



TREVOR CLOSE, PANT, MERTHYR TYDFIL

BAT SURVEY

MAY 2021

ISSUE 1VB

Mr Kevin Jones

Page intentionally left blank

TREVOR CLOSE

Trevor Close, Pant, Merthyr Tydfil

Ecological Assessment

Document control

Issue	Stage	Author	Checked	Approved	Date
1	Issue 1	BE	HD	BE	23.11.20

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Approved by	Date
1	A	Minor amendments	BE	23.11.20
1	B	Minor amendments	BE	28/07/21

Disclaimer

No part of this report may be copied or reproduced by any means without prior written permission from BE Ecological Ltd. If you have received this report in error, please destroy all copies in your possession or control.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by BE Ecological Ltd, no other party may use, make use of or rely on the contents of the report. No liability is accepted by BE Ecological Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of BE Ecological Ltd using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.

CONTENTS

NON-TECHNICAL SUMMARY	1
1 INTRODUCTION.....	2
1.1 OBJECTIVE	2
1.2 METHODOLOGY	2
1.3 SITE DESCRIPTION	2
1.4 PROPOSED DEVELOPMENT	4
1.5 STUDY AREA	4
2 REGULATORY FRAMEWORK	5
2.1 INTERNATIONAL	5
2.2 NATIONAL (UK)	5
2.3 NATIONAL (WALES)	6
2.4 LOCAL AND REGIONAL	6
2.5 PLANNING FRAMEWORK	6
3 DESK STUDY AND PROTECTED SITES (BATS).....	7
3.1 METHODOLOGY	7
3.2 DESK STUDY SUMMARY	7
3.3 STATUTORY AND NON-STATUTORY SITES	7
3.4 BAT RECORDS	7
4 PROTECTED SPECIES.....	8
4.1 BATS	8
5 CONCLUSION AND RECOMMENDATIONS	17
6 REFERENCES.....	18
APPENDIX A - PHOTOS	Error! Bookmark not defined.

NON-TECHNICAL SUMMARY

A bat survey was undertaken at Trevor Close, Pant, Merthyr Tydfil in support of a planning application to clear the site and erect a number of residential houses.

The work was based on assessments of the habitats present in respect of their potential to provide habitat for protected species. There is a low potential for bats to be present at the site.

Activity transects were undertaken in respect of bats. Automated detector surveys were undertaken in respect of bats.

The surveys found that at least five species of bat were using the site.

There are no buildings or other structures within the land development application boundary that could offer bat roosting habitat although there are hedges and vegetation on the peripheries of the site which could offer bats with foraging or commuting habitat. There were no potential roosting features identified at this location.

A moderate level of bat activity was found to be present at the site.

1 INTRODUCTION

1.1 OBJECTIVE

The objectives of this report are to:

- identify the potential for bats to be present on site;
- undertake species specific assessments and surveys as necessary;
- using the information gathered to determine whether there will be any impacts (both positive and negative) on bat species present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

1.2 METHODOLOGY

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
 1. Bats;

1.3 SITE DESCRIPTION

The red line development site boundary encloses an area of approximately 1.1ha and is located in Pant on the northern edge of Merthyr in South Wales (centred on NGR SO06770920) (Figure 1). The site is located at the north eastern end of Trevor Close with Brecon Rise to the north west and Edward St to the south east. The Blaenmorlais SINC is located 80m to the north.

The eastern part of the site comprises of semi-improved poor grassland. Species here include timothy, soft rush, creeping buttercup, red fescue, perennial ryegrass, creeping bent, common bent, ribwort plantain, coltsfoot, broad leaved dock, curled dock, nettle, common daisy, creeping thistle, monbretia, rose bay willowherb, cut leaved cranesbill, herb Robert, dandelion, bramble, silverweed. There are areas of bare ground and paths throughout this location. There are two grey willows on the western boundary. There is a group of willow and a hazel on the northern boundary with a culvert under the old railway line. The northern most area of the eastern portion comprises of species typical of a tall ruderal habitat.

