

# HAWKESWOOD ECOLOGY

## Specialists in Ecological Survey and Assessment

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# **BAT ACTIVITY SURVEY, NEAR LLANTARNAM INDUSTRIAL PARK.**

**On behalf of**

**TORFAEN COUNTY BOROUGH COUNCIL**

**October 2022**

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Issue 1

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We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions and the degree of manpower and resources allocated to the project.

All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

Protected species surveys are recognised as having a ‘shelf life’ of two years maximum. Surveys older than this are unlikely to be accepted by a Local Planning Authority or Natural Resources Wales as viable documentation.

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Figure 1: Bat Activity Transect Routes and Locations of Passive Detectors

## **SUMMARY**

Following an earlier Preliminary Ecological Appraisal, Hawkeswood Ecology carried out a bat activity survey on land to be upgraded as a formal footpath with potential replacement of two bridges across the Dowlais Brook. Originally three transect surveys were planned but due to safety concerns (surveyors being chased from the Site during the second transect survey) the project was restricted to a full survey in May 2022 and a partial survey in July 2022. This heavily constrained the survey but it was not considered safe to put observers in a position that could potentially endanger their safety; as a result the third visit was cancelled.

The bats surveys carried out in May and July noted use of the Site by four species or groups of bat with common and soprano pipistrelle the most common. A noctule was recorded flying overhead on one occasion but *Myotis* use of the Dowlais Brook corridor was noted, particularly being recorded around the two footbridges on Site. The completed transect carried out in May showed a reduction in pipistrelle activity as the evening wore on with increased frequency of *Myotis* calls recorded near the Brook. Later analysis of the calls suggests the most likely *Myotis* species on Site is Daubenton's bat, a species most frequently associated with water courses but also woodland.

Passive detectors were placed out during the first transect survey and these showed the use of the woodlands by the same species as picked up above. The machine placed near the eastern footbridge did pick up regular *Myotis* calls later in the survey.

Given the constraints to the survey, recommendations are made on a precautionary principle. However the presence of light averse species in *Myotis* bats do mean that there must be safeguards against light spill affecting the Brook course.

**The conclusions of this report are considered valid for two years from the final survey dates noted in Section 1 of the report.**

## 1 INTRODUCTION

- 1.1 Following an earlier Preliminary Ecological Appraisal Hawkeswood Ecology was instructed to undertake a bat activity survey along a section of the Dowlais Brook running through a wooded corridor between Llantarnam Park industrial Estate and playing fields. It is planned to formalise a pathway running from the Oakfield estate to the playing fields. Replacing the footbridge over the Dowlais Brook to the playing fields is being considered.
- 1.2 The earlier survey report, '*Preliminary Ecological Appraisal, Llantarnam Industrial Estate. Hawkeswood Ecology – May 2021*' should be read in conjunction with the current bat survey report; and recommendations within it are, where relevant to bats, considered to remain valid.
- 1.3 The objectives of the bat activity surveys were:
- To undertake transect and passive bat activity surveys across the Site;
  - To provide recommendations for further survey or mitigation proposals to safeguard any protected species found.
- 1.4 The bat transect and passive detector surveys were undertaken over the period of 31<sup>st</sup> May to 12<sup>th</sup> June 2022. There were considerable constraints to the survey and the full survey was not completed.

## 2. METHODOLOGY

### *Desk Top Study*

- 2.1 A desk top study was undertaken as part of the Preliminary Ecological Appraisal (PEA). Relevant findings were given in the report '*Preliminary Ecological , Llantarnam Industrial Estate. Hawkeswood Ecology – May 2021*' and are given below in Section 4.

### *Field Survey*

#### *Bats - Activity*

- 2.2 A series of three activity surveys was planned, but see Constraints below, using both transect surveys and passive detectors placed at various locations around the Site. The routes taken and locations of passive machines are shown in Figure 1.
- 2.3 Activity surveys were based upon recommendations made in the Bat Conservation Trust Document '*Bat Surveys, Good Practice Guidelines for Professional Ecologist, 2016*'. Two visits to Site were undertaken on 31<sup>st</sup> May and 12<sup>th</sup> July 2022. Passive detectors were located on Site during the first transect survey.
- 2.4 The transect survey involved the use of Anabat Scout machines. These machines continually record, the recordings available for later analysis.
- 2.5 In addition passive detecting machines were used with two Anabat Express machines located on the woodland edge (see Figure 1) during the first survey.

