

Preliminary Ecological Assessment & Bat Survey



Project: Bishop Hedley Catholic School

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Preface

The application is accompanied by a Preliminary Ecological Assessment & Bat Survey covering most of the buildings and the site, however, it is acknowledged that surveys on the site south of Gwaunfarren Road are outstanding but are due to be undertaken during this coming bat survey season. Accordingly, additional information will be submitted in due course, and prior to determination, to address this. We therefore request that NRW either hold off issuing a consultation response until these further surveys are submitted, or that initial comments are provided based on the information submitted with a view to providing their full and final comments once the additional information has been reviewed.

The Preliminary Ecological Assessment was undertaken prior to development plans for the site being finalised. As part of the planning process Pre-Application advice on the development proposals has been sought from the Local Planning Authority at Merthyr Tydfil County Borough Council. Comments have been received from the council ecologist on the development proposals which will be taken into consideration as the development proposals progress.

The comments requested amendments to the PEA document which should have been captured in this version of the report. The comments also ask that a number of other matters are considered. In summary, as the project evolves we intend to:

- Undertake Ground Based Visual Roost Assessments of all trees proposed for removal. This will be undertaken once the tree specialist has plotted the trees that require removal due to health & safety concerns and as part of the development.
- Have input into the lighting proposals for the development. A lighting engineer has been added to the design team and made aware of the ecological considerations for the site
- Undertake bat activity survey work on the buildings within the southern portion of the development site. The bat activity surveys are scheduled for early summer 2023.
- Visit the site and look more closely at the the former sports court area in the southern portion of the site. The updated site visit will be undertake at the optimal time of year for habitat surveys and is scheduled in for May 2023
- Collaborate with the landscape architects appointed for the project. Landscaping within the site will need to use native species mixes and ensure that sufficient hedgerow and tree planting is created. Details of species mixes, size, location and number of species planted

will be required and shown on plans. A management scheme for all landscaping will be required for at least 5 years to ensure all proposed habitats establish as envisioned.

- Ensure sufficient biodiversity enhancement measures are achieved as part of the development. Once lighting and landscape proposals progress we can advise further on suitable bat and bird box locations within new buildings. Suitable ongoing management measures will be required to ensure all soft landscaping proposals are sensitively managed for wildlife in perpetuity.

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1. Introduction

The client is looking to undertake a range of construction work within the grounds of Bishop Hedley Catholic High School. Planning permission is being sought for the reconfiguration of the school buildings and grounds. The plans seek a phased demolition of the school buildings, with the buildings to the north of Gwaunfarren Road being demolished first and a new school building complex created in the grounds. Pupils and staff will then be relocated to the new building in the northern half of the site. Once relocated new sports pitches and car parking facilities will be created to the south of Gwaunfarren Road.

This report will assess the potential of the land within the site boundary to support protected habitats and species and the implications that any future development proposals could have on them. The entire grounds of Bishop Hedley Catholic High School have been subject to a Preliminary Ecological Assessment. However the development proposals will take a number of years to complete and will be completed in phases. Therefore recommendations for each phase of the proposed works are provided within this report.

1.1 Site Description

The proposed development site comprises a number of school buildings which form Bishop Hedley Catholic High School. The school is dissected by Gwaunfarren Road and has a northern and southern half linked via an underground walk way. The site is generally sloping downwards from north to south with flat plateaus created across the site for the buildings and recreational areas etc.

The northern half of the site has an access road along the western edge from Galon Uchaf Road into the site. The southern half of the site has an access road from the northern boundary of Gwaunfarren Road into the site. Habitats across the proposed development site include scrub, mature trees, buildings, tarmac and paved hardstanding, amenity grassland, species poor semi improved grassland and tall ruderal vegetation.

The proposed development site sits to the north east of the town of Merthyr Tydfil. Allotments are present to the north east and Galon Uchaf Park is present to the north west. Residential properties are present to the east, south and west of the school.

1.2 Survey Constraints

The Preliminary Ecological Assessment site visit was undertaken in July which is within the optimum time to undertake phase 1 habitat surveys. All areas of the site were accessible during the site visit.

Ground based visual assessments of trees for their bat roosting potential is best undertaken in the winter months when trees do not have leaves on them. Tree assessments for bat roosting potential during the summer months when foliage can obscure the tree limbs are sub optimal.

1.3 Surveyor Experience

Aislinn Harris is a full member of Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 13 years experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2017). Aislinn is a NRW licenced bat, Great crested newt and dormouse ecologist with a wide variety of experience undertaking ecological surveys.

2. Desktop Study

A data search was undertaken via Aderyn (Reference DERF 0223-557) for the proposed development site and surrounding area. A 2km buffer zone was searched and records returned within 500m of site are noted below:

- Unidentified Pipistrelle bat - closest approximately 150m away to the east commuting / foraging,
- Hedgehog - approximately 80m away to the north west,
- Commuting / Foraging Serotine Bat - closest approximately 240m to the north
- Common Frog and Common Toad- closest approximately 330m away to the south east
- Numerous bird records including Red Kite, House Sparrow, Song Thrush, stealing, Peregrine

Records of note returned for the rest of the buffer zone are detailed below:

- Numerous insect records including Cinnabar Moth, Dusky Thorn, Buff Ermine, Blood Vein, Shoulder-striped Wainscott and Sallow
- Serotine, Noctule, Myotis species, Brown Long-eared & Lesser Horseshoe bat calls recorded via static monitoring,
- Kingfisher,

2.1 Protected Sites

A data search for species records was undertaken for the proposed development site and surrounding area. The search also considered statutory and non-statutory protected sites.

