the west of Prince Charles Hospital, Merthyr. The land adjoins an existing small car park and the proposals are to develop the land under survey to increase the parking provision for contractors currently working on the redevelopment of the hospital. The survey assessed the site for potential ecological constraints to be considered in the formulation of an application to the local planning authority.

The surveyed area proposed for development is less than 1 acre in size and consists of an open vegetated plateau area of what may originally have been compacted arisings resulting from the demolition of a previous structure in the vicinity. Evidence from the client suggests that the area of the existing car park was the site of the Merthyr Valleys Home office building, and prior to that a public house called the Matchstick Man. Observations of stone rubble and areas of hard-standing exposed beneath the vegetation in certain areas suggests that the survey site is comprised of the demolished material which was subsequently compacted, landscaped and allowed to vegetate over.

Botanically the site supports the range of plant species typical of the regenerating 'brownfield' habitat type, dominated by the courser 'tussocky' grasses (Cocksfoot and Yorkshire fog), with frequent dock, thistle, ribwort plantain, black knapweed, and clovers. Moss has become established in large areas. Bramble is becoming established on the margins.

It should be noted that the survey was undertaken during mid-March, a sub-optimal time for carrying out such investigations as much of the flora present will not be in the growth phase and can therefore be missed or difficult to identify. The client advised that the survey was required with some urgency due to project timescales and so this early survey date couldn't be avoided. However, the surveyors consider that while there will undoubtedly be more botanical species present than those identified as part of this survey, enough species were apparent to be able to confidently characterise the habitat type and it's relative ecological importance and potential for other species.

The assemblages noted are of only moderate intrinsic nature conservation value in and of themselves. However, collectively the habitat type is known to have value for invertebrates, amphibians, reptiles, small mammals and foraging bats. Due to the lack of connectivity with wider habitats however, this value is significantly diminished

Small areas of stone and 'hardstanding' are visible through the vegetation in some areas.

No mature trees exist within the proposed development boundary, although a small number of scrub-level hawthorn, birch, oak and willow trees have become established immediately beyond the boundary of the area proposed for development. These young trees contain none of the features with known potential for roosting bats.

The land proposed for development is relatively small in extent, comprising the most level plateau part of a larger 'semi-natural green space' which extends to the north from the survey site (see aerial image below). However, this wider parcel of land which contains the survey site is itself isolated and surrounded by roads and development on all sides, meaning there is no connectivity to the wider habitats and natural environment. This further reduces the ecological value.

As stated above, the proposed development area comprises only the most level plateau part of the wider site. Where this level 'plateau' topography changes and the land drops away, a bank comprised of large stone rubble exists on the north, south and west boundaries. This further suggests that the site is comprised of landscaped, compacted arisings from a previously demolished structure. Banks such as these can hold varying degrees of potential for reptiles and as terrestrial habitat for amphibians. As this bank does not form part of the proposed development site and as it holds some potential ecological value, it is advised that a minimum 3 metre buffer is retained and allowed for in planning the site layout. Retaining a minimum 3 metre strip would help to ensure that the feature continues to function ecologically and provide suitable habitat in the unlikely event that any amphibians and reptiles are using the site.

The general habitat is of a type that is known to have potential for reptiles. However, the small scale of the site and the lack of connectivity to wider habitats would suggest that the potential is significantly decreased.

For this reason, it is considered that a full suite of reptile surveys would not be necessary, but it is suggested that works to clear vegetation should be carried out under a method statement which takes account of the potential for reptiles and other sensitive species, with an ecological clerk of works (ECoW) present who can carry out a walkover survey for reptiles and other species immediately ahead of such works. The method statement would detail the sensitive working method for clearing the site to ensure potential impacts are mitigated, and would include details of how the vegetation will be cut (e.g. 2 phase cutting, directional cutting etc). Sensitive timing of works would also be important for any ground investigations which should ideally occur after April 2020 once the potential for disturbing hibernating reptiles has passed.

The bramble scrub and some of the taller vegetation on the site is good potential habitat for nesting birds. Vegetation clearance should ideally be conducted outside of the bird nesting period (which is March – August). However, given the small scale of the site and the small number of high potential features, it is considered that the works could be carried out at any time of year if necessary under a method statement with the ECoW carrying out fingertip searches for nesting birds and other species immediately ahead of clearance works to mitigate the potential for disturbance. It should be noted that if nesting birds were found in such a scenario, then all works would cease until such a time as the nest becomes inactive, in accordance with the relevant legislation.

No signs or visual evidence of badger were found within the site, although a specific survey for the species was not carried out as part of this preliminary ecological assessment. It is considered that badgers are unlikely to be using the site due to the lack of connectivity.

A SEWBRc data search for bats undertaken less than 6 months prior to the present survey showed that a number of species are present in the wider vicinity, although none occur in the immediate vicinity of the survey site itself and all records were over 6 years old. The proposed development site does not contain any trees with potential for roosting bats and the site presents sub-optimal commuting and foraging potential for bats due to its isolated nature and lack of connectivity to the wider natural habitats. Due to the relatively small scale of the development and the more suitable habitat to the north which will remain unaffected by works, it is considered that no further surveys for bats are required.

Overall, the survey confirms that there are no in-principle ecological constraints to prevent

the sensitive development of this site, providing initial clearance works are guided by an appropriate method statement with the appropriate mitigation strategies. It is considered that no further surveys are required, other than the pre-works walkover checks immediately ahead of clearance works.