- 2.6 Recordings obtained were analysed using AnalookW and Batsound software, by use of which it is possible to separate most species present from the sonograms produced.

*Constraints*

- 2.7 No specific constraints to the first survey was noted although two youngsters were seen smoking ‘weed’ by the footbridge onto the Site from the Oakfield estate. They left the area on the surveyors approach. However, on the second survey visit, the survey team were shouted at and then chased by at least two men. It did not appear that their intentions were friendly and the observers ran to their vehicle and left the Site.
- 2.8 Given the presence of drug users previously and the incident that occurred on the second visit, it was not considered safe to undertake further visits to Site.
- 2.9 It was also considered an insecure place to leave passive detectors out, which had been planned. As such, the results gained are biased to the early part of the evening and do not cover the latter part of the activity season. To help overcome these shortcomings, recommendations take a precautionary approach.

### **3. SURVEY TEAM EXPERIENCE**

- 3.1 The lead surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. Eric has been an active member of the Brecknock Bat Group since 1999 and been involved in a number of long running surveys within the county. He is a Natural Resources Wales (NRW) licensed bat worker (no. S088903-1, 2021) and has extensive experience of activity surveys, roost inspections and emergence work. He has been a professional in the nature conservation field for thirty three years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.
- 3.2 Assisting the transects, mainly for safety purposes were Emma Adamson and Liam Kelly. Both, however, have extensive experience of bat survey and were able to assist with physical observations.

### **4 DESKTOP STUDY**

- 4.1 SEWBRc reported a total of 81 Bat Species from a distance of up to 1.5 kilometres. No records were reported from the development. The closest record was from approximately 300 metres north west of the Site where a soprano pipistrelle roost was associated with housing. All other records are over 450 metres from the Site and include common pipistrelle, brown long eared, noctule, whiskered, Daubenton’s and unspecified *Myotis* species. Lesser horseshoe bats are also reported from known sites roosts with the nearest record coming from approximately 1100 metres distance from Site at the nearest.

## 5 FIELD SURVEY

- 5.1 Bat activity surveys were undertaken during May and July 2022 with passive machines left on Site for a period before or after a transect survey as described in Section 2, Methodology.
- 5.2 Table 1 below shows the conditions at the time of the transect surveys and Table 2 shows the temperatures over the passive detector survey periods. The Transect route is shown in Figure 1.

**Table 1: Weather conditions for survey:**

Date	Survey type	Times	Weather conditions
31 <sup>st</sup> May 2022	Evening activity transect	21.00 – 23.45 (sunset 21.19)	14-14°C, ~5% cloud, variable, dry, good visibility, F2/3 SW breeze.
12 <sup>th</sup> June 2022	Evening activity transect	21.15 – 22.50 (sunset 21.17)	22-21°C, 100% cloud, dry, good visibility, F1 SW breeze.

### *31<sup>st</sup> May 2022*

- 5.3 The transect recorded the first bat at 21.16 when a pipistrelle species bat was heard in the distance. The second bat was heard at 21.24 (a common pipistrelle) after which time fairly regular pipistrelle activity was heard along the transect corridor with both soprano and common pipistrelle present.
- 5.4 At 22.29 near the bridge at the eastern end of the transect *Myotis* bats were picked up and were then regularly picked up at the footbridges at either end of the transect. Later analysis showed the call features most resembled whiskered bats.
- 5.5 The transect was walked five times during the evening and there was a noticeable quietening down over the last two transects with pipistrelle activity becoming much more sporadic.

### *12<sup>th</sup> July 2022*

- 5.6 The first bat noted on the second transect was a soprano pipistrelle at 21.34 foraging near the eastern footbridge. From 21.46 when first noted, common pipistrelle foraging was recorded along the survey length and both common and soprano pipistrelle bats were noted foraging consistently.
- 5.7 At 22.01 a *Myotis* bat was recorded near the eastern footbridge. Again on later analysis this most resembled calls characteristics of the whiskered bat. A second whiskered bat recording was made towards the western end of the transect at 22.36. Noctule bats were also recorded flying over 22.10 and 22.17.
- 5.8 The transect was abandoned at 22.50.