Statutory Protected Sites

The proposed development site does not lie within or in close proximity to any statutory protected site. The closest statutory protected site is the Cwm Taf Fechan Woodlands Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR) located approximately 1.6km away to the north west of site. The Cwm Glo a Glyndyrys SSSI is located approximately 1.9km to the south of the site.

Non-Statutory Protected Sites

The proposed development site does not lie within or adjacent to any non statutory protected site. There are ten Sites of Importance for Nature Conservation (SINCs) within the search area. The closest such site is the Cyfarthfa SINC which lies approximately 615m to the east at its closest point. Details of other SINC sites within 2km and their approximate distance from site are listed below:

- Afon Taf (1118m)
- Morlais Hill (1599m)
- Bryniau (1079m)
- Cwm Taf Fechan (1314m)
- Cwm Taf Fawr (1672m)
- Y Graig (1556m)
- Gyrnos Wood (1384m)
- Cwm Glo (1869m)
- Cwm Taf Fields & Cefn Coed Tip (1554m)

Taff Fechan Wildlife Trust Reserve lies approximately 1.6km away to the north west of the site.

In addition approximately 83.22% of the land within the 2km buffer zone is defined as a B-Line, including the site itself. B-Lines are non-statutory protected sites which aim to restore and create wildflower habitats forming stepping stones that link existing wildlife areas together creating a network of habitats across the landscape benefiting not only pollinators but a host of other wildlife.

There are a small number of areas of Ancient Semi Natural Woodland within 2km of the site. These woodlands have been identified as Priority Areas by Natural Resources Wales (NRW) as they comprise mostly broadleaved native trees and shrubs believed to have been in existence for over 400 years. The nearest Ancient Semi Natural Woodland lies approximately 770m away to the north west of the site.

NRW have also highlighted a number of other Priority Areas within 2km of the site and include:

- Restored Ancient woodland
- Plantation on Ancient Woodland

- NRW Priority Areas (Woodland-PAWS), these areas are targeted for conservation work.

Hedgerow habitat is present within the site boundary. Hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Whilst the hedgerow has been created as part of the soft landscape proposals when the school was created, the features meet the criteria for section 7 habitat. Therefore any impacts to hedgerow must be avoided. If impacts are unavoidable hedgerow translocation and or replacement hedgerow planting must be provided.

2.2 Potential Impacts to Protected Sites

Given the localised nature of the development works within an urban landscape, the works are considered to have limited potential to affect any protected sites.

It is noted that hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Any hedgerow loss must be avoided and appropriately mitigated for if undertaken. Additional hedgerow planting within the site of native species with an appropriate aftercare regime must be provided. The translocation of already established hedgerow should also be considered.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on the **14th July 2022**. All areas of the site were accessible during the site visit. A species list can be found in Appendix 1, photographs of the site can be found in Appendix 2 and a map of the habitats found within the site is provided in Appendix 3.

An **underground walkway** connects the northern and southern half of the site. The walkway passes underneath Gwaunfarren Road. The portions of the walkway that sit above ground are covered by single storey corrugated sheet panels forming a covered walkway.

Northern Half of Site

A large portion of the site is taken up by the school **buildings** which are described in more detail in Table 1 of section 4. A series of tarmac footpaths lead around the buildings. Two large areas of **tarmac hardstanding** are present to the north of the school building. One area is currently used for car parking. Vehicular access into the site is from the west and a **tarmac road** leads to the front of the school building and into the car park areas.

The remainder of the site contains areas of soft landscaping. The grassland within the site is well maintained via frequent mowing and is considered to be **semi improved grassland**. Species noted within the grassland include birds foot trefoil, red clover, white clover, yarrow, selfheal, daisy, mouse eared hawkweed, ribwort plantain, broad plantain and perennial rye grass.

A number of **scattered trees** are present across the site. Many of the species of tree are ornamental varieties but copper beech and a species of cherry tree were noted. **Ornamental planting** is present along the entrance road into the school.

A **hedgerow** forms the western and southern boundary of the school area. The hedgerows are growing through 6ft palisade fencing and are thought likely to have been created as part of the soft landscaping for the school when it was first built. Species noted within the **hedgerows** include hawthorn, sycamore, privet, holly and bramble.

A **tree line** forms the eastern boundary of the site. The **tree line** contains species including ash, sycamore, grey willow, hawthorn, a species of lime, rowan, holly and some non native species. The understory along the tree line is dense and contains species including bramble, rosebay willow herb, nettle, herb Robert, cleavers and cocksfoot. A small area of habitat has been mapped as **woodland** at the very northern point of the site.

Southern Half of Site

There are two school **buildings** within this portion of the site, both of which are described in more detail in Table 1 of section 4. There are two large areas of **tarmac hardstanding** within the site, one to the north west of B4 and one to the south of B5. A **tarmac car park** area is present to the east of B5. A mixture of paved and tarmac footpaths are present around the school buildings.

A large open grassland **playing field** is present to the south west of the site. The playing field is regularly used by pupils for sports activities. The field is **semi improved grassland** and flat. The

The banks around the sports pitch are less well managed and **tall ruderal vegetation**, progressing into scrub habitat, is present. Species noted within the **tall ruderal vegetation** include false oat grass, creeping thistle, bramble, hedge bindweed, ragwort, nettle, meadow vetchling, hoary willow herb, cleavers and cocksfoot.

Small blocks of **woodland** are present within the site boundary. These areas are not considered to be natural and are most likely to have been planted as part of a soft landscaping scheme for the site when the school was first built. Species noted include privet, a species of lime, sycamore and cherry.