Enhancement measures (in line with the Environment (Wales) Act 2016) could include supplementary sowing of an appropriate native species wildflower seed mix within the retained buffer strip bordering the development site on the north, south and western sides. The seed mix should be chosen to ensure compatibility with the existing habitat. It is suggested that the Emorsgate EM10F – Tussock Wild Flowers seed mix from Emorsgate Seeds (<https://wildseed.co.uk/mixtures/view/32>) would be an appropriate choice for this. This mixture contains wild flowers that, once established, can cope with competition from taller tussocky vegetation such as that currently existing at the site. The mixture contains species which are already present and others which are appropriate for the habitat and which will add to the overall biodiversity. This mixture also has the advantage that after the first year of sowing and establishment, it will need little or no management and can be left uncut to become rough and tussocky in nature, harmonising with the remaining wider habitat. When the site is reinstated, the established buffer strip bordering the site will aid in the recolonisation of species.

Contents

1. INTRODUCTION.....	6
2. METHODOLOGY.....	7
2.1 DESK STUDY.....	7
2.2 FIELD SURVEY.....	8
2.3 LIMITATIONS.....	8
3. RELEVANT LEGISLATION & POLICY.....	9
3.1 LEGISLATION.....	9
3.2 POLICY.....	10
4. RESULTS.....	11
4.1 HABITAT DESCRIPTIONS	11
4.2 DESIGNATED SITES.....	11
4.3 PROTECTED SPECIES.....	11
5. DISCUSSION & RECOMMENDATIONS.....	13
5.1 HABITATS.....	13
5.2 SPECIES.....	14
5.3 SUMMARY.....	16
6. Surveyor Experience.....	18
APPENDIX 1 – PHASE 1 HABITAT SURVEY MAP WITH PHOTOGRAPHS.....	19
APPENDIX 2 – BOTANICAL SPECIES LIST.....	25
APPENDIX 3 – DATA SEARCH ANALYSIS.....	26

1. Introduction

1.1 Spectrum Ecology was commissioned by Mr. Christopher Edmunds of Interserve Construction Ltd, to undertake a baseline preliminary ecological assessment of land to the west of Prince Charles Hospital, Merthyr, grid reference SO 04206 08191, in order to assess the site for potential ecological constraints to inform proposals for creating additional car parking provision on the land. Any constraints identified will be considered in the formulation of an application to the local planning authority. As part of the standard survey, an assessment was made of the habitats found at the location, including their species composition as far as possible. Protected species were also given consideration in assessing habitat value and suitability.

1.2 The area of land proposed for development and subject to the present survey is a relatively small, approximately 60m x 40m section of a larger parcel of land adjoining an existing car park. The larger parcel of land within which the proposed development site is situated is itself surrounded by development on all sides with no connectivity to wider natural habitats. This larger parcel of land measures approximately 150m x 80m. Surrounding this parcel of land is the Prince Charles Hospital complex to the East and the Gurnos Estate conurbation. Beyond the settlement boundary the landscape is rural in character with firelds, wooded strips and woodland blocks.

1.3 Aerial photograph showing the extent of the survey area.



1.4 Aerial photograph showing the site in a wider landscape context.



2. Methodology

2.1 Desk Study

The following websites were accessed to search for statutory designated sites and legally protected taxa within 1 km of the proposed development site:

- Landmap Natural Resources Wales
<http://landmap-maps.naturalresources.wales>
- National Biodiversity Network Gateway – data.nbn.org.uk.
- Merthyr Tydfil County Borough Local Biodiversity Action Plan: Action for Wildlife in Merthyr Tydfil 2014 - 2019

2.1 Field Survey

2.1.1 Flora

2.1.1.1 Habitats

The habitat survey and mapping exercise was carried out by Daniel Lock & Leigh Tuck (Ecologists) on 19th March 2020, using standard Phase 1 Habitat survey methodology as a framework of reference (JNCC, 2003).

2.1.1.2 Species

In addition to general habitat classification, a botanical species list was also compiled. The status of each species was checked against the appropriate local or national floras.

2.1.2 Fauna

2.1.2.1 Habitats

Habitats and features with potential to support protected and/or conservation priority fauna species, together with any field signs of such species, were recorded during the surveys.

2.1.2.2 Species

Amongst others, a search was undertaken for the following key habitats and/or field signs for protected or conservation priority species; Badger, Bat, Great Crested Newt, Dormouse.

2.2 Limitations and Constraints

2.2.1 Desk Study

Desk study data is not likely to be exhaustive and it is therefore possible that protected species not identified during the data search do in fact occur within the wider vicinity of the proposed development site. Most notable in this regard are local bat populations. A BARB+ SEWBRc search for the immediate vicinity was commissioned less than 5 months prior to the present survey on 24th October 2019 to inform redevelopment of buildings located within the wider hospital site. This data search can still be considered recent. This prior data search was supplemented with a National Biodiversity Network Record Search (see Appendices).

2.2.2 Field Survey

The survey was undertaken on the 19th March 2020, a sub-optimal time for surveying floral assemblages as many late spring / summer emerging plants will not be present or obvious. However the survey was deemed by the client to be urgent as the proposed development is considered integral to the continuance of the wider hospital redevelopment project with an estimated £130 million cost. The relatively small size of the affected area due to the relatively small scale of the development somewhat mitigates the constraint, particularly as the land in question is relatively small in size,

appears to have been previously developed and has no connectivity to surrounding habitat. The relatively homogeneous nature of the survey site and the floral assemblages that could be observed and recorded allowed for an adequate characterisation and comprehensive assessment.

