MONMOUTHSHIRE HOUSING ASSOCIATION

# LAND AT DEVAUDEN, MONMOUTHSHIRE

# PRELIMINARY ECOLOGICAL APPRAISAL

AUGUST 2021


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## SUMMARY

Soltys Brewster Ecology were commissioned by Monmouthshire Housing Association to undertake a preliminary appraisal of an area of land at Devauden, Monmouthshire. The area is being promoted as a candidate site, via the LDP review, for residential development. The ecological baseline conditions at the candidate site were established in June 2021 through a combination of desk study and Extended Phase 1 Habitat Survey.

Desk based consultation confirmed that the candidate site does not hold any designation for nature conservation. The Lower Nex Meadows SSSI is located approximately 900m south of the candidate site however, this is separated from the candidate site by several roads and agricultural field parcels and was not considered of particular ecological relevance. The desk study also revealed the locations of six Sites of Importance for Nature Conservation (SINC) within 1km of the site although again these were not considered of particular relevance to the proposed works due to their physical separation (from the Candidate site) and their designating features which consisted mostly of priority habitats and vegetation which are unlikely be affected by the proposed works.

The desk study returned a list of records for protected fauna and flora within 1km of the candidate site. This included the identification of a Common Pipistrelle, Soprano Pipistrelle and Lesser Horseshoe summer roost approximately 350m south-east of the candidate site. The data search also returned multiple records of Hazel Dormice associated with woodland parcels surrounding the site as well as the location of a known Badger Sett less than 250m from the site boundaries. No herpetofauna records were found within the 1km search radius but the desk study did identify a several protected and priority bird species within 1km of the candidate site as well as a number of S7 Priority listed invertebrate species.

An Extended Phase 1 Habitat survey undertaken in June 2021 identified a limited range of habitats present at the candidate site, consistent with its current agricultural use. The majority of the site was occupied by improved grassland which held little ecological value and represented the most suitable area for development. Other habitats present at the site include lines of broad-leaved trees, hedgerows, dense scrub, tall ruderal and buildings – of which hedgerows are listed as a priority habitat in Wales. The survey found no evidence of any invasive plant species at the candidate site.

In conclusion there is no over-riding ecological constraint to development at the candidate site. Habitats considered of greatest ecological importance to the site include the boundary tree lines/hedgerows which have potential to support foraging/commuting bats, nesting birds, Hazel Dormouse and other small mammals. The use of the site by foraging and commuting Badger could also not be precluded. As part of the local green infrastructure (GI) network, these features should be retained as part of any development so as to maintain habitat connectivity and provide wildlife corridors to allow for continued undisturbed movement of wildlife through the site. Dependent on potential impacts of

the development design, further survey work would be recommended to inform a planning submission at the candidate site and to inform any specific mitigation or enhancement measures with regards to bats and Hazel Dormice. Any future vegetation clearance (i.e. treelines or scrub) at the Candidate site would also need to consider the presence of nesting birds. As such, works should follow a precautionary approach e.g. undertaken outside of the nesting bird season, to minimise the risks to any potential nesting birds that may be present.

Opportunities for local biodiversity enhancement exist at the site and should be considered. Enhancement measures could include the inclusion of bat and bird boxes onto new buildings and retained trees; the creation of 130mm x 130mm gaps at the bottom of any garden and boundary fencing as to allow continued connectivity through the candidate site for Hedgehog and other small mammals; and the use of native species in any soft landscaping scheme and the management of retained boundary tree lines/hedgerows.

## 1.0 INTRODUCTION

1.1 Soltys Brewster Ecology were commissioned by Monmouthshire Housing Association to undertake a preliminary appraisal of an area of land in Devauden, Monmouth. The area is being promoted as a candidate site for residential development as part of the LDP review process (no candidate site reference number was available at the time of writing). A survey to establish the ecological baseline conditions and identify any ecological constraints or opportunities with the site is required.

1.2 The candidate site is located immediately west of Churchfields Road in Devauden (central grid reference: ST 48171 99094) and comprises an area of approx. 1.4ha as shown in Appendix I. The candidate site consists of a single grassland field with associated boundary tree lines/hedgerows.

1.3 The current report presents the findings of an ecological desk study and Extended Phase 1 Habitat survey undertaken at the candidate site in June 2021. The current report describes the existing ecological conditions as well as identifying any potential ecological constraints/opportunities associated with residential development at the site.