3.2 Great Crested Newts

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great crested newts (GCN) are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a great crested newt. Great crested newt and common toad are listed in section 7 of the Environment (Wales) Act 2016 which makes them key species to sustain and improve biodiversity.

The data search returned a small number of records for Great Crested Newt (GCN). The closest such record is approximately 890m away to the south east .

No ponds are present within the site boundary and none appear to be present within 500m of the development site. Although ponds within gardens may not be visible on aerial images.

The habitats within the site boundary are considered broadly unsuitable for use by GCN. The well maintained semi improved grassland, hardstanding, tarmac and buildings are all considered to offer negligible potential for use by GCN. The habitat within the site boundary is open and provides little shelter from predation for GCN. **No further recommendations will be made for this species.**

3.3 Dormouse

The dormouse (*Muscardinus avellanarius*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Dormouse is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a native dormouse. Dormouse is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are no dormouse records available through the data search within 2km of the proposed development site. The habitats within the site are considered to be broadly unsuitable for dormouse. The grassland, hardstanding, tarmac and buildings offer no shelter or foraging habitat for use by dormouse. The tree lines and hedgerow could be used by dormouse however they offer limited habitat connectivity to any suitable habitat within the wider landscape.

Given the limited suitable habitat and lack of local records it is considered unlikely dormouse is present within the site. **No further recommendations will be made for this species.**

3.4 Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, bechstein, noctule, brown long eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Building Assessment

During the site visit in July 2022 the potential for the buildings to be used by bats for roosting purposes was highlighted and activity surveys recommended. Bat activity surveys on the building within the site boundary have been undertaken and are reported in section 4 of this report.

Tree Assessment

Trees within the site boundary were subject to ground level assessment for the likely potential presence for bats during the habitat survey in July 2022. Any trees felt to have potential for roosting bats would be subject to a further detailed survey following current BCT Guidelines (2016).

The majority of the trees within the site are mature and considered unsuitable for use by bats for roosting purposes. The scattered trees were well spaced allowing the surveyor access around each specimen to inspect the tree. The trees within the tree line to the north east of the site were difficult to inspect all the way around due to the presence of dense understory. At least one mature ash tree with signs of decay was noted within the tree line. An ornamental maple species of tree and a species of willow tree were noted within the small woodland area to the very north of site. Both trees appeared to have damaged limbs which appeared superficially suitable for bat roosting use.

Any proposals which affect trees within the tree line along the eastern boundary of the site and all areas shown as woodland will require additional survey work to establish their potential roosting use by bat species.

3.5 Otters

The common otter (*Lutra lutra*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are a small number of records for otter within 2km of the site, The closest record is approximately 915m away to the south west and is for field signs along the River Taff. The remaining otter records are all over 1km away from site and are mostly along the River Taff.

Otters tend to prefer secluded locations for their holts to help prevent them being disturbed by other animals. It is accepted that otters can travel long distances from river corridors to find acceptable holt sites.

The vast majority of the site is considered unsuitable for use by otter as it provides no shelter or cover and has no suitable habitat connectivity to any surrounding watercourses. The site is also subject to a high level of disturbance by humans due to its use as a school. As such it is considered highly unlikely otter are present within the site. **No further recommendations will be made for this species.**

3.6 Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures

and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive. NRW are the licensing body for any actions which may contravene the above legislation.

There are a small number of records for the presence of badger returned by the data search. The closest record is approximately 1.06km away to the south east, contains no details but is for the A4060.

Badgers favour a dry sloping site for digging their setts preferably within woodland or even under a large hedgerow bank. Badgers are creatures of habit and tend to follow regular pathways between their setts and foraging grounds, no such evidence was found within the site. No evidence of the presence of badger, such as sett, latrine or digging, was noted within the proposed development site.

The development site is dominated by open grassland, tarmac, hardstanding and buildings and highly unlikely to have a sett present. The site is also subject to a high level of disturbance by humans due to its use as a school. Given the lack of local records and high levels of human disturbance the potential for badger to be within the site is considered unlikely. **No further recommendations will be made for this species.**

3.7 Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.

Enhanced protection is afforded to species listed on Schedule 1 of the Act, this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Nesting opportunities occur in the trees, hedgerows and buildings within the site. Whilst evidence of nesting was not directly observed suitable nesting sites are considered to be present. The habitats within the site boundary are also likely to be used by a range of local bird species for foraging purposes. **Precautionary measures for nesting birds are detailed in the recommendation section of this report.**

3.8 Reptiles and Amphibians

Reptile such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. They are also listed in section 6 of The Environment (Wales) Act 2016 and are species of conservation priority.

The four widespread species of amphibian i.e. the smooth and palmate newts, common frog and common toad, are protected under the Wildlife and Countryside Act 1981(as amended) by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale of these species. Our common native amphibians are only protected from sale.

The closest reptile records are for slow worm approximately 750m away to the north of the development site. The closest amphibian record is for common frog approximately 180m away and associated with a residential property.

Reptiles prefer a mosaic of habitats with diverse vegetation structure creating open areas and nearby cover to provide protection from predators and the elements. The majority of the development site is well mown semi improved grassland, buildings, tarmac roads, hardstanding and footpaths which offer little protection or foraging habitat for reptiles. The tree lines, small woodland areas and hedgerow could be used by small numbers of reptiles for commuting purposes and possible hibernation during the winter.

The vast majority of the development site is considered to have limited potential for use by reptiles. Whilst development proposals have not been finalised yet it is considered unlikely that all areas of the development site will be affected by works. It is likely that any reptiles present within the site boundary could be retained within undisturbed areas of the site. Therefore reptile surveys are not recommended in this instance. Instead it is recommended that the presence of a small number of common reptiles and amphibians within the site is assumed.