3. RELEVANT LEGISLATION & POLICY

3.1 Legislation

3.1.1 Habitat Regulations

The Conservation (Natural Habitats &c.) Regulations 1994, as amended by the Conservation (Natural Habitats &c.) (Amendment) Regulations 2007, 2010 and 2017 respectively, transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English & Welsh law, making it an offence to deliberately capture, kill or disturb any wild animal protected under the Habitat Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

3.1.2 Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CROW) 2000 and the Natural Environment and Rural Communities Act(NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds(Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act;
- Intentionally damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act;
- Disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information. Web addresses providing access to the full text of these documents are given in the References & Bibliography section.

Disturbance is defined by the Habitat Regulations as any action which impairs the ability of an animal to survive, breed, rear its young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

3.1.3 Protection of Badgers Act

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes

disturbing badgers whilst they are occupying a sett or obstructing access to it.

3.1.4 Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

3.1.5 The Environment Act (Wales) 2016

The Environment Act (Wales) 2016 section 6 'Biodiversity and resilience of ecosystems; places a duty on public authorities under subsection (1) to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duties in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

3.2 Policy

3.2.1 Planning Policy Statement

Planning Policy Wales Chapter 5, as well as accompanying documents including TAN 9 and TAN 12 set out current government policy on biodiversity and nature conservation which place a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications. Planning Policy Wales also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development.

3.2.2 Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels. The Merthyr Tydfil Biodiversity Action Plan contains the Section 7 List of Habitats of Principal Importance as identified by the Welsh Government under the Environment (Wales) Act 2016. This replaces the Natural Environment and Rural Communities Act 2006 (Section 42).

4. Results

4.1 Habitat Descriptions

4.1.1 Habitats

4.1.1.1 Woodland and Scrub

There were no areas of woodland and no trees within the main body of the site which is proposed for development. A number of small, immature trees with trunk diameters less than 10cm are found on the margins immediately beyond the proposed boundary of the development. These include a young pendunculate oak (*Quercus robur*) and young sycamore (*Acer pseudoplatanus*) on the southern bank, silver birch (*Betula pendula*) and hawthorn (*Crataegus monogyna*) just beyond the northern boundary and young Goat willow (*Salix caprea*) trees growing amongst bramble scrub beyond the western boundary.

The site is essentially scrubland with rough grassland progressing through ecological succession. Stands of bramble (*Rubus spp*) are becoming established at the margins. Such areas provide potential nesting habitat for birds and cover for small mammals, amphibians and reptiles.

4.1.1.2 Hedgerow and Hedgerow Trees

No hedgerows or hedgerow trees occur within or immediately beyond the proposed development boundary.

4.1.1.3 Stream, Ditches and Waterbodies.

No streams, ditches or waterbodies are found at the survey site.

4.2 Designated sites

There are no designated or statutory protected sites nearby which would be impacted by the proposed development.

4.3 Protected Species

4.3.1 As part of the survey, the site was assessed for the potential of certain protected species utilising the area. These specifically included Great crested newt, Badger and Bat. It should be noted that this in no way constitutes a formal survey for such species, but rather a brief, rudimentary assessment of habitat suitability.

4.3.2 Great crested Newt

The site would present some value as terrestrial habitat for the species if it was connected to wider habitats, particularly water bodies. However the wider site is surrounded on all sides by development with no connectivity to wider natural habitats including water bodies. The site was therefore discounted as having any potential for

the species.

4.3.3 Badger

No evidence of Badger activity was found within the survey site. This included no evidence of setts, latrines or badger paths. The general habitat type surveyed is of a kind known to support badger populations, but the limited size of the site and the lack of connectivity to the wider natural landscape suggests a very low likelihood of the species utilising the site and being impacted by the proposed developments.

4.3.4 Bats

There is little in the way of potential roosting features and while the survey site does contain habitat features known to be utilised by foraging bat species, the isolated nature and lack of connectivity to wider habitats suggests the site has low suitability for commuting and foraging bats (see Table 4.1 – Bat Surveys for Professional Ecologists Good Practice Guidelines, Collins 2016). The area proposed for development constitutes only the most level, raised plateau area of the wider ‘semi-natural green space’. This wider habitat will remain untouched by the development and constitutes more optimal habitat for foraging bats, comprising as it does more semi-mature trees and vegetation cover in general.

A Bats and Roof-nesting Birds (BARB+) search was commissioned from the South East Wales Biological Recording Centre (SEWBReC) as part of other surveys carried out less than 6 months prior to the current survey, in October 2019, to check for records of the species within the immediate vicinity of Prince Charles Hospital. The Local Environment Record Centre (LERC) reference for this report is: 0190-517.

The BARB+ search showed that the nearest recorded bats were Soprano pipistrelles (*Pipistrellus pygmaeus*), recorded over 700 metres from the Prince Charles Hospital site. In all, the search showed that more than 7 species of bat were recorded within 1km of the site. The vast majority of records were for pipistrelle species, with occasional records for myotis species (including daubentons *Myotis daubentonii* and natterers *Myotis nattereri* bats) and lesser horseshoe *Rhinolophus hipposideros* bats, with a single record for brown long-eared *Plecotus auritus* bats and another single record for serotine *Eptesicus serotinus* bats.