## 2.0 METHODOLOGY

2.1 In order to establish the baseline ecological conditions at the candidate site and adjacent habitats, a combination of desk-based consultation and Extended Phase 1 Habitat survey were undertaken in June 2021.

**Desk study**

2.2 The desk study involved consultation with the South East Wales Biodiversity Records Centre (SEWBReC) to identify any records of rare, protected or notable flora and fauna at the candidate site and within a radius of 1km (extended to 2km for bats as per the Bat Conservation Trust's good practice guidelines) extending from the centre point of the candidate site (Appendix II). The search criteria also included information relating to the location and citation details (where available) for any sites designated for their nature conservation interest such as Sites of Special Scientific Interest (SSSIs) or Sites of Importance for Nature Conservation (SINCs).

**Extended Phase 1 Habitat Survey**

2.3 The fieldwork was undertaken on 23rd June 2021 by a suitably experienced ecologist[1] and followed standard Phase 1 Habitat Survey protocol (JNCC, 1990) as amended by the Institute of Environmental Assessment (1995). All habitats within and immediately adjacent to the site boundary, where access was possible, were classified and mapped. Habitats considered to have potential to support rare, protected or otherwise notable species of flora and fauna were noted, as were any direct signs of these species (e.g. Eurasian badger *Meles meles* setts and dung-pits). Incidental observations of birds on or flying over the site were also recorded and any incidence of invasive weed species (e.g. Japanese knotweed *Fallopia japonica*) noted.

2.4 A map of habitats was drawn up and target notes were used to identify features of ecological interest. Where possible, habitats were cross-referenced to any relevant important UK or Wales priority habitats as identified under Section 7 of the Environment Act (Wales) 2016.

2.5 During the field survey any trees and buildings at the candidate site were assessed for their potential to support roosting bats and were categorised in relation to the bat roosting features (BCT, 2016). The categories are as follows:

- **Known or confirmed roost**
- **High** - A tree or structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

[1] Qualifying Member of the Chartered Institute of Ecology & Environmental Management (CIEEM), with experience of habitat and protected species surveys

- **Moderate** – A tree or structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
- **Low** – A tree of sufficient size & age to contain PRFs (Potential Roost Features) but with none seen from the ground or features seen with only very limited roosting potential; or a structure with one or more potential roost sites that could be used by individual bats opportunistically
- **Negligible** – Negligible habitat features on site likely to be used by roosting bat

## 3.0 RESULTS

### Desk Study

*SEWBReC Records*

3.1 Consultation with SEWBReC confirmed that the candidate site contained no statutory designations for nature conservation. The desk study did however reveal that the Lower Nex Meadows SSSI is located approximately 900m south of the candidate site. This site, which supports a traditionally managed unimproved neutral grassland community, is separated from the candidate site by several roads and agricultural field parcels and was not considered of particular ecological relevance. The desk study also revealed the locations of six Sites of Importance for Nature Conservation (SINC) within 1km of the site (see Table 1). However, again these SINCs were not considered of particular relevance to the proposed works due their separation from the Candidate site and their designating features which consisted mostly of priority habitats and vegetation which are unlikely be affected by the proposed works. A number of Ancient Semi-natural Woodland sites were also returned within the 1km search radius (see plan in Appendix II).

**Table 1: Non-statutory designated sites within 1km of the candidate site boundary.**

| Site Name | Citation | Distance from Site |
|---|---|---|
| Devauden Hill Top SINC | This site comprises a block of enclosures above Devauden containing both neutral and acid grassland communities. The site is bordered by overgrown hedgerows. | Approx. 384m east of candidate site. |
| Creigau Meadow SINC | A large field located on the edge of Devauden containing neutral grassland, acid grassland and scrub communities. The field is surrounded by tall thick hedgerows that appear unmanaged. Devauden's small reservoir also lies at the western corner of the site. Site appears invertebrate rich. | Approx. 385m north-east of candidate site. |
| Percus Wood SINC | Ancient Semi-natural Woodland. | Approx. 603m east of candidate site. |
| Tredean Wood SINC | Ancient Semi-natural Woodland. | Approx. 621m west of candidate site. |
| Strip of Chepstow Park Wood SINC | Ancient Semi-natural Woodland. | Approx. 840m south of candidate site. |
| The Hill Meadows SINC | 2 species-rich neutral meadows cut for hay at Kilgwrrwg. The meadow furthest south is very rich with orchids. | Approx. 901m south-west of candidate site |