The western portion of the site is a mix of habitat comprising of scrub, heath and a mosaic of tall ruderal and semi improved poor grassland. The scrub is found in patches across the site and along the boundaries of the western portion of the site. Species here include grey willow, hawthorn, bramble, gorse and silver birch. The heath habitat is found to the north of the western portion and comprises of bare ground with regenerating gorse, *deschampsia cespitosa*, common bent, common heather and devils bit scabious.

The remainder of the western portion comprises of tall ruderal and semi improved poor grassland including species such as *deschampsia*, *Molina*, ribwort plantain, hearts tongue, curled dock, broadleaved dock, cocks foot, heather, common vetch, common sorrel, silver weed, creeping cinquefoil, common cats ear, meadow foxtail, nettle, rosebay willowherb, ragwort, creeping thistle, birdsfoot trefoil, greater birds foot trefoil, black knapweed, dandelion, common cats ear, wild strawberry, red clover, white clover, monbretia, toad rush and Yorkshire fog.

There are rubble piles scattered throughout the western portion. Photographs are at Appendix A.

Figure 1 – Detailed view of the site (approximate boundary boxed red)



Figure 2 - aerial overview of the site (arrowed red)



1.4 PROPOSED DEVELOPMENT

The content of the report with is to be used for a planning application to erect residential units and associated infrastructure.

1.5 STUDY AREA

The field survey looked at the red line development area itself and up to 40m from the site boundaries.

2 REGULATORY FRAMEWORK

2.1 INTERNATIONAL

European Union legislation requires that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 ("the Habitat Regulations"). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs).

2.2 NATIONAL (UK)

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

The relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Conservation of Habitats and Species Regulations 2017
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Environment (Wales) Act 2016
- Wild Mammals (Protection) Act 1996;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced.

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems".

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that "Every public authority must, in

exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

2.3 NATIONAL (WALES)

Planning Policy Wales (Welsh Government, 2018) and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

2.4 LOCAL AND REGIONAL

The proposed development is wholly within the Merthyr Tydfil County Borough Council area of responsibility. Therefore, all policies adopted by the Council will apply, including policies which may not be specific to nature conservation or the natural environment that may apply or be relevant and should be considered during the planning process.

The Biodiversity Action Reporting System (BARS) shows that there are a number of habitats and species which are of a high priority to MTCBC. These have been determined following examination of the UK BAP, the Section 42 list of Species of Conservation Concern and those habitats and species determined to be locally important by the Local Biodiversity Partnership.

2.5 PLANNING FRAMEWORK

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).

3 DESK STUDY AND PROTECTED SITES (BATS)

3.1 METHODOLOGY

The South East Wales Biodiversity Records Centre (SEWBrEC) were formerly requested to supply a data search for the site. The survey to provide; bat records within a 2km buffer for all species and protected sites. The reference for this data search is 0201-526.

3.2 DESK STUDY SUMMARY

There are no UK statutorily designated sites designated for their bat interest recorded within 10km of the development site. There were no non-statutorily designated sites designated for their bat interest recorded within 10km.

There were a total of 46 bat records within 2km of the site.

3.3 STATUTORY AND NON-STATUTORY SITES

There are no UK statutorily designated sites designated for their bat interest recorded within 10km of the development site. There were no non-statutorily designated sites designated for their bat interest recorded within 10km.

3.4 BAT RECORDS

The closest record to the site is that of an injured brown long-eared bat found approximately 570m from the site.

The closest roosting record is that of lesser horseshoe, brown long-eared, natterers and pipistrelle, roosts located in a tunnel approximately 500m from the site at its closest point.

Other records refer to species in flight greater than 900m from the site. Species include serotine, pipistrelle, brown long-eared, noctule, lesser horseshoe and unknown bat.

4 PROTECTED SPECIES

4.1 BATS

4.1.1 Previous Reports

BE Ecological Ltd is not aware of any previous reports for the site.

4.1.2 Summary

The following bat surveys were undertaken at the site:

- walked transects (two dusk transects). The decision was made to undertake two dusk transects rather than a dusk and a dawn transect. Bat activity at dawn in previous years has been somewhat limited (experience across various sites). In addition to this, those species that are light intolerant (the species that would be affected by the extended lighting such as lesser horseshoe bats and brown long-eared bats) are often known to return to their roosts a lot earlier than the time frame a dawn survey would capture. As such, it was determined that dusk surveys would capture more information than a dusk and a dawn survey.
- Static detector surveys: Static bat detectors (Anabat SD2) were deployed on site for five days in August and a further five days in October.