Any works which affect the hedgerows, small wooded areas and tree line along the eastern boundary will require consideration to the potential impacts to reptile species. It is considered likely that species deterrent measures to ensure reptiles are not harmed during works would be sufficient. However details can be finalised once the development proposals are known.

3.10 Invertebrates

There numerous records of invertebrates within 2km of the site. Records provided as part of the data search include Shimmering Ruby-tail, Cinnabar moth, Dusky Thorn, Buff Ermine, Blood-vein, Shoulder-striped Wainscot, Brindled Beauty, Garden Tiger and Sallow. All of

these species are listed in section 6 of The Environment (Wales) Act 2016 and are species of conservation priority.

The site was assessed for invertebrates using the Invertebrate Habitat Potential Assessment (IHPA) as found in CIEEM inpractice Issue 112, June 2021. The IHPA protocol has been produced to allow ecologists without entomological expertise to identify key habitats and features likely to support important invertebrate assemblages. Full details of habitat elements, grades and assessment can be found in Appendix 7.

Based on the Invertebrate Habitat Potential Assessment (IHPA) the site, in its current state, is considered to have potential to support common and widespread generalist species of invertebrate.

At present, no recommendation is made for further survey work for invertebrate species. Recommendations will be made to enhance the development site via the soft landscaping proposals and on going management in an effort to improve the site for a range of invertebrate species.

4. Bat Survey Work

A detailed description of the buildings within the site boundary is given in the below table. Internal surveys of the buildings were not undertaken as the school was in use at the time of the survey visit. Also many of the buildings are considered unlikely to have an accessible attic space present. An assessment of the features within the building for the potential presence of bats was made during the site inspection.

	Building Description	Features	Bat Potential
B1 - Main School Building	External: Brick built structure with a flat roof. Building has various heights in different sections ranging from single storey to two storeys high. Various lengths of single pane glazing are present around the buildings. Underneath windows are section of panelling, possible metal panels but difficult to tell Small sections of the building were raised with no ground floor, creating an undercroft area. The raised sections were present on the north and west elevation and supported by metal struts.	Building appeared to be in fairly good condition with no obvious gaps or cracks along the roof. However due to the height of the building it was difficult to see all areas and it is possible that features were missed. Lifted fascia boards around the building. Gaps between metal support struts and building above.	Moderate
	Internal: N/A	-	
B2 - Pre-fabricated Teaching Units	External: Brick built structure with a flat rolled felt roof line. Wooden plyboard fascia around the entire building. uPVC windows on all elevations	Lifted fascia boards around the building	Moderate
	Internal: N/A	-	
B3 - Garage Unit	External: Single Storey breeze block and concrete panel walls. West elevation has a metal roller shutter door. Gentle pitched roof line with corrugated metal sheets	No visible gaps or cracks suitable for bat roosting use.	Low
	Internal: N/A	-	

B4 - Sports Hall	External: Detached brick built building with pitched corrugated sheet roof line. Two storeys in height with windows present on the first floor only. Corrugated metal soffit board and flat metal sheet fascia board	No visible gaps or cracks suitable for bat roosting use. However building is high and difficult to see all areas around the roof line.	Low
	Internal: N/A	-	
B5 - Main School Building	External: Brick built structure with a flat roof. Building has various heights in different sections ranging from single storey to four storeys high. The style and design of some sections of the building differ indicating they were possibly created at different times. Building generally has a flat roof but two sections of the building have a corrugated sheet pitched roof line. Building has a mixture of Small sections of the building were raised with no ground floor, creating an undercroft area. The raised sections were present on the north and west elevation and supported by metal struts.	No visible gaps or cracks suitable for bat roosting use.	Moderate
	Internal: N/A	-	
B6 - Caretakers Building	External: Brick built two storey building . Rectangular in shape with a pitched cement tile roof. A single brick built chimney present middle of SE roof pitch. uPVC soffit and barge boards present. Single storey extensions present on the NW and SE elevation. Extensions have flat roofs and uPVC fascia boards.	Missing tile on SE roof verge. Some gaps within the mortar fillets along the verge line. Possible gap between the soft and wall at eaves level.	Moderate
	Internal: N/A	-	

Table 1: Building Description

Given the height and complex structure of the building is considered possible that potential access points were missed. Bat activity surveys were recommended on all buildings to overcome the scoping survey constraints. Due to the general shelf life of bat activity surveys and the phased nature of the development proposals, bat activity surveys have only been completed on the buildings within the northern half of the site. Buildings subject to activity surveys include B1, B2 and B3. **Additional bat activity surveys will be required on all**



buildings within the southern half of the site prior to development works being undertaken.

4.1 Bat Activity Surveys

The emergence surveys were carried out during bat activity season and adhered to current best practice guidelines. These surveys were conducted from half an hour before sunset until two hours post sunset. The surveyors used are all experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. All sound analysis was undertaken by Richard Watkins. A map of surveyor locations is available in appendix 5 of this report.

The emergence surveys gave extra consideration to the features identified during the external scoping survey which could be utilised by bats. The location of the bat surveyors during each survey visit can be found in Appendix 6.

1) Emergence Survey - 26th July, 2022

- **Sunset:** 21:12

- **Weather:** Dry and calm

- **Temperature:** 14°C

- **Surveyors:** Tom Bell; Jonathan Daniels; Hannah Evans; Tyrone Evans; Allen Harvey; Kieran Meek; Debbie Parry; Hannah Preece; Mason Smith; Kieran Turner; Caitlin Watkins; Keith Watkins and Richard Watkins

No bats were observed emerging from the building.