3.2 The data search also returned a number of protected species records. This included a short list of foraging and commuting bats within 2km of the site with species including Natterer's Bat *Myotis nattereri*, Brown Long-eared Bat *Plecotus auratus*, lesser Horseshoe Bat *Rhinolophus hipposideros* and other unidentified *Pipistrellus sp.*. The data search also identified the location of a known summer day roost found approximately 350m south-east of the site on the edge of the residential village of Devauden, where Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Lesser Horseshoe have all previously been recorded. A historic (>10 years old) Lesser Horseshoe Bat roost was also found within a farm approximately 1100m west of the site.

3.3 Other records of mammals found within the data search include both recent and historic records of Hazel Dormouse *Muscardinus avellanarius* which were associated with a number of woodland parcels surrounding the site. This included the Fantawarren plantation woodland and Pergus Woodland both found to the east of the candidate site, the Chepstow Park Woodland found to the south-east and Tredean Woodland found to the west. [redacted] This hedgerow is directly connected to the hedgerows found at the candidate site. Two recent records of Otter *Lutra lutra*, both road casualty incidents, were linked with the B4293 carriageway which runs along the eastern border of Devauden. Other S7 priority listed small mammals identified within 1km of the candidate site include several records of Hedgehog *Erinaceus europaeus* as well as historic records of *Polecat Mustela putorius*.

3.4 No recent or historic herpetofauna (reptile and amphibian) records were returned within a 1km search radius by the data search.

3.5 Records of Red Crossbill *Loxia curvirostra* and Goshawk *Accipiter gentilis* were the only bird species listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) found within 1km of the candidate site although were not considered of particular relevance based on known habitat preferences. The data search also included a short list of Priority bird species under Section 7 of the Environmental Act (Wales) 2016 within 1km of the candidate site including Yellowhammer *Emberiza citrinella*, Dunnock *Prunella modularis*, House Sparrow *Passer domesticus,* Song Thrush *Turdus philomelos*, Eurasian Skylark *Alauda arvensis* and Linnet *Linaria cannabina.* Based on the habitats available at the candidate site many of these bird records were not considered of ecological relevance.

3.6 A limited number of priority invertebrate species listed under Section 7 of the Environmental Act (Wales) 2016 were found within 1km of the candidate site including Buff Ermine *Spilosoma lutea*, Dusky Brocade *Apamea remissa*, Dingy Skipper *Erynnis tages*, Grizzled Skipper *Pyrgus malvae*, Small Pearl-bordered Fritillary *Boloria*

*selene*, Marsh Fritillary *Euphydryas aurinia*, Small Phoenix *Ecliptopera silaceata*, Wall *Lasiommata megera* and Drab Looper *Minoa murinata*.

3.7 A number of invasive species listed under Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were identified within the 1km search radius including American Mink *Neovison vison*, Wild Boar *Sus scrofa*, Canada Goose *Branta canadensis*, Wall Cotoneaster *Cotoneaster horizontalis*, Himalayan Cotoneaster *Cotoneaster simonsii* and Japanese Knotweed.

**Extended Phase 1 Habitat Survey**

3.8 The distribution and extent of habitats recorded in June 2021 at the candidate site are illustrated on the Extended Phase 1 Habitat Plan with accompanying target notes in Appendix III. The candidate site supports a limited range of habitat types with the majority of the site occupied by a single improved grassland field. There are a number of hedgerows and tree lines marking the field margins, while a small parcel of tall ruderal vegetation can also be found in the south-east corner of the site. Outside of the site boundaries, further grassy fields with associated boundary hedgerows/tree lines can be found to the north, west and south, while Devauden village can be found immediately to the east.

*Improved grassland*

3.9 The majority of the candidate site comprised of a single grazed improved grassland field which contained horses at the time of the survey (see Plate 1). The grassland was characterised by a short sward height and low floral diversity, mainly consisting of Perennial Rye Grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus*, Annual Meadow-grass *Poa annua* and Cock's Foot *Dactylis glomerata* with occasional Dandelion *Taxicum officinale*, Daisy *Bellis perennis*, Ribwort Plantain *Plantago lanceolate* and White Clover *Trifolium repens*. The grassland had recently been cut prior to the survey, presumably for a silage crop.