Species found on site include common pipistrelle, myotis sp. (likely whiskered brandts and lesser horseshoe bats.

4.1.3 Bat Ecology

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 18 species resident in Britain, ranging in size from the small pipistrelle species (*Pipistrellus* sp.) weighing in at approximately 5 g up to the larger noctule (*Nyctalus noctula*) weighing approximately 35 g. Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats generally emerge from hibernation in late March - early April and move into transition roosts before the female bats move to maternity sites by the beginning of May where they give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition roosts and females will visit males at mating roosts. During the autumn, bats feed intensively to gain sufficient weight for hibernation.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (manmade) roosts. Structures used frequently include bridges, ice-houses, pillboxes, disused railway tunnels, houses and barns etc. Bats do not hold territories but have foraging ranges which vary in size between species: from just 3-4km from the roost for the smaller bats while noctules may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; the domestic cat probably accounts for most losses.

4.1.4 METHODOLOGY

4.1.4.1 Activity surveys – personnel

Activity surveys were undertaken by Beth Evans of BE Ecological Ltd. Beth was assisted during the activity surveys by Stephen Shutt. Stephen is a fully licensed bat ecologist.

4.1.4.2 Activity surveys – walked transects

Three walked bat activity transects were undertaken. A dusk transect was undertaken on 22nd April, a second on 23rd August 2020 and 29th September 2020.

The surveys were designed to determine the bat species present on the site and whether any parts of the site were preferred (of a greater importance) by them for foraging and / or commuting.

The transect routes (Figure 3) were chosen to achieve good overall coverage of the site. Transects were carried out during periods of peak foraging, starting twenty minutes before dusk and continuing for up to 2.5 hours after dusk. A number of fixed point stops were also incorporated into the survey, interspersed along the chosen route. Each stop was between two and five minutes in length.

The survey on 23rd August 2020 was walked in a clockwise direction; that on the 29th September 2020 was walked in an anticlockwise direction and the 22nd April walked in a clockwise direction.

Batlogger M detectors were used by all surveyors.

Figure 3 – approximate route of walked transects (route shown walked on 23rd August; reversed on 29th September)



4.1.4.3 Automated bat detector surveys

The automated bat detector used was an Anabat SD2 detector. In line with guidance for low quality habitat, a single detector was placed within the transect (5 nights at a time) as per table 4 below. The detectors were placed in waterproof boxes connected by a 10m cable to a high frequency microphone which was then placed in the eastern hedgerow.

4.1.4.4 Constraints

The spring transect survey was undertaken during slightly lower temperatures than that recommended. We have had an unfeasibly cold spring and the site is in a relatively cold location. It is considered that in this instance it is unlikely to be a constraint due to the number of bats feeding and the number of calls/bats observed.

4.1.5 Results

4.1.5.1 Habitat Assessment

The site is comprised of a mosaic of semi-improved grassland, scrub, heath and tall ruderal.

No potential roosting features were observed in any of the vegetation on the site. There are no buildings present on the site. The vegetation on the site is relatively young and the site is sandwiched between urban settlements to the east and west.

There is a culvert to the north of the site, the culvert is extremely low, small and unlikely to support roosting bats. The culverts is a spate channel and is likely to flood very quickly. There is significant evidence of antisocial behaviour and informal recreation within the immediate vicinity of the culvert and therefore any deployed bat detectors would likely be stolen or destroyed. No evidence of bats were found in this location.

It is likely that bats will forage and commute over the site.

The site was classed as being of low potential to and for bats.

4.1.5.2 Activity surveys – walked transects

The surveys were undertaken on the dates and under the conditions listed in Table 3 below.