*Passive Detectors*

- 5.9 Passive detectors were placed at two locations during transect 1, no passive detectors were out during the second transect. The approximate locations of the detectors are shown in Figure 1.
- 5.10 Machine number 1 as placed on the edge of the woodland at the rear of a factory unit towards the western end of the transect, the second was placed close to the footbridge near the eastern end of the transect. The first machine recorded infrequent common pipistrelle passes from 21.43. No other species was noted here.
- 5.11 The machine at location 2 picked regular passes by common and soprano pipistrelle bats early in the session with *Myotis* activity recorded later with the first recording made at 22.07, again showing characteristic of whiskered bat. A number of further whiskered bat passes were recorded through the session following this.

## **6 DISCUSSION AND IMPACT ASSESSMENT**

- 6.1 Unfortunately issues on Site during survey led to the second transit being abandoned and the Site was considered too unsafe to undertake the third transect. During the surveys that were undertaken though, four species of bat were recorded, common and soprano pipistrelle, whiskered bat and noctule overflying the Site.
- 6.2 The proposals are to formalise an existing footpath crossing the Dowlais Brook in the west and following the edge of the riparian woodland, crossing the Brook again at the eastern end where a new footbridge is proposed. Hawkeswood Ecology understand that the works will not require the removal of any trees but will focus on upgrading the existing path. The use of artificial lighting is not currently proposed but would be a matter for consideration in relation to bats if decided it is required.
- 6.3 Pipistrelle species of bats are typical in urban areas and are often attracted to artificial light sources which attract flying invertebrates. Whiskered bats tend to be more associated with wooded habitats and parkland, often associated with water, and are generally light adverse. The presence of this species probably reflects on the wooded nature of the many green spaces in Cwmbran generally and the rivers and canal corridors that run through it offering good connectivity with the outer semi-rural areas.
- 6.4 Pipistrelle species were noted on Site around sunset, shortly before sunset on the first transect and around 15 minutes after sunset on the second. This would suggest a local roost, probably in one of the houses in the Oakfield Estate. The median emergence time for whiskered bats is around 30 minutes after sunset. Given their appearance on Site at one hour and ten minutes and forty minutes after sunset on the two surveys, it is likely that the roost is some way from the Site. Previous records are from an unspecified point in the one kilometre square ST3093 and from the Brecon and Monmouthshire Canal, approximately 900 metres to the west.
- 6.5 It is clear that, even with the truncated survey, that control of artificial lighting will be necessary as whiskered bats are generally light averse. If artificial lighting is needed it



will be important to properly mitigate for this in design of the footpath. In addition, any lighting of the adjacent playing field area will need to be properly investigated in relation to impacts upon what is currently a dark corridor through the urban area.

- 6.6 If artificial lighting is to be utilised a predicted illuminance contour map (lux plots) should be produced and a methodology for reducing light spill into the riparian corridor to less than 1 lux if possible (i.e. by use of baffles). If this lux level cannot be achieved, further measures must be investigated to reduce light spill impacts.
- 6.7 In relation to the other bat species present, common and soprano pipistrelle are amongst our most common species and are least likely to be affected by the development given proper mitigation. Noctules are generally tree dwelling bats, and although no roosting has been evidenced within the survey area, there are mature trees to the south of the Site and these could well support this species.
- 6.8 The proposed works should also consider the continuity of woodland cover and not open any unnecessarily large gaps in the tree canopy along the corridor.

*Characterisation of Impacts for bats*

- 6.9 As currently understood, the direct impacts from the path works are unlikely to be of any significance. If artificial lighting is not required it is considered that the works will be of **no significance** to bat communities in a local or wider context.
- 6.10 Should artificial lighting be considered then mitigation will be necessary. In this instance the recommendations made in Section 8 below relating to artificial light should be employed. If carried out appropriately, it would still be considered that the works will be of **no significance** in a local or wider context.