**Plate 1 – Improved grassland field**

*Lines of broad-leaved trees*

3.10 The entire northern boundary as well as sections of the southern, western and eastern boundaries were marked by outgrown hedgerows that were now better described as lines of broad-leaved trees (see Plate 2 & 3). These tree lines consisted of Holly *Ilex aquifolium*, Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Elder *Sambucus nigra*, Silver Birch *Betula pendula*, Willow *Salix sp*. and Oak *Quercus sp*. and contained dense understories with species including Common Nettle *Urtica dioica*, Bramble *Rubus fruticosus*, Ivy *Hedera helix*, Cleavers *Galium aparine*, Herb Robert *Geranium robertianum*, Germander Speedwell *Veronica chamaedrys*, Ribwort Plantain, Common Bluebell *Hyacinthoides non-scripta*, Creeping Buttercup *Ranunculus repens*, Hogweed *Heracleum sphondylium*, Greater Plantain *Plantago major*, Dog Rose *Rosa canina*, Pignut *Conopodium majus*, Red Clover *Trifolium pratense*, White Clover, Hawkbit *Leontodon sp*. and Foxglove *Digitalis purpurea*.

**Plate 2 – Tree line along southern site boundary**

**Plate 3 – Tree line along northern site boundary**

*Dense Scrub*

3.11 A small strip of dense scrub consisting mostly of dense Bramble interspersed with young strands of Hawthorn and Blackthorn can be found in the north-west of the candidate site.

*Hedgerows*

3.12 Several intact species-poor and intact species-rich hedgerows can be found at the boundary of the candidate site. Much of the eastern site boundary is marked an unmanaged intact species-rich hedge that was approximately 3m in height (see Plate 4). This hedge contained 'woody species' such as Sycamore *Acer*

*pseudoplatanus*, Willow, Silver Birch, Holly, Hazel, Bramble, Hawthorn, Blackthorn and Elder with a dense understory consisting of Cleavers, Common Nettle, Greater Plantain, Bracken *Pteridium aquilinum*, Hogweed, Field Rose *Rosa arvensis*, Creeping Thistle *Cirsium arvense*, Foxglove, Pignut, Meadow Buttercup *Ranunculus acris*, Willowherb *Epilobium sp.*, Germander Speedwell, Lesser Stitchwort *Stellaria graminea*, Greater Stitchwort *Stellaria holostea* and Red Campion *Silene dioica*. A second intact species-rich hedge can be found along the majority of the western site boundary (see Plate 5). This hedge contained a similar species assemblage but showed signs of intense management and had been cut to a height of approximately 1.5 – 2m.

3.13 Small intact species-poor hedge can be found in the south-east corner of the site. This hedge appeared to be unmanaged and was approximately 3m in height and consisted mostly of Bramble, Blackthorn and Hazel with an understory containing Cleavers, Greater Plantain, Common Nettle, Red Clover, Broad-leaved Dock *Rumex obtusifolius*, Oxeye Daisy *Leucanthemum vulgare*, Hogweed and Pignut. Another small intact species-poor hedge can be found separating the candidate site from an adjacent residential garden, this hedge had been cut to a height of approximately 1 – 1.5m and was made up entirely of Holly and Bramble.

**Plate 4 – Eastern boundary hedgerow**

**Plate 5 – Western boundary hedgerow**

*Tall Ruderal*

3.14 A small parcel of tall ruderal vegetation can be found growing in the south-east corner of the candidate site. This contained species such as Common Nettle, Hogweed and Pignut.

*Buildings*

3.15 The candidate site contained a single structure that was in use as a stables/animal shelter at the time of the survey (see Plate 6). This shelter, which was constructed from wooded walls and a felt roof, was subject to an external inspection with the findings summarised in paragraph 3.23.

**Plate 6 – Stables/animal shelter**

*Invasive Species*

3.16 The survey found no instances of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) at the candidate site.

**Fauna**

3.17 In the course of the survey, a search of field signs for protected or notable species was undertaken and the potential of the habitats to support these species considered. In the context of this report, these species meet any of the following criteria:

- Species protected by British or international law;
- Priority species included on Section 7 (Environment Act, Wales);
- Nationally rare or nationally scarce species;
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists);

*Amphibians*

3.18 The desk study found no records of Great Crested Newt or any other common amphibian species within 1km of the candidate site boundary. There are no ponds or suitable breeding habitat within or adjacent to the candidate site boundary and the majority of the site i.e. improved grassland was generally considered to be unfavourable habitat for this species. It is therefore unlikely that Great Crested Newts or other common amphibians would use the site during their terrestrial phase and as such are not considered to pose a constraint to the proposed works and are not mentioned any further in this report.