Table 3 - Summary details of walked activity transects

Date	Survey time	Sunset/sunrise	Timing	Weather
23 rd August 2020	Dusk	20:19	Twenty minutes prior to sunset, up to 2.5 hours post sunset	Start: 22°C; end: 20°C. 60% cloud, dry. No wind.
29 th September 2020	Dusk	18:55	Twenty minutes prior to sunset, up to 2.5 hours post sunset	Start 19°C; end 18°C. No wind, dry. 70% cloud
22 nd April 2021	Dusk	20:23	Start 19°C; end 18°C. No wind, dry. 70% cloud	Start 9°C; end 6°C. No wind, dry. 30% cloud

Transect 1 – 23rd August 2020

The survey was undertaken by a surveyor walking the route shown on Figure 3 in an anti-clockwise direction.

Bat activity was moderate at the site.

The first bat call heard was that of a common pipistrelle at 20:35. The bat was observed foraging along the vegetation to the north of the site. This was followed by numerous common pipistrelle calls corresponding with a bat foraging to the north of the site. The first myotis sp. call was heard at 21:00, a few brief calls were heard after this but there was no substantial activity for this species at the site.

Numerous common pipistrelles and a small number of myotis sp. (likely whiskered/brandts) were observed foraging and commuting along the most northerly part of the site.

Please see figure 4 below for locations of activity.

Transect 2 – 29th September 2020

The survey was undertaken by a surveyor walking the route shown on Figure 3 in a clockwise direction.

Bat activity was again moderate at the site.

The first bat heard was a common pipistrelle at 19:15, the bat was seen commuting from the north. The first myotis sp. bat call was at 19:25, again the bat was seen commuting from the north before foraging throughout the vegetation within the site. The first lesser horseshoe bat was heard at 19:45. A few brief calls were heard after this but the bat was not seen.

Three species were found on site, common pipistrelle and myotis sp. (whiskered/brandts) which were mainly found to the north of the site and lesser horseshoe. A single bat was observed foraging towards the south of the site.

Please see figure 4 below for locations of activity.

Transect 3– 22nd April 2021

The survey was undertaken by a surveyor walking the route shown on Figure 3 in a clockwise direction.

Bat activity was again moderate at the site. The first bat heard was a common pipistrelle at 20:58. The first myotis sp. bat was heard at 21:08. A noctule bat was observed flying high at 21:21. Common pipistrelle was the most frequent bat heard with a number of myotis sp. calls interspersed throughout. Those bats seen were seen foraging within the northern portion of the site and foraging within around larger vegetation. All bats seen commuting were commuting from the north. The last bat call heard was a common pipistrelle at 21:27.

Three species were found on site, common pipistrelle and myotis sp. (whiskered/brandts) and noctule

Please see figure 4 below for locations of activity.



Figure 4: Summer and autumn transect data

Imagery2020google. TerraMetrics. DataSIO.NOAA, U.S. Navy.NGA.GEBO. Imagery 2020 Bluesky. Infoterra Ltd & COWI A/S. Getmapping plc. Landsat/Copernicus Maxar Technologies. The Geoinformation Group. Map data 2020.