All such records were over 6 years old and not recent, with bats observed in habitats ranging from quarries to river corridors. The records are therefore in line with what bat species may be expected to be encountered in the various wider natural habitats. It is considered that these wider habitats are likely to present better foraging potential than that found at the proposed development site

It is considered that the limited scale of the development occurring in an area of the site with the least habitat value means that any potential impact to the species will be negligible.

The car park created will be temporary and the eventual reinstatement of natural habitats will present opportunities to increase the overall value for foraging bats.

5 DISCUSSION & RECOMMENDATIONS

5.1 Habitats

5.1.1. Formerly developed 'brownfield' sites such as this are favoured for new development. However, there is also an increasing understanding of their potential for ecological value. Although containing plant species and assemblages which are widespread, with relatively little intrinsic conservation value in and of themselves, the habitat as a whole is of a type known to be relatively important for reptiles, invertebrates, small mammals, foraging bats and amphibians. However the isolated nature of the site with no connectivity to the wider surrounding natural landscape means that this potential value is significantly diminished.

5.1.2. Other than the wider semi-natural green space below the survey site to the north, the proposed development site has little connectivity to the wider natural environment. It is essentially a previously developed site which has been subject to demolition works, landscaped and allowed to vegetate over with existing development on the immediate east, south and west boundaries and a relatively small area of semi-natural habitat joining to the north which then itself is surrounded by development with no link to wider natural habitats. However, whilst this wider green space site in which the proposed development site sits is somewhat isolated, it represents an oasis of habitat within the highly managed amenity grassland desert of the Gurnos housing estate. The wider site as a whole may therefore have importance for foraging bats if there are nearby roosts. The SEWBRc report however shows that there are no records of roosting bats within a least 700 metres of the survey site. The area proposed for development is a relatively small area and a relatively small section of the wider semi-natural green space which extends to the north and in which it is located. That wider green space has more semi-mature trees and vegetation cover and presents better opportunities for foraging bats than the area proposed for development. While the temporary loss of the site to development would result in impacts to the immediate habitat, there would be no associated impact in terms of diminished connectivity with implications for local green infrastructure.

5.1.3. The site proposed for development is an elevated platform within the wider green space, surrounded on its north, south and west sides by a stone rubble bank. This bank feature should be protected and retained if any such development were to take place, with a minimum 3 metre buffer strip maintained along the northern, southern and western sides. Retaining a minimum 3 metre strip would help to maintain some of the ecological value of the feature.

5.1.4. The survey has not found any specific area or species of high conservation value within the proposed development site and therefore would advise that the proposed development would be suitable for this site from a conservation point of view. Due to the isolated nature of the site with little connectivity and also the degraded nature of the site with ample evidence of fly-tipping, fire damage and other anti-social behaviour causing disturbance, there is no requirement for additional surveys other than pre-construction checks (see below) as the site is far from optimal habitat for any protected/high value species. In addition to this the risk of disturbance to neighbouring wildlife is negligible if the work was to be completed solely within the boundaries of the proposed development site.

However, during the preparatory stages of construction, it is advised that the clearance of the vegetation is completed under the direction of a method statement and under the supervision of a qualified ecologist to ensure any wildlife present is protected and considered throughout. Any incidental wildlife encountered can be released to the adjacent

suitable habitat to the north. The lack of connectivity suggests the site has little potential for significant reptile populations; however the fly-tipped material and limited areas of stone / rubble could be a potential refuge to any which have entered the site. The same precautionary consideration applies to small mammals, birds, amphibians and invertebrates which may use such features for nesting / refuge.

To ensure no negative impact to any reptiles, amphibians or other species which may be present, pre-construction walkover surveys will be carried out to check such features for presence of the species. Any individuals found will be relocated to suitable adjacent habitat to the north. If significant numbers of protected species such as reptile are found suggesting a population has become established at the site, works will not proceed until an appropriate level of survey effort has been undertaken to determine the appropriate level of mitigation.

5.1.5. Despite the bramble scrub and small trees bordering the site not being within the official boundary, they nevertheless present value as wildlife habitat, particularly for nesting birds. If any future development was to require removal of these features, the works should be mindful of nesting birds and should be carried out according to best practice. This would include sensitive working practices and timings of works, as well as mitigation and compensation measures determined by specific surveys for species likely to be impacted.

It is recommended that a pre-construction walkover check be carried out for nesting birds immediately prior to any development.

5.1.6. The site also has potential for small mammals. Any future site clearance works should therefore take this into consideration, along with the potential presence of other species. Clearance works should proceed under the guidance of a method statement which details the appropriate working method (2 phase cutting, directional cutting etc) so as to minimise any potential impact.

5.2 Species

5.2.1 Bats

As previously noted, the site presents some foraging opportunities for local bat populations, although this potential is diminished due to the lack of connectivity with the wider natural environment. The wider green space which extends below and to the north of the survey site is considered to have more potential value to bats and the limited scope of the proposed development and lack of bat records for the immediate vicinity suggest that the likely impact on the species would be negligible and no dedicated surveys for the species are considered necessary. However it is recommended that additional lighting as part of the development will be avoided in the first instance. If unavoidable, additional lighting will be kept to a minimum and any proposed lighting will conform to the following guidance and recommendations:

(2018) Guidance Note 08/18. Bats and artificial lighting in the UK: Bats and the Built Environment series. Bat Conservation Trust and Institute of Lighting Professionals:

- a. <https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?mtime=20181113114229>

If lighting is required, a lighting plan should be submitted demonstrating compliance with the above guidance and demonstrating no lighting of the habitat that will remain onsite outside of the car park.

All bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended England and Wales) and are also included in Schedule 2 of The Conservation of Habitats and Species Regulations 2010. The Countryside and Rights of Way Act 2000 have provided further enforcement powers.

5.2.2 Badger

No signs of badger were found during the site visit, but it should be noted that this species is mobile and depends on a wider territory which may encompass all or part of the site. The National Biodiversity Network record check showed one record of badger approximately 1 km to the north of the survey site. However, the lack of evidence for presence of badger observed during the survey, and the fact that the survey site represents only a relatively small area of the slightly larger green space which itself has no connectivity to wider habitat, suggests the site it is highly unlikely to be very significant for local badger populations. It is therefore considered that no dedicated surveys for badgers are required. However, a walkover survey ahead of any development works should include checking for evidence of badger to ensure that the situation has not significantly changed in the interim.

Badger is a protected species by virtue of the Protection of Badgers Act 1992 which makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to recklessly interfere with a sett. The Countryside and Rights of Way Act 2000 have provided further enforcement.

5.2.3 Birds

Some of the bramble and other scrub within the margins of the proposed development site provides potential nesting habitat for a range of birds.

Ideally any works which are likely to affect these features should be carried out at an appropriate time of year which avoids the bird nesting season (March – August inclusive). However, as the features with potential for nesting birds are relatively small in extent, alternatively a pre-works walkover survey and search of the scrub areas in particular could be carried out immediately ahead of works to ensure no nesting birds are present.

Nesting birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended). As stated above, disturbance to nesting birds can be usually avoided by carrying out works and by excluding birds from suitable nest sites outside the bird-nesting season (the nesting season is generally March to August inclusive). However, birds may nest outside the peak-nesting period, in which case, works that would result in nest disturbance must cease until birds have fledged.

5.2.4 Reptiles

The site does present some features known to have potential for reptiles, including the rubble bank beyond the site boundary and the mix of vegetation of varying densities

combined with areas of open ground with potential for basking. However the isolated nature and relatively small area of the site and lack of connectivity to wider natural habitats makes the presence of the species less likely. The likelihood of the site supporting viable populations of reptiles is considered negligible. No dedicated surveys for the species are considered to be necessary.

However as the site does contain features known to have value for the species, it is recommended that works do not take place over the winter months (October – March) in order to avoid the possibility of harming hibernating reptiles. It is also recommended that a walkover survey be carried out immediately ahead of clearance works to check suitable features for the species, with vegetation removed under the guidance of a method statement which details mitigation measures to further limit the risk of any negative impact.

The four widespread species of reptile (common lizard, slow worm, grass snake and adder) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5). It is an offence to intentionally kill, injure, sell, or to advertise for sale, any of these species without an appropriate licence. The Countryside and Rights of Way Act 2000 have provided further enforcement.

5.2.5 Amphibians

No ponds, ditches or other water bodies occur at the survey site, although the terrestrial habitat type and its associated features are of a kind known to have value for amphibians. The possibility therefore exists for encountering the species at the site. However the lack of connectivity to wider natural habitats makes this less likely.

It is recommended that a walkover survey for the species be carried out ahead of any clearance or other development works. A method statement should be produced to guide such works and help ensure no negative impact for the species.

The four widespread species of amphibian (common toad, common frog, smooth newt and palmate newt) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5).

5.3 Summary

While the survey site is comprised of a habitat type which is known to have some importance for invertebrates, small mammals, as well as other wildlife species – including protected species such as bats, reptiles and amphibians - the isolated nature of the site and relatively small area subject to development, combined with the likely regular disturbance from fires, fly-tipping and anti-social behaviour means that any potential value is significantly reduced. As a result, it is considered that there are no in-principle ecological constraints to the development of the site and no further surveys are necessary. However the initial clearance works should be carried out under a method statement to ensure best practice and the minimisation of any potential impact. The method statement will include that a walkover survey / pre-clearance check will be carried out by a suitably qualified ecologist immediately ahead of works to check for the presence of nesting birds, reptiles and any other wildlife which may be present. The method statement will detail the protocols to be followed in the event that any such

species are encountered, including the numbers at which works will cease while alternative options are considered, which may include additional survey. The method statement will then detail the appropriate working method for clearing the vegetation, including 2 phase cutting, directional cutting etc.

The site proposed for development is an elevated plateau, likely formed by the arisings from a previously demolished structure. This elevated area is bordered on 3 sides by a stone rubble bank (the existing car park borders the fourth / east side). In order to further protect any potentially important ecology associated with the bank feature, it is recommended that a minimum 3 metre buffer strip be retained around the north, south and western edges of the site. This buffer strip should either be enhanced with supplementary planting of native species trees (as detailed in the separate landscape plan) or otherwise allow ecological succession to take place as has seemingly been occurring at the site in general.

No additional lighting should be installed as part of the development. If this is unavoidable then additional lighting will be kept to a minimum and any proposed lighting will conform to the following guidance and recommendations:

(2018) Guidance Note 08/18. Bats and artificial lighting in the UK: Bats and the Built Environment series. Bat Conservation Trust and Institute of Lighting Professionals:

<https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?mtime=20181113114229>

If lighting is required, a lighting plan should be submitted demonstrating compliance with the above guidance and demonstrating no lighting of the habitat that will remain onsite outside of the car park.