*Badger*

3.19 [redacted]

*Bats*

3.20 The candidate site contains a number of trees however none of them were considered suitable of supporting roosting bats – these were mostly young/semi-mature with narrow trunks or had no obvious PRFs

(negligible/low potential). There was however a single mature Oak tree found directly adjacent to the site boundary (off-site) in the south-west corner of the candidate site that was considered to have a low potential to support roosting bats (see Target Note 1). This tree had a small knot hole that may lead to a hidden cavity within trunk that could not be assessed from ground level.

3.21 While the improved grassland field at the site likely provides limited foraging resources for bats, other ecological features such as the broad-leaved trees and parcel of dense scrub were considered suitable to support a range of foraging bat species. The boundary hedgerows/tree lines also likely act as valuable commuting corridors for bats in the local area, allowing undisturbed travel across the site and to further suitable foraging habitats in the wider landscape such as the surrounding parcels of ancient woodland identified in the desk study.

3.22 The candidate site also contained a single structure located in the south-east corner of the site which was in use as a stables/animal shelter at the time of the survey. This building, which was open on one side and likely to be in regular use, was considered to be of negligible potential to support roosting bats.

*Birds*

3.23 A number of birds were observed at the site during the survey which included S7 priority listed Starling *Sturnus vulgaris* and House Sparrow as well as Buzzard *Buteo buteo*, Blackbird *Turdus merula*, Raven *Corvus corax* and Blue Tit *Cyanistes caeruleus*. The boundary hedgerows/tree lines at the candidate site are likely to provide foraging and nesting opportunities for a range of tree/scrub nesting bird species.

*Hazel Dormouse*

3.24 The desk study revealed that Dormice have previously been recorded in a number of woodland parcels surrounding the candidate site including at Fantawarren plantation woodland, Pergus Wood, Chepstow Park Woodland and Tredean Wood. While no evidence of Dormouse (i.e. gnawed hazelnuts) was found during the survey, the boundary hedgerows and tree lines were considered suitable to support occasional use by this species. These features, which were well connected to the surrounding woodland parcels, contained a number of suitable food plant options for Dormouse (e.g. Hazel, Bramble, Oak and Hawthorn) and had sufficient structure, with dense and continuous understory layers.

*Otter and Water Vole*

3.25 The desk study identified a number of Otter records associated with road casualties along the B4293 carriageway east of Devauden. However, no suitable watercourses are found at or near the candidate site and therefore neither Otter nor Water Vole *Arvicola amphibius* were considered of ecological relevance to the

proposed works based upon their known habitat preferences. As such neither species are mentioned any further in this report.

*Reptiles*

3.26 The desk study revealed no records of any reptile species within 1km of the candidate site and the majority of habitat present at the site was considered to be of limited suitability to support common reptiles. The grazed improved grassland field lacks suitable cover/shelter opportunities and likely provides limited foraging resources for reptiles. There is a low potential for the boundary hedgerows/tree lines to support common reptiles such as Slow Worm *Anguis fragilis* or Common Lizard *Zootoca vivipara* however, anything other than individual or small numbers of animals at the site was considered to be unlikely.

*Terrestrial invertebrates*

3.27 During the survey a small number of terrestrial invertebrates were seen at the candidate site including Meadow Brown *Maniola jurtina*, Small White *Pieris rapae* and Peacock *Aglais io* butterflies as well as Buff-tailed Bumblebee *Bombus terrestris* - none of which are of conservation concern. While the grazed improved grassland field is likely to be unsuitable to support a wide range of invertebrate species, the boundary hedgerows/tree lines/scrub are likely to support greater number of invertebrates in the context of the site (i.e. in comparison to grazed grassland).

## 4.0 POLICIES AND PLANS

4.1 The following local and national planning policy relating to nature conservation and biodiversity are considered of relevance to the site.

### Planning Policy Wales (2021)

4.2 This document set out the land use planning policies of the Welsh Government with Chapter 6 dealing with Distinctive and Natural Places which covers Biodiversity and Ecological Networks. The advice contained within PPW is supplemented for some subjects by Technical Advice Notes (TAN's), with TAN 5 addressing Nature Conservation & Planning.