2) Emergence Survey - 23rd September, 2022

- **Sunset:** 20:07

- **Weather:** Dry, slight breeze, 70% cloud cover

- **Temperature:** 18°C

- **Surveyors:** Tom Bell; Jonathan Daniels; Hannah Evans; Tyrone Evans; Allen Harvey; Kieran Meek; Debbie Parry; Hannah Preece; Mason Smith; Kieran Turner; Caitlin Watkins; Keith Watkins and Richard Watkins

Two common pipistrelle bats were seen emerging from B1 in two separate locations on the north facing elevation of the building

The weather conditions were dry and calm with little wind and no rain and therefore conducive for all bat activity surveys. The temperature was above 10 degrees celsius during the emergence surveys. The best viewing conditions were obtained around the building.

Echo-meter Touch 2 Pro bat detectors were present to acoustically record any bat calls.

Analysis of sound recording on bat detectors:

Species of Bats Recorded in the Area:	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>
Noctule	<i>Nyctalus noctula</i>

During the emergence surveys, a very low number of bat calls were recorded.

5. Summary of Bat Survey Findings

Buildings 1 and 2 were assessed as having moderate potential for use by bats due to the roosting features observed and the building locations. Building 3 was observed as having low bat roosting potential. The site is located in an area with some ecological connectivity for bats to the wider landscape and the surrounding environment does offer potential for bat use. There was some ambient lighting within the vicinity of the buildings via security lighting within the site and surrounding roads.

Based on the location and structure of the buildings bat activity surveys were recommended. Bat activity surveys have only been completed on Building 1, 2 and 3. Additional bat activity surveys of the buildings within the southern half of the site will be required. It is understood that the building works will be undertaken in stages on site, with the first stage being to demolish the buildings within the northern half of the site and build a new school building in its place. Then the buildings to the south of the site will be demolished and a new arrangement of buildings and playing fields created.

It is likely to be a number of years prior to the work within the southern half of the school being completed. Therefore activity surveys on Buildings 4, 5 and 6 have not been undertaken at present. Activity surveys on Buildings 4, 5 and 6 will be undertaken at least 1 year prior to building works commencing.

Building 1 is a confirmed bat roost for small numbers of Common pipistrelle bats. The building is considered likely to be used by day roosting males / non breeding female pipistrelle bats. No work that could affect a bat roost is permitted by law, without the permission from Natural Resources Wales, including any works to the roof. Direct illumination of the building is also not permitted, as this could constitute disturbance.

The buildings did not offer significant hibernation potential for bats due as the buildings have poor thermal stability. The property is still currently in use as a school and therefore heating will be switched on during the winter months making the buildings fairly warm and less suitable for bat hibernation. Whilst cavities may be present within the brick built walls, the building is poor quality (one of the reasons for demolition to create a new more efficient building) and does not retain heat. Therefore when the heating is put on during the winter its considered likely the walls heat up as well. This reduces the likelihood of hibernating bats in the buildings.

6. Recommendations and Mitigation

The client is looking to undertake a range of construction work within the grounds of Bishop Hedley Catholic High School. Planning permission is being sought for the reconfiguration of the school buildings and grounds. The plans seek a phased demolition of the school buildings, with the buildings to the north of Gwaunfarren Road being demolished first and a new school building complex created in the grounds. Works to the southern half of the school site will then commence.

It is anticipated that at least some of the habitat currently found within the site boundary will be retained as part of any development proposals. In particular the tree line to the north east of the site and the small woodland area to the ver north of the site.

Broad recommendations are made below to help inform the design process. **Once the development proposals are progressed and the considerations to development within the site are addressed, further ecological input may be required.** Our general recommendations are:

- **Building 1 is a confirmed bat roosting location for a small number of Common Pipistrelle bats.** Prior to any demolition works commencing to this building a development licence from Natural Resources Wales (NRW) must be gained. A bat licence can only be sought once planning consent has been granted and any relevant ecological conditions discharged. A bat licence can take at least 40 days to be granted from the application being submitted.
- Bat activity surveys of Buildings 4, 5 and 6 will be required prior to any demolition works being undertaken to the structures. Should evidence of roosting bat use of the buildings be found a development licence from NRW will be required prior to the buildings being demolished. Appropriate mitigation for the loss of any bat roost will be required.
- The tree line, hedgerow and buildings within the site boundary have potential for use by nesting birds. Any vegetation removal or building works must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any trees or ground vegetation with the potential for birds to be present for active birds' nests prior to removal works beginning. If an active nest is identified a buffer zone of 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed. Greater buffer zones around nests may be required depending on the species and habitat the nest is within.
- Hedgerow loss must be avoided where possible. Hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. If hedgerow loss cannot be avoided, mitigation measures for any habitat loss will be required.

Consideration to the translocation of hedgerow within the site boundary will be required. Replacement hedgerow planting will be required if translocation is not an option. Replacement planting at a ratio of at least of 2:1 and a suitable aftercare programme to ensure the hedgerow habitat establishes will be required.