If the development boundary is to be fenced then appropriate gaps should be left along the lower edge to allow wildlife such as hedgehogs to pass freely. Any trenches, pits or other such features which may be created as part of the construction phase should be covered / sealed overnight or left with planks or similar leading out from the bottom to ensure that any wildlife which may enter can escape freely.

Enhancement Measures:

Enhancement measures (in line with the Environment (Wales) Act 2016) could include supplementary sowing of an appropriate native species wildflower seed mix within the retained buffer strip bordering the development site on the north, south and western sides. The seed mix should be chosen to ensure compatibility with the existing habitat. It is suggested that the Emorsgate EM10F – Tussock Wild Flowers seed mix from Emorsgate Seeds (<https://wildseed.co.uk/mixtures/view/32>) would be an appropriate choice for this. This mixture contains wild flowers that, once established, can cope with competition from taller tussocky vegetation such as that currently existing at the site. The mixture contains species which are already present and others which are appropriate for the habitat and which will add to the overall biodiversity. This mixture also has the advantage that after the first year of sowing and establishment, it will need little or no management and can be left uncut to become rough and tussocky in nature, harmonising with the remaining wider habitat. When the site is reinstated, the established buffer strip bordering the site will aid in the recolonisation of species.

6. Surveyor Experience

6.1 The principle surveyors and author of this report was Daniel Lock, a Principle Ecologist with Spectrum Ecology with over 10 years experience in carrying out Ecological and protected species surveys. Daniel has a wide and extensive experience in carrying out ecological surveys, general habitat / countryside management and in protected species and has worked on many projects related to ecology and conservation. He has experience undertaking surveys as part of the National Bat Monitoring Programme, of wider ecological assessments to inform potential development, including construction, demolition and wind farm installations and as well as undertaking numerous building and tree surveys for bats for both private individuals and much larger organisations.

6.2 Spectrum Ecology has been operating for over 8 years and has become well recognised in the bat surveying arena, especially with local authorities such as Bridgend County Borough Council and the government body, Natural Resources Wales, previously Countryside Council for Wales.

This wealth of experience and resultant expertise allows us to produce good quality reports, mitigation documents and habitat management plans to assist clients with any ecology or biodiversity related plans within their projects. As well as producing numerous bat reports annually for private individuals and organisations, we have also been involved in providing training, guidance and advice in such matters to local authorities across Wales.

We have delivered Protected Species Awareness training over 3 days to Officers and Principle Officers across Bridgend County Borough Council. We were integral in developing BCBC's Tree Safety Policy & advised on the development of the protocol for Bats in bridges (for Highways, when surveying for defects etc). We have also assisted the Authority on numerous occasions in obtaining derogation licences from CCW / WG (now NRW) by carrying out bat surveys & developing mitigation measures / method statements.

Current and previous clients include Bridgend County Borough Council's regeneration department, Carmarthenshire Colleges, private clients, BBC Television, Fox Television and more recently Sky Television.

Appendix 1 – Site Map



Target Note 1: Small areas of exposed concrete



Target Note 2: Bank with young trees



Target Note 3: Fly-tipped waste and litter





Target Note 4: Bramble scrub encroaching from margins of raised platform area



Target Note 5: Stone rubble bank:



General photographs of survey site:



Appendix 2 – Botanical Species List

Species List:

Plants	Invasive non-natives	Grasses	Trees
Ox-eye daisy <i>Leucanthemum vulgare</i>	None observed	Cocksfoot <i>Dactylis glomerata</i>	Goat willow <i>Salix caprea</i>
Ragwort <i>Jacobaea vulgaris</i>		Yorkshire fog <i>Holcus lanatus</i>	Pendunculate oak <i>Quercus robur</i>
Bramble <i>Rubus spp</i>		False oat grass <i>Arrhenatherum elatius</i>	Hawthorn <i>Crateagus monogyna</i>
Hogweed <i>Heracleum</i>		Timothy <i>Phleum pratense</i>	Silver birch <i>Betula pendula</i>
Thistle spp <i>Cirsium spp</i>			Sycamore <i>Acer pseudoplatanus</i>
Common daisy <i>Bellis perennis</i>			
Tormentil <i>Potentilla erecta</i>			
Teasel <i>Dipsacus fullonum</i>			
Birds foot trefoil <i>Lotus corniculatus</i>			
Ribwort plantain <i>Plantago lanceolata</i>			
Dandelion <i>Taraxacum</i>			
Black knapweed <i>Centaurea nigra</i>			
Rosebay willowherb <i>Chamaenerion angustifolium</i>			
Broadleaf willowherb <i>Epilobium montanum</i>			
Hedge bindweed <i>Calystegia sepium</i>			
Coltsfoot <i>Tussilago farfara</i>			
Black medic <i>Medicago lupulina</i>			
Dock spp <i>Rumex spp</i>			
White clover <i>Trifolium repens</i>			
Red clover <i>Trifolium pratense</i>			
Moss species			

Appendix 3: Local Record Search

A data search was made for a 1km radius of the survey site using the National Biodiversity Network Gateway https://records.nbnatlas.org/explore/your-area#51.76418|-3.3895|14|ALL_SPECIES. Below is the distribution of all records within 1km of the site. Following this there is a breakdown for those species with most relevance for the proposed development based on the habitat type and nature of the site.