4.3 TAN 5 identifies a number of key principles, which the town and country planning system in Wales should consider. Those relevant are detailed below:

- Work to achieve nature conservation objectives through a partnership between local planning authorities, Natural Resources Wales (NRW), voluntary organisations, developers, landowners and other key stakeholders;
- Integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time;
- Ensure that the UK's international obligations for site, species and habitat protection are fully met in all planning decisions;
- Look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;
- Promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable. Minimising or reversing the fragmentation of habitats and improving habitat connectivity through the promotion of wildlife corridors;
- Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality;
- The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat.

### Environment (Wales) Act, 2016

4.4 Part 1 of the Environment Act Wales' came into force in May 2016 and sets out the approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

*Section 6 - Biodiversity and resilience of ecosystems duty*

4.5 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'.

*Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity*

4.6 This section lists living organisms and types of habitat in Wales which are considered of key significance to maintaining and enhancing biodiversity in relation to Wales. The Welsh Ministers are required to take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

**Local Planning Policy**

**Monmouthshire County Council Local Development Plan (2011 to 2021)**

4.7 The Monmouthshire County Council LDP was adopted in February 2014, replacing the Monmouthshire Unitary Development Plan (UDP) to become the adopted development plan for the County (excluding the part within the Brecon Beacons National Park). Following a review in 2018, the current plan will be replaced with a revised LDP (2018 to 2033) and is scheduled to be adopted in 2023. Policies of relevance to the candidate site within the current LDP include:

**Key Policy:**

*3. VALUING OUR ENVIRONMENT*

*Rural Environment and Biodiversity*

- *Monmouthshire has major biodiversity and landscape resources that need to be preserves and should be protected, managed and enhanced.*
- *There is a need to improve connectivity within the landscape through protecting and improving existing wildlife networks and corridors and creating new linkages to allow species to move and adapt to climate change impacts.*

*The LDP seeks to influence these issues by:*

- *Ensuring that new development does not cause harm to international, national and locally protected sites and species and that where appropriate and necessary, avoidance, mitigation and compensation measures are incorporated, while ensuring that new benefits for Biodiversity are explored.*
- *Undertaking a Habitats Regulations Assessment to ensure that the cumulative effects of development in Monmouthshire and adjoining areas do not result in harm to internationally designated nature conservation sites.*
- *Ensuring that biodiversity is considered in any development in order to protect any existing interest on the site and encourage biodiversity enhancements where necessary.*
- *Protecting high quality landscapes throughout the County, paying particular attention to those contained in the Wye Valley AONB and in the setting of the Brecon Beacons National Park.*

**Detailed Policies:**

**STRATEGIC**

***Policy S13 – Landscape, Green Infrastructure and the Natural Environment. Development proposals must:***

*1. Maintain the character and quality of the landscape by:*

*(i) identifying, protecting and, where appropriate, enhancing the distinctive landscape and historical, cultural, ecological and geological heritage, including natural and man-made elements associated with existing landscape character;*

*(ii) protecting areas subject to international and national landscape designations;*

*iii) preserving local distinctiveness, sense of place and setting;*

*(iv) respecting and conserving specific landscape features, such as hedges, trees and ponds;*

*(v) protecting existing key landscape views and vistas.*

*2. Maintain, protect and enhance the integrity and connectivity of Monmouthshire's green infrastructure network.*

*3. Protect, positively manage and enhance biodiversity and geological interests, including designated and non-designated sites, and habitats and species of importance and the ecological connectivity between them.*

*4. Seek to integrate landscape elements, green infrastructure, biodiversity features and ecological connectivity features, to create multifunctional, interconnected spaces that offer opportunities for recreation and healthy activities such as walking and cycling.*

## LANDSCAPE AND NATURE CONSERVATION

***Policy LC1 - New Built Development in the Open Countryside***

*"...new built development will only be permitted where all the following criteria are met:*

*d) the development will have no unacceptable adverse impact on landscape, historic / cultural or geological heritage, biodiversity or local amenity value"*

## GREEN INFRASTRUCTURE

***Policy GI1 – Green Infrastructure***

*Development proposals will be expected to maintain, protect and enhance Monmouthshire's diverse green infrastructure network by:*