- The trees must be retained where possible as they provide shelter and food for birds and small mammals. The hedgerows also provide commuting routes for small mammals and reptiles. Any retained trees and hedgerows should also be subject of RPZs, see above.
- Any tree loss within the site boundary must be compensated for with tree planting in future development proposals. It is recommended that for every tree lost at least 3 trees are planted to replace it, in line with guidance from the Woodland Trust. Consideration to the use of extra heavy standards for tree planting as opposed to while must be given.
- A **detailed ground based visual assessment of all trees** proposed for removal to ascertain their use by roosting bats will be required. Should any tree be found to have above moderate potential for use by roosting bats further detailed surveys such as climbing surveys to full inspect any suitable feature will be required. The optimal survey window for bat tree assessment work is the winter when leaves are not on the trees.
- The tree line, hedgerows, wooded areas and tall ruderal vegetation have the potential to support use by common reptiles. Any impacts to these habitat types will require a **reptile mitigation strategy to be agreed and implemented as part of the development works**. The reptile mitigation strategy will require careful timing of the works and species deterrent measures to encourage reptiles out of the construction footprint.
- Careful consideration must be given to the use of lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly foraging bats, nesting birds and invertebrates. Light spillage into adjacent semi-natural habitats must be avoided and brightness kept to the lowest permissible level in the areas adjacent to such habitats.
- **All lighting must meet recommendations in the BCT Guidance Note 08/18 Bats and artificial lighting in the UK** document <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

The Environment Act (Wales) 2016 places a duty on competent authorities such as Merthyr Tydfil County Borough Council to conserve and enhance biodiversity. The below

bullet points are some simple measures that could be achieved to enhance the biodiversity of the site:

- The provision of bird boxes of varying design in suitable locations within the development site. These could include integrated boxes built into buildings as well as small and large holed boxes on the mature trees retained during works.
- The provision of bat boxes in suitable locations within the development site. These could include integrated boxes built into any new buildings or the provision of a bat loft or bat roosting features within a building on site.
- The use of native species within the soft landscaping works on the site. Suitable long term management of soft landscaping also helps ensure spaces are useful to wildlife. Hedgerow and tree planting create habitat for wildlife and an attractive space for people.
- All fencing around the site will be hedgehog friendly in design. A friendly design is considered to allow passage of small animals across the site. It should provide either a continuous gap between the bottom of the fence and ground of approximately 13cm or 13cm by 13cm gaps cut every 3m along fencing.
- The creation of green corridors around the periphery of the development site must be considered. Green corridors could be achieved by a variation in the management of the grassland on site to create longer and shorter vegetation. Connectivity to adjacent areas of natural habitat would be welcome to help prevent habitat fragmentation.
- Less intensive mowing of some grassland areas across the site would encourage more species diversity within the sward benefiting a range of small animals and invertebrates. Long term habitat management to benefit wildlife within the site would help improve biodiversity levels.
- Collecting grass cuttings when grassland on site is mown and creating compost frames within the site boundary would help improve biodiversity levels. The removal of grass cuttings would reduce soil enrichment of the grassland areas allowing a greater diversity of plant species to establish. Creating compost frames of heaps for the cuttings would provide habitat for reptiles to use.

Appendix 1 – Plant Species Recorded

Species	Common Name
Trees & Scrub	
<i>Prunus spinosa</i>	Blackthorn
<i>Acer campestre</i>	Field Maple
<i>Crataegus monogyna</i>	Hawthorn
<i>Corylus avellana</i>	hazel
<i>Rubus fruticosus</i> agg	bramble
<i>Salix</i> sp	Willow sp
<i>Fraxinus excelsior</i>	Ash
Herbaceous Plants	
<i>Calystegia sepium</i>	hedge bindweed
<i>Chamerion angustifolium</i>	rosebay willowherb
<i>Tussilago farfara</i>	Colts foot
<i>Agrostis stolonifera</i>	Creeping bent
<i>Myrrhis odorata</i>	Sweet Cicely
<i>Centaurea nigra</i>	Common knapweed
<i>Heracleum sphondylium</i>	Hogweed
<i>Potentilla reptans</i>	Creeping cinquefoil
<i>Hedera helix</i>	Ivy
<i>Cirsium arvense</i>	creeping thistle
<i>Cymbalaria muralis</i>	Ivy leaved toadflax
<i>Bellis perennis</i>	Daisy
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass
<i>Dactylis glomerata</i>	cock's-foot
<i>Jacobaea vulgaris</i>	Ragwort
<i>Trifolium campestre</i>	Hop trefoil
<i>Phelum pratense</i>	Timothy
<i>Lotus corniculatus</i>	Birds Foot Trefoil
<i>Prunella vulgaris</i>	Selfheal
<i>Achillea millefolium</i>	Yarrow
<i>Plantago major</i>	Broadleaved plantain
<i>Plantago lanceolata</i>	ribwort plantain
<i>Ranunculus repens</i>	creeping buttercup
<i>Poa annua</i>	Annual Meadow Grass
<i>Holcus lanatus</i>	Yorkshire fog
<i>Taraxacum officinalis</i> agg	dandelion





<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	white clover
<i>Urtica dioica</i>	common nettle