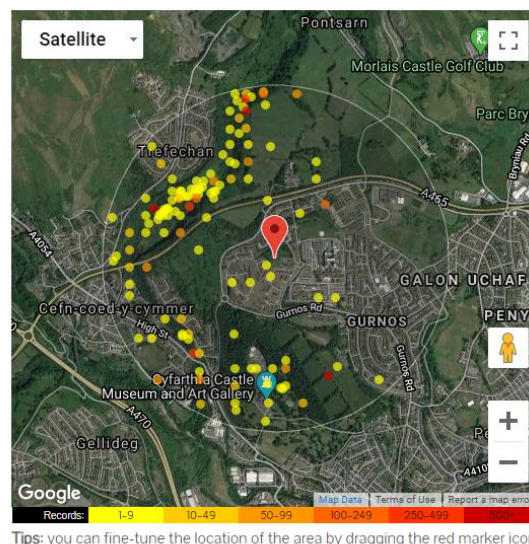
Showing records for: 11 Marigold Cl, Merthyr Tydfil CF47 9DA, UK

Display records in a 1 km radius

View all records

Download

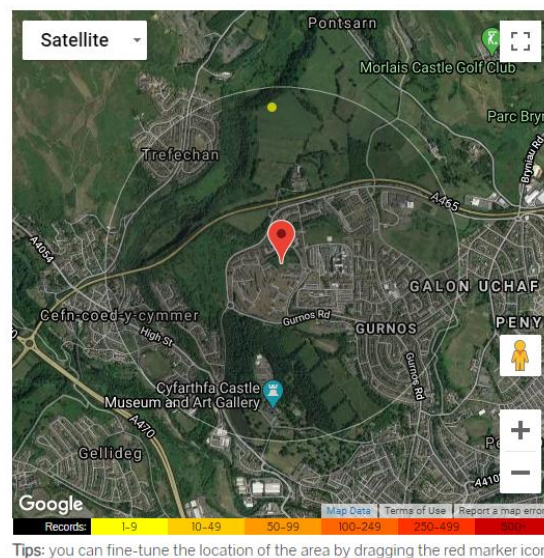
Group	Species	Species : Common Name	Records
All species	977		
Animals	263	1. <i>Accipiter nisus</i> : Sparrowhawk	34
Amphibians	0	2. <i>Acer campestre</i> : Field Maple	8
Arthropods	145	3. <i>Acer pseudoplatanus</i> : Sycamore	18
Crustaceans	4	4. <i>Achillea millefolium</i> : Yarrow	10
Insects	141	5. <i>Achnanthyrium biolettianum</i>	2
Myriapods	0	6. <i>Achnanthyrium minutissimum</i> var. <i>scotica</i>	1
Spiders and Allies	0	7. <i>Achnanthyrium minutissimum</i>	4
Birds	72	8. <i>Aegithalos caudatus</i> : Long-tailed Tit	86
Fishes	4	9. <i>Aesculus hippocastanum</i> : Horse-chestnut	1
Mammals	13	10. <i>Aeshna cyanea</i> : Southern Hawker	1
Molluscs	26	11. <i>Agapetus fuscipes</i>	8
Reptiles	1	12. <i>Aglais io</i> : Peacock	77
Worms	2	13. <i>Aglais urticae</i> : Small Tortoiseshell	125
Bacteria	0	14. <i>Agonimia tristicula</i>	2
Chromista	55	15. <i>Agrimonia eupatoria</i> : Agrimony	5
Fungi	44	16. <i>Agrophila straminea</i> : Straw Grass-venerer	1
Plants	615	17. <i>Agrostis capillaris</i> : Common Bent	10
Algae	1	18. <i>Agrostis stolonifera</i> : Creeping Bent	5
Bryophytes	237	19. <i>Ajuga reptans</i> : Bugle	7
Clubmosses and Firmosses	0	20. <i>Alcedo atthis</i> : Kingfisher	1
Ferns and Allies	31	21. <i>Alchemilla glabra</i> : Smooth Lady's-mantle	6
Flowering Plants	340	22. <i>Alchemilla vulgaris</i> agg. : Lady's-mantle	2
Gymnosperms and Ginkgo	4	23. <i>Allium ursinum</i> : Ramsons	6
		24. <i>Alnus glutinosa</i> : Alder	16
		25. <i>Alopecurus pratensis</i> : Meadow Foxtail	1
		26. <i>Amphispiza caesia</i> : Cassin's Feather song	4



Reptiles:

Analysis of the National Biodiversity Network data shows that there is only 1 record for reptiles within a 1 km radius. This is for slow worm *Anguis fragilis*, recorded almost 1km to the north of the survey site:

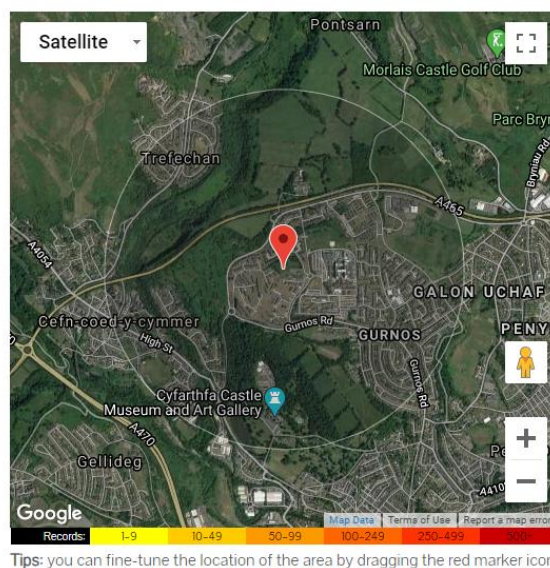
Group	Species	Species : Common Name	Records
All species	977		
Animals	263		
Amphibians	0		
Arthropods	145		
Crustaceans	4		
Insects	141		
Myriapods	0		
Spiders and Allies	0		
Birds	72		
Fishes	4		
Mammals	13		
Molluscs	26		
Reptiles	1	1. <i>Anguis fragilis</i> : Slow-worm	1
Worms	2		
Bacteria	0		
Chromista	55		
Fungi	44		
Plants	615		
Algae	1		
Bryophytes	237		
Clubmosses and Firmosses	0		
Ferns and Allies	31		
Flowering Plants	340		
Gymnosperms and Ginkgo	4		
Hornworts	0		
Protozoa	0		