*a) Ensuring that individual green assets are retained wherever possible and integrated into new development. Where loss of green infrastructure is unavoidable in order to secure sustainable development appropriate mitigation and/or compensation of the lost assets will be required;*

*b) Incorporating new and /or enhanced green infrastructure of an appropriate type, standard and size. Where on-site provision of green infrastructure is not possible, contributions will be sought to make appropriate provision for green infrastructure off-site.*

## NATURE CONSERVATION AND DEVELOPMENT

***Policy NE1 – Nature Conservation and Development***

*Development proposals that would have a significant adverse effect on a locally designated site of biodiversity and / or geological importance, or a site that satisfies the relevant designation criteria, or on the continued viability of priority habitats and species, as identified in the UK or Local Biodiversity Action Plans or Section 42 list of species and habitats of importance for conservation of biological diversity in Wales, will only be permitted where:*

*a) the need for the development clearly outweighs the nature conservation or geological importance of the site; and*

*b) it can be demonstrated that the development cannot reasonably be located elsewhere.*

*Development proposals shall accord with nature conservation interests and will be expected to:*

*i) Retain, and where appropriate enhance, existing semi-natural habitats, linear habitat features, other features of nature conservation interest and geological features and safeguard them during construction work;*

*ii) Incorporate appropriate native vegetation in any landscaping or planting scheme, except where special requirements in terms of purpose or location may dictate otherwise;*

*iii) Ensure the protection and enhancement of wildlife and landscape resources by appropriate building design, site layouts, landscaping techniques and choice of plant species;*

*iv) Where appropriate, make provision for on-going maintenance of retained or created nature conservation interests.*

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 The combination of desk study and Extended Phase 1 Habitat survey identified a limited range of habitats at the candidate site including improved grassland, tree lines, hedgerows, dense scrub, tall ruderal and buildings. The grazed improved grassland field which made up the majority of habitat on site was considered to be of limited ecological importance and represented the area of the candidate site most suitable for any proposed development. The boundary hedgerows and tree lines represent the areas of greatest ecological importance in a local context, connecting the site to the wider environment and having the potential to support a variety of species including foraging and commuting bats, nesting birds, Hazel Dormouse and other small mammals. A single mature Oak tree found directly adjacent to the candidate site boundary in the south-west corner of the site was also considered of Low potential for roosting bats.

*Badger*

5.2 [redacted]

*Bats*

5.3 The boundary hedgerows/tree lines at the candidate site contain some existing connectivity for foraging and commuting bats in the local area. As previously mentioned, any development should seek to retain these boundary features as far as possible and incorporate them as part of a local green infra-structure (GI) network so as to maintain habitat connectivity between valuable habitats in the wider area. Dependant on the potential impacts of the development design (e.g., access locations, hedgerows removal) further bat activity surveys (manual transects and automated surveys) may also be required to establish how bats are using the candidate site to inform any particular mitigation/avoidance measures. Based on the size and availability of suitable habitats at the candidate site the minimum level of survey recommended in the best practice guidelines (BCT, 2016) would be considered appropriate to achieve a representative sample of bat activity across the candidate site. This would comprise 3no. activity survey visits in spring, summer and autumn in appropriate weather

conditions. Separate automated/static surveys (minimum one static per transect) would also be required, with each session recording for 5 consecutive nights *in situ* per season. The location of the static detectors (e.g. Anabat Swift units) would be focused on the areas likely to be subject to development impacts (e.g. hedgerow removal).

5.4 The survey noted a single tree adjacent to the site boundary in the south-west corner of the site was that considered to have a low potential to support roosting bats. All bat species within the UK and their breeding and resting places are afforded legal protection under the Conservation of Habitats and Species Regulations (2017) and the Wildlife and Countryside Act (1981) (as amended). Trees assessed to have a low potential do not require any further survey work under the BCT (2016) guidelines. However, on a precautionary basis if any trees with low potential were to be removed as part of any future development a soft-felling approach would be recommended. Trees should be section felled with cut tree limbs carefully lowered and left grounded overnight to allow any bats present to leave (Jackson, 2015). No further survey work would be required for the stables/animal shelter found in the south-east corner of the site which was assessed to have negligible potential to support roosting bats.