Galium aparine

Cleavers









Appendix 2 – Site Photographs

Northern Half of Site

Ornamental planting at school entrance

Hedgerow along north west boundary

Tree line looking southwards

Building 3 west elevation

South elevation Building 1

North elevation Building 1

Ornamental planting at school entrance

Grassland between 2 car park areas

Grassland & hedge to south

Building 3 north east view

East elevation Building 1

West elevation Building 1

North elevation Building 1
Potential bat roost feature Building 1

East elevation Building 2

Potential bat roost feature Building 1
North elevation Building 2

North elevation Building 2



Southern Half of Site



Tarmac hardstanding south of Building 5

Small woodland area to south east of site

Car park to east of Building 5

Grassland and scattered trees to north of site

South elevation Building 5

North elevation of Building 5

Grassland to the south of Building 5

Woodland to the east of Building 5

Tall ruderal vegetation to west of Building 4

Covered walkway that links north & south

Interior linkway of Building 5

East elevation of Building 5



Roof view of Building 5

Roof view of Building

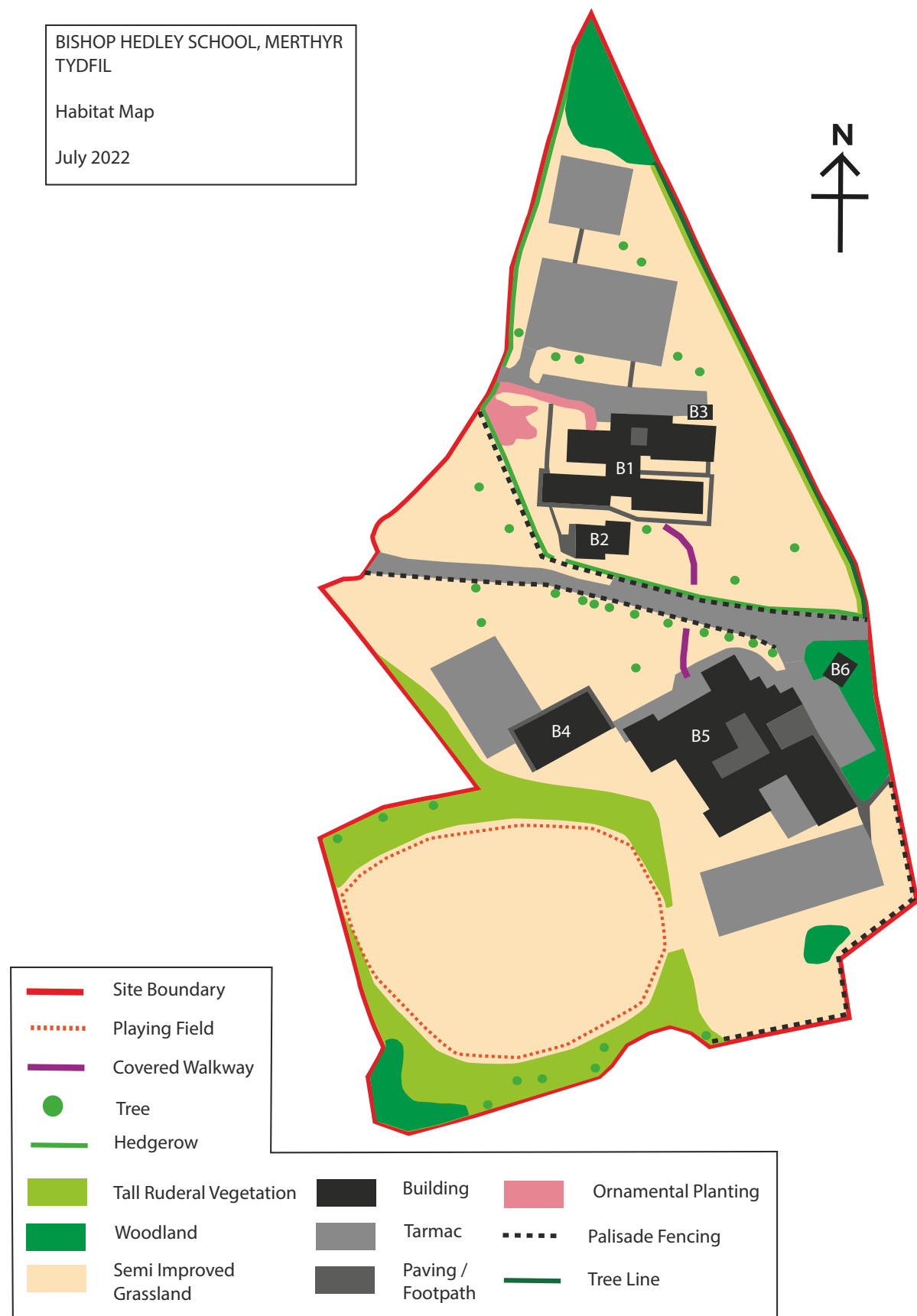
Interior courtyard Building 5
Building 4