## 7 RELEVANT LEGISLATION

- 7.1 All UK bats are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take bats. It is also an offence to intentionally damage or destroy their place of rest. In 2007 the offences of killing, injuring or taking species under Section 9(1), 9(2) and 9(4)a of European Protected Species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) were removed to avoid duplication with their protection under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended. The regulations remove the defence of inadvertent or accidental damage to roosts and make the offence ‘absolute’.
- 7.2 They are also protected under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended which requires the United Kingdom government to provide European Protected Species with strict protection. Currently, the UK government still applies this legislation.

- 7.3 The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017; this legislation consolidates amendments made to the earlier 2010 act. This legislation states in Part 3, Protection of Species, paragraph 43(1) that a person who:
- (a) deliberately captures, injures or kills any wild animal of a European protected species,
  - (b) deliberately disturbs wild animals of any such species,
  - (c) deliberately takes or destroys the eggs of such an animal, or
  - (d) damages or destroys a breeding site or resting place of such an animal,
- is committing an offence.
- 7.4 Further, with regard to disturbance of EPS, Paragraph 43(2) that disturbance is an act which is likely to:
- (a) to impair their ability—
    - (i) to survive, to breed or reproduce, or to rear or nurture their young, or
    - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate;or
  - (b) to affect significantly the local distribution or abundance of the species to which they belong.
- 7.5 In the case of a development involving the loss or modification of a building which may affect bats the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Licence (EPSL).
- 7.6 The introduction of the Conservation of Habitats and Species Regulations 2017 has removed the defence of killing or injuring a protected species during a lawful operation, thus even in an instance where planning permission is granted, the presence of bats must be considered and mitigated for prior to commencement of works. Under the above regulations, a WAG licence can only be given if three tests are satisfied:
- The action proposed is in the interest of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment;
  - That there is not a satisfactory alternative;
  - That the action proposed will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 7.7 Failure to satisfy the regulations and obtain an EPSL where required is likely to result in prosecution and can lead to severe fines of up to £5000 per bat and possible imprisonment.
- 7.8 Eight species of bat are listed under section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.

- 7.9 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

## **8 RECOMMENDATIONS**

- 8.1 All recommendations here are in addition to or confirming those made in earlier reporting from this Site (see paragraph 1.2).
- 8.2 Bats can be affected by artificial light spill. Consideration will therefore be given to the level of external lighting around the Site and a detailed lighting scheme should be produced and agreed with the Local Planning Authority. Illuminance surveys should be undertaken by an appropriately qualified engineer and accord with the survey guidance presented in the Bat Conservation Trust guidance note 08/18 of 2018. The use of ‘bat friendly’ lighting (wavelengths above 550 nano metres) should be investigated. In addition, the provision of floodlighting (if installed) on the adjacent football pitch will need to be fully investigated for light spill into the riparian corridor as part of this investigation.
- 8.3 No trees should be felled during the footpath works. Should it be deemed necessary to remove a tree it should be inspected in relation to bat roost potential before works commence.
- 8.4 Tree root protection zones (RPZ) will be outlined for where trees may be subject to a level of interference from the works and these will comply with BS 5837:2012 - Trees in relation to design, demolition and construction.
- 8.5 Any landscaping plan should introduce native species reflecting those present in the local area (all native species should be of local provenance) or species with known value to British wildlife. Plantings should include species known to be valuable to foraging birds and bats such as those producing berries and attractive to insects, i.e. heather, hawthorn, pyracantha and hazel.
- 8.6 Should a bat be found at any time during the works they will cease immediately and a suitably licensed bat ecologist should be called to advise on how best to continue.

## **9 CONCLUSIONS**

- 9.1 The surveys have shown a minimum of four species of bats using the Site, with common pipistrelle the most frequently recorded and whiskered more frequent later in the survey period.
- 9.2 Hawkeswood ecology understand the upgraded footpath will not be lit and as such no negative impacts are foreseen. Should lighting be required, measures are recommended to ensure that impacts are minimised.

- 9.3 If floodlighting of the adjacent football pitch/games area is to be installed, investigations into light spill will be carried out.