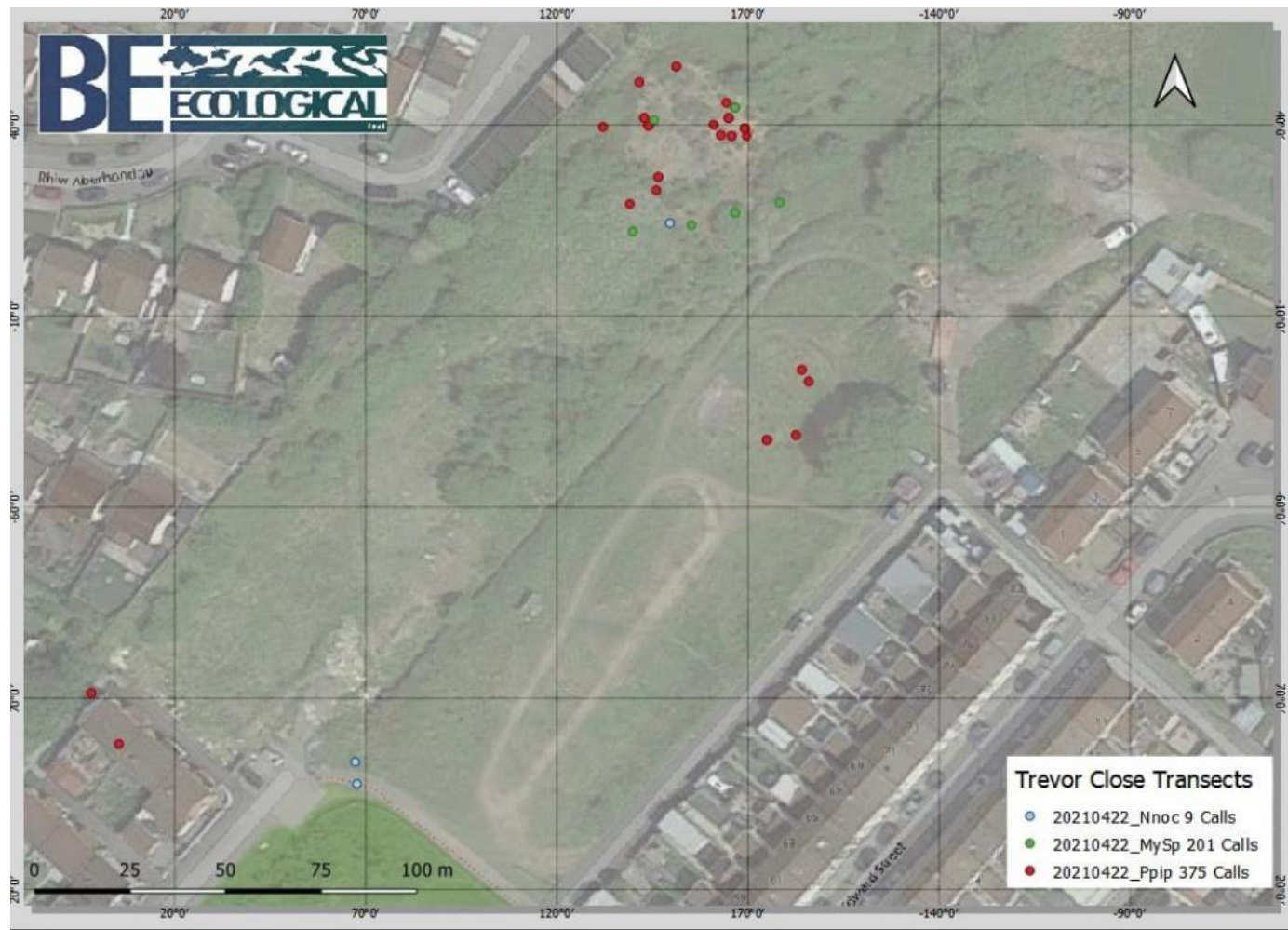


Figure 5- Spring transect data

Imagery2020google. TerraMetrics. DataSIO.NOAA, U.S. Navy.NGA.GEBO. Imagery 2020 Bluesky. Infoterra Ltd & COWI A/S. Getmapping plc. Landsat/Copernicus Maxar Technologies. The Geoinformation Group. Map data 2020.

4.1.5.3 Automated bat detector survey

Please note, the weather conditions below were based on the forecast on deployment of detectors, conditions may have changed throughout individual nights.

Table 4: number of individual species calls per night

Date	Weather	Common pipistrelle	Soprano pipistrelle	Myotis	BLE	Noctule
04.08.20	Dry	4	0	0	0	0
05.08.20	Dry	15	0	0	0	0
06.08.20	Drizzle	7	0	0	0	0
07.08.20	Drizzle	3	0	0	0	0
08.08.20	Dry	7	0	0	0	0
29.09.20	Some showers forecast	9	0	0	0	0
30.09.20	Dry, chance of rain	5	0	0	0	0
01.10.20	rain	0	0	0	0	0
02.10.20	rain	0	0	0	0	0
03.10.20	rain	0	0	0	0	0
21.04.21	rain	5	0	2	0	1
22.04.21	dry	10	0	0	0	0
23.04.21	dry	1	0	0	0	0
24.04.21	dry	4	0	5	0	0
25.04.21	Dry some drizzle	9	0	21	2	0

It can be seen from the results that the automated bat detector only picked up a small number of bats. This is likely due to the fact the bat detector was positioned at one location on any given night rather than a reflection of activity across the site.

4.1.6 Bats - evaluation

Bats are protected by international and domestic legislation, a reflection of their increasingly threatened status; bats are therefore of **high international** value.