Amphibians:

There are no records of amphibians within a 1km radius of the survey site:

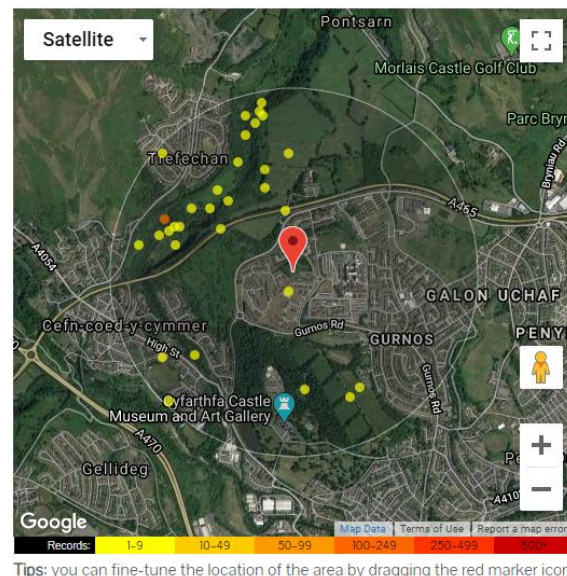
Group	Species	Species : Common Name	Records
All species	977	[no species found]	
Animals	263		
Amphibians	0		
Arthropods	145		
Crustaceans	4		
Insects	141		
Myriapods	0		
Spiders and Allies	0		
Birds	72		
Fishes	4		
Mammals	13		
Molluscs	26		
Reptiles	1		
Worms	2		
Bacteria	0		
Chromista	55		
Fungi	44		
Plants	615		
Algae	1		
Bryophytes	237		
Clubmosses and Firmosses	0		
Ferns and Allies	31		
Flowering Plants	340		
Gymnosperms and Ginkgo	4		
Hornworts	0		
Protozoa	0		



Mammals:

13 species of mammal have been recorded within 1 km of the site. They include hedgehogs recorded within 200 metres of the site and a single badger record 1km from the survey site. Bat species are addressed separately below having been subject to a recent SEWBReC record search.

Group	Species	Species : Common Name	Records
All species	977	1. <i>Apodemus sylvaticus</i> : Wood Mouse	3
Animals	263	2. <i>Erinaceus europaeus</i> : West European Hedgehog	5
Amphibians	0	3. <i>Felis catus</i> : Feral Cat	2
Arthropods	145	4. <i>Lutra lutra</i> : European Otter	2
Crustaceans	4	5. <i>Meles meles</i> : Eurasian Badger	1
Insects	141	6. <i>Myodes glareolus</i> : Bank Vole	1
Myriapods	0	7. <i>Neovison vison</i> : American Mink	7
Spiders and Allies	0	8. <i>Oryctolagus cuniculus</i> : European Rabbit	7
Birds	72	9. <i>Rhinolophus hipposideros</i> : Lesser Horseshoe Bat	1
Fishes	4	10. <i>Sciurus carolinensis</i> : Eastern Grey Squirrel	162
Mammals	13	11. <i>Sciurus vulgaris</i> : Eurasian Red Squirrel	1
Molluscs	26	12. <i>Sorex araneus</i> : Eurasian Common Shrew	2
Reptiles	1	13. <i>Talpa europaea</i> : European Mole	3
Worms	2		
Bacteria	0		
Chromista	55		
Fungi	44		
Plants	615		
Algae	1		
Bryophytes	237		
Clubmosses and Firmosses	0		
Ferns and Allies	31		
Flowering Plants	340		
Gymnosperms and Ginkgo	4		
Hornworts	0		
Protozoa	0		



Bats:

A Bats and Roof-nesting Birds (BARB+) search was commissioned from the South East Wales Biological Recording Centre (SEWBReC) to check for records of the species within the immediate vicinity of Prince Charles Hospital. The Local Environment Record Centre (LERC) reference for this report is: 0190-517.

The BARB+ search showed that the nearest recorded bats were Soprano pipistrelles (*Pipistrellus pygmaeus*), recorded over 700 metres from the Prince Charles Hospital site. In all, the search showed that more than 7 species of bat were recorded within 1km of the site. The vast majority of records were for pipistrelle species, with occasional records for myotis species (including daubentons *Myotis daubentonii* and natterers *Myotis nattereri* bats) and lesser horseshoe *Rhinolophus hipposideros* bats, with a single record for brown long-eared *Plecotus auritus* bats and another single record for serotine *Eptesicus serotinus* bats. All such records were over 6 years old and not recent, with bats observed in habitats ranging from quarries to river corridors. The records are therefore in line with what bat species may be expected to be encountered in the various wider natural habitats. It is considered that the records do not increase the likelihood of the bats being present at the Prince Charles Hospital site.