## 10 **BIBLIOGRAPHY**

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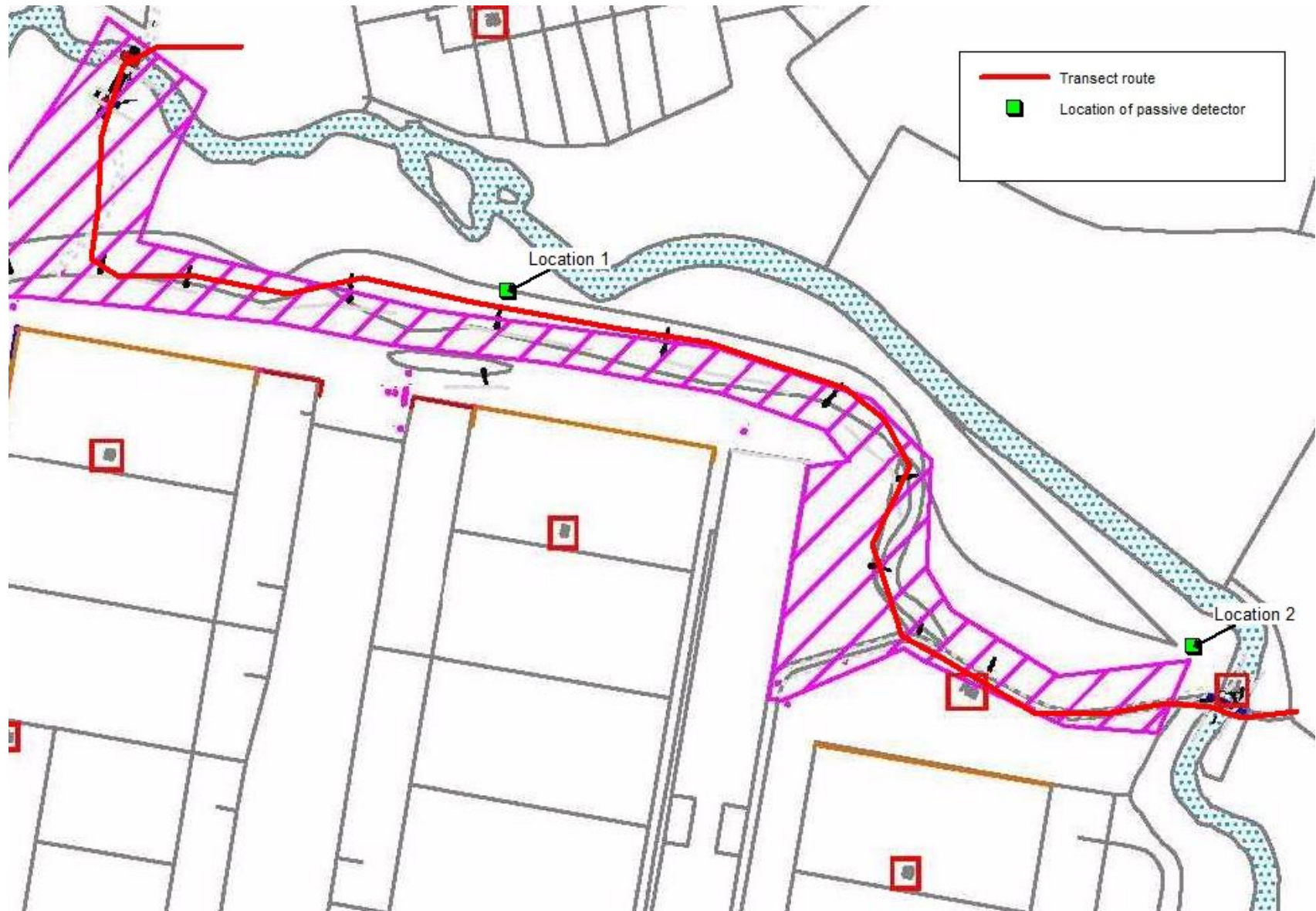
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**FIGURE 1**  
**BAT ACTIVITY TRANSECT ROUTES AND LOCATIONS OF PASSIVE DETECTORS**

Bat Activity Survey, Llantarnam Industrial Park.  
Hawkeswood Ecology – October 2022



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