There are no structures on the site suitable for use by roosting bats.

There are no trees on the site to be affected that have the potential to provide roosting habitat for bats.

At least five species use the site for foraging and commuting, common pipistrelle, soprano pipistrelle, myotis sp. and lesser horseshoe bat and noctule.

Overall, within the context of the surrounding land use, it is considered that the proposed development site is of **moderate** value at a **local** level to and for bats.

4.1.7 Bats - impact characterisation

There are roosts (approximately 500m) from the site that support bat roosts of light intolerant species (lesser horseshoe bat). There is evidence to suggest that this species uses the site for foraging. The majority of bats appear to favour the northern end of the site. This is likely a result of the old railway line and links to the wider landscape.

It is considered that given the distance between the site and the lesser horseshoe bat roost that given the fact the site is surrounded by houses and does not have any linking landscape to the south, that the identified lesser horseshoe roost from 500m away is unlikely to be affected. It is likely that the bat is using the site for foraging and therefore there will be a reduction in habitat available for this species. However, despite this, there is a large expanse of habitat to the north of the site away from the public and lighting. The results do not suggest that the bat uses the site frequently.

The site is used by common pipistrelle, myotis sp. (likely whiskered), noctule and brown long-eared bats. The development will result in a reduction of foraging habitat for these species.

4.1.8 Bats – Mitigation

It is considered that mitigation is required to retain dark areas, in particular the boundaries of the new house so that bats can continue to use the site should they wish.

In addition to this, the stream and wet ditch that runs through the middle of the site should be retained as a dark vegetated corridor that may be used by foraging and commuting bats.

The northern/north eastern part of the site appears to be that with the highest bat activity. This boundary will be kept in complete darkness to ensure there is no light spill onto adjacent habitat.

Native species planting will be included within the final design. It is suggested that native species hedgerows are planted around the boundaries of the site.

Any lighting will conform to the following guidance <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>.

5 CONCLUSION AND RECOMMENDATIONS

Overall the site appears to be negligible importance to roosting bats but moderate importance to foraging/commuting bats.

During the transect surveys, four species were found to be present on the site. Common pipistrelle, soprano pipistrelle, Myotis sp. and lesser horseshoe.

The surveys revealed that at least 5 bat species were using the site for foraging and commuting.

It is considered that with appropriate mitigation in the form of new planting, retention of dark boundaries and retention of the stream that bats will be able to continue foraging and commuting throughout the site on completion of the development.

6 REFERENCES

- Battersby, J. (Edited and compiled), (2005), *UK Mammals: Species Status and Population Trends*, JNCC/Tracking Mammals Partnership.
- Battersby, J. (Ed) & Tracking Mammals Partnership. (2005). *UK Mammals: Species Status and Population Trends. First Report by the Tracking Mammals Partnership*. JNCC/Tracking Mammals Partnership.
- Collins, J (Ed). *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (BCT, 2016).
- City and County of Swansea Council. *Local Biodiversity Action Plan*.
- DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK*. DEFRA.
- EC Directive 92/43/EEC (The Habitats Directive) (1992). Annexes II and V.
- Joint Nature Conservation Committee (2001) *Handbook for phase 1 habitat survey: A technique for environmental audit*. JNCC.
- Joint Nature Conservation Committee (2003). *Herpetofauna Workers' Manual* JNCC
- Mitchell-Jones, A.J. & McLeish, A.P. (2004) *The bat workers' manual (3rd Edition)*. Joint Nature Conservation Committee.
- Natural Environment & Rural Communities Act 2006: *Section 42 List of Species of Principal Importance for Conservation of Biological Diversity in Wales*. Welsh Assembly Government
- Planning Policy Wales
- Protection of Badgers Act (1992).
- Stace, C A (1997) *New Flora of the British Isles* (2nd Ed) Cambridge University Press
- The Conservation of Habitats and Species Regulations 2017.
- The Hedgerow Regulations (1997).
- The Natural Environment and Rural Communities Act (2006) (as amended) (HMSO).
The Wildlife and Countryside Act 1981 (as amended).
- Welsh Assembly Government (2007). Planning Policy Wales Technical Advice Note 5: *Nature Conservation and Planning*.