North elevation

East elevation Building 4
Building 4

Roof line

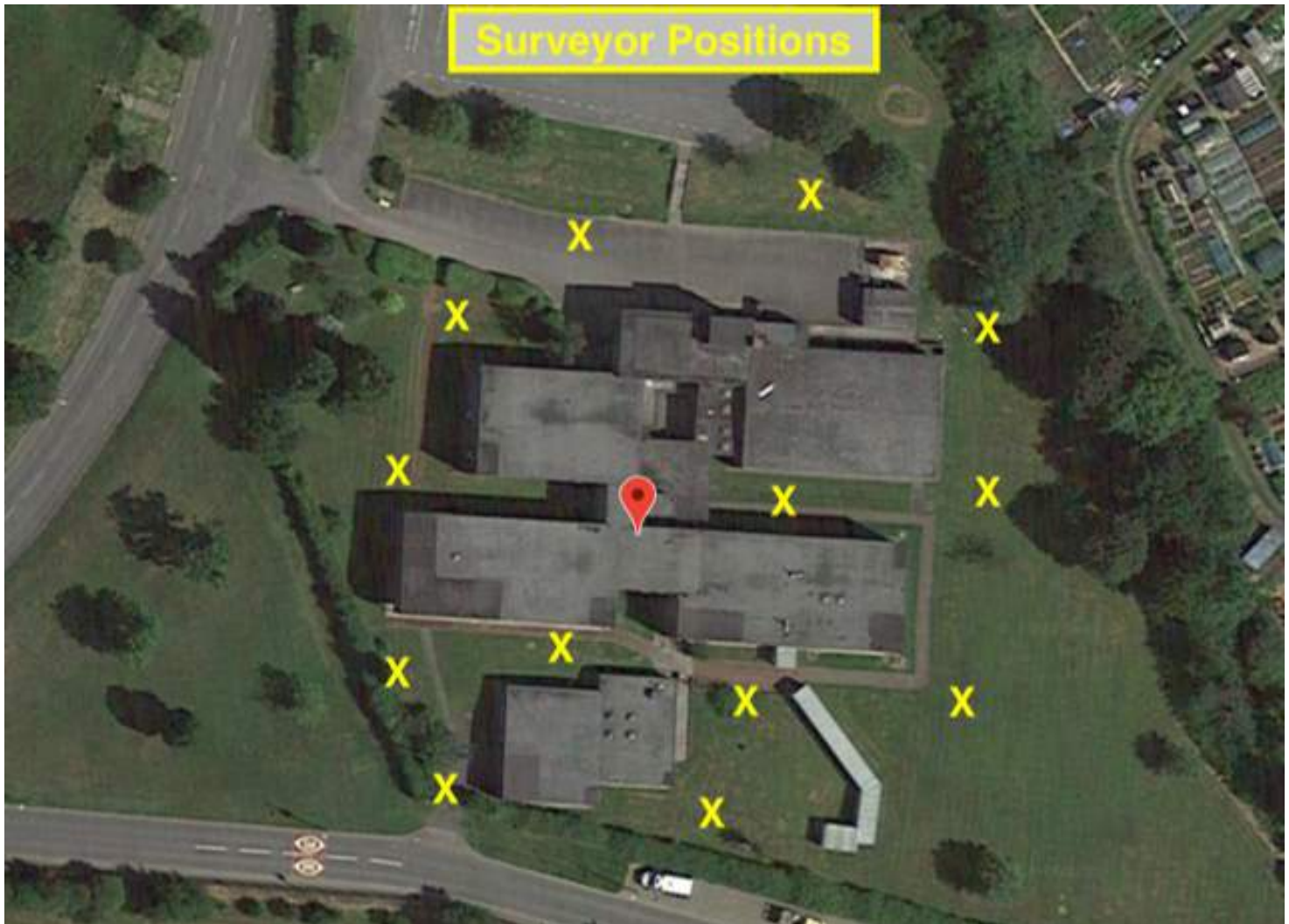
Appendix 3– Site Habitat Map



Appendix 4 - Aerial View of Site Location



Appendix 5 - Bat Surveyor Locations



Appendix 6 - Bat Roost Locations

Appendix 7 - Bat Activity



A very low number of Common Pipistrelles were observed foraging to the east and north west of the site during the surveys. A single Common Pipistrelle was also observed continuously foraging around the trees to the north of the site during the second emergence survey. A Noctule was observed commuting high over the site during both surveys.

Appendix 8 - Invertebrate Habitat Potential Assessment

Table 1. Summary of the 11 habitat elements assessed by IHP survey.

Habitat element	No.	Comments
Decaying Wood	HE1	In all its forms; from decaying wood on/in large trees to woodland floor debris
Rotational Management	HE2	Planned or serendipitous; and whether for nature conservation or other purposes
Nectar Resources	HE3	As a proxy for nectar- and pollen resources, as assessment of pollen resources is impracticable on a walk-through survey
Wet Substrates	HE4	Including marginal, marshy, muddy and seasonally inundated habitats, as well as flushes
Open Water Habitats	HE5	The open water element of rivers, lakes, ponds, streams, ditches, etc.
Structural Patchwork	HE6	Habitat mosaics, including, but by no means restricted to open mosaic habitats on previously developed land
Still Air (S)	HE7	Suntraps and still-air microclimates in open situations; the term 'still air' is used in preference to 'wind breaks' as many rigid wind breaks are likely to produce turbulent air in their lee
Still Air (H)	HE8	Humid still-air microclimates in sheltered and shaded situations
Connectivity	HE9	Landscape-scale connectivity between the site and external habitats
Ecoclines	HE10	A graded transition between two or more broad habitats
Bare Earth	HE11	Unshaded bare or sparsely vegetated well-drained substrate, regardless of soil type

Table 2. Grading system applied to habitat elements.

Grade	Description
Negligible/Absent (E)	Habitat element is absent or of insignificant (barely perceptible) quantity.
Minor (D)	Habitat element is present but is insufficient quality to qualify as Moderate or above. For example, it may be of extremely limited extent, or very sparsely dispersed. Likely to support common and widespread, generalist species.
Moderate (C)	A clear example of the habitat element is present, but which does not qualify as Major. Likely to be of sufficient quality to support a characteristic invertebrate fauna.
Major (B)	Good quality examples of each habitat element which do not meet the criteria for Exceptional. Likely to be a predominant factor in supporting characteristic and specialised invertebrate assemblages. Considerations might include the extent, maturity and historic and current connectivity of the element.
Exceptional (A)	Very high-quality examples of the habitat element, including but not restricted to those of potential regional significance. This may be for reasons of intrinsic quality, rarity, vulnerability or the perceived importance of its position in the wider landscape.

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Habitat Element	Grade
Decaying Wood – HE1	E – Negligible/Absent
Rotational Management – H2	D - Minor
Nectar Resources – H3	D - Minor
Wet Substrates – H4	E – Negligible/Absent
Other Water Habitats – H5	E – Negligible/Absent
Structural Patchwork – H6	E – Negligible/Absent
Still Air (S) – H7	D - Minor
Still Air (H) – H8	E – Negligible/Absent
Connectivity – H9	D - Minor
Ecoclimes – H10	D - Minor
Bare Earth – H11	E – Negligible/Absent