5.5 In addition, any future lighting design at the candidate site should seek to reduce artificial light spill onto boundary features (i.e. hedgerows). These linear habitat features should be maintained as dark corridors for commuting/foraging bats and other nocturnal species. See lighting guidelines extract provided in Appendix IV for advice on how to minimise the impacts of artificial light spill on bats. To provide localised biodiversity enhancements, bat boxes should also be incorporated into the development design.

*Birds*

5.6 Foraging and nesting birds are likely to use the boundary hedgerows/tree lines/dense scrub at the candidate site. Under the Wildlife and Countryside Act (1981) (as amended), all wild birds are protected against killing or injuring and their nests against damage or destruction whilst in use or being built. Given the high likelihood of nesting birds being present within habitats at the candidate site, vegetation clearance i.e. hedgerow and tree removal associated with any future works at the site should be undertaken outside of the nesting bird season (between September – February). If this is not possible an ecologist should be present to inspect habitats prior to removal to confirm absence of nesting birds and supervise vegetation clearance. The development design should also include provision for the implementation of bird boxes into new buildings.

*Hazel Dormouse*

5.7 The desk study identified several records of Hazel Dormouse within woodland habitats surrounding the candidate site. The boundary hedgerows/tree lines at the candidate site, which have some existing connectivity

to the surrounding woodland parcels, were structurally diverse and contained numerous food source options and were therefore considered suitable to support this species on an occasional basis. Hazel Dormouse and their breeding and resting places are also afforded legal protection under the Conservation of Species and Habitats Regulations (2017) and Wildlife and Countryside Act (1981) (as amended). Dependant on the likely impacts of any future development layout at the candidate site further survey work may be required to determine the likely presence/absence of Hazel Dormouse and inform any appropriate mitigation/avoidance measures or licencing requirements.

5.8 Further surveys would involve the deployment of nest tubes along the hedgerow/tree line margins boundaries. As per best practice guidelines (Bright et al., 2006), nest tubes should be deployed in March/April and checked at monthly intervals for the presence of Dormouse up until November. A minimum of 50no. nest tubes should be deployed to sample a site. Given the scale of the candidate site it is likely that the minimum number of 50no. nest tubes will be adequate to achieve full coverage and demonstrate an appropriate survey effort.

*Reptiles*

5.9 Based on the lack of suitable habitat at the candidate site, the presence of anything other than individual or small numbers (if any) of reptiles is unlikely. All common species of reptile are protected against killing or injury under Schedule 5 (sections 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended) and are an important ecological consideration in terms of site development. The retention of the boundary tree lines/hedgerows would minimise any potential impacts to reptiles and would provide ample foraging/basking/sheltering opportunities to continue to support any small populations of reptiles that may be present at the candidate site. A targeted reptile survey is therefore not deemed necessary for the site but on the assumption that individual or small numbers of reptiles may be present on-site, particularly along the boundary features, a precautionary approach to vegetation clearance is recommended when reptiles are active (typically April-Sept). This would involve:

- Directional, phased clearance of vegetation from east to west encouraging the movement of reptiles toward retained hedgerow/tree line boundaries and grassland habitats found west of the site;
- Vegetation clearance to be undertaken using hand tools such as strimmers, brush cutters and hedge trimmers;
- Cutting of any scrub or woody vegetation should be done in two phases. An initial cut to 300mm. A second cut undertaken 24hrs later down to 50mm with all arisings removed from site within 48hrs. Low lying, nonwoody vegetation such as semi-improved grassland could be cleared in one phase down to 50mm with all cuttings removed from site within 48hrs;
- Vegetation clearance should be undertaken in autumn (September/October) or early spring (February/March) to minimise potential clash with the bird nesting season.

*Hedgerows*

5.10 Hedgerows, as a S7 priority habitat, should be retained or enhanced where possible and incorporated as part of a strategic green infra-structure network for the new development. New native tree and shrub planting within the species-poor hedgerow sections would enhance biodiversity locally and improve connectivity for commuting bats and other mobile species.

*Other considerations*

5.11 Hedgehogs are likely to use the habitats present at the site including the areas of improved grassland and hedgerow boundaries. The design of any future development at the site should consider the presence of Hedgehog and other small mammals at the site by incorporating a gap of 130mm x 130mmm at the bottom of garden and boundary fencing to ensure continued connectivity as part of the development (Peoples Trust Endangered Species, 2019). Finally, the use of native species in any soft landscaping scheme and management of the boundary treelines would enhance the habitat for biodiversity locally.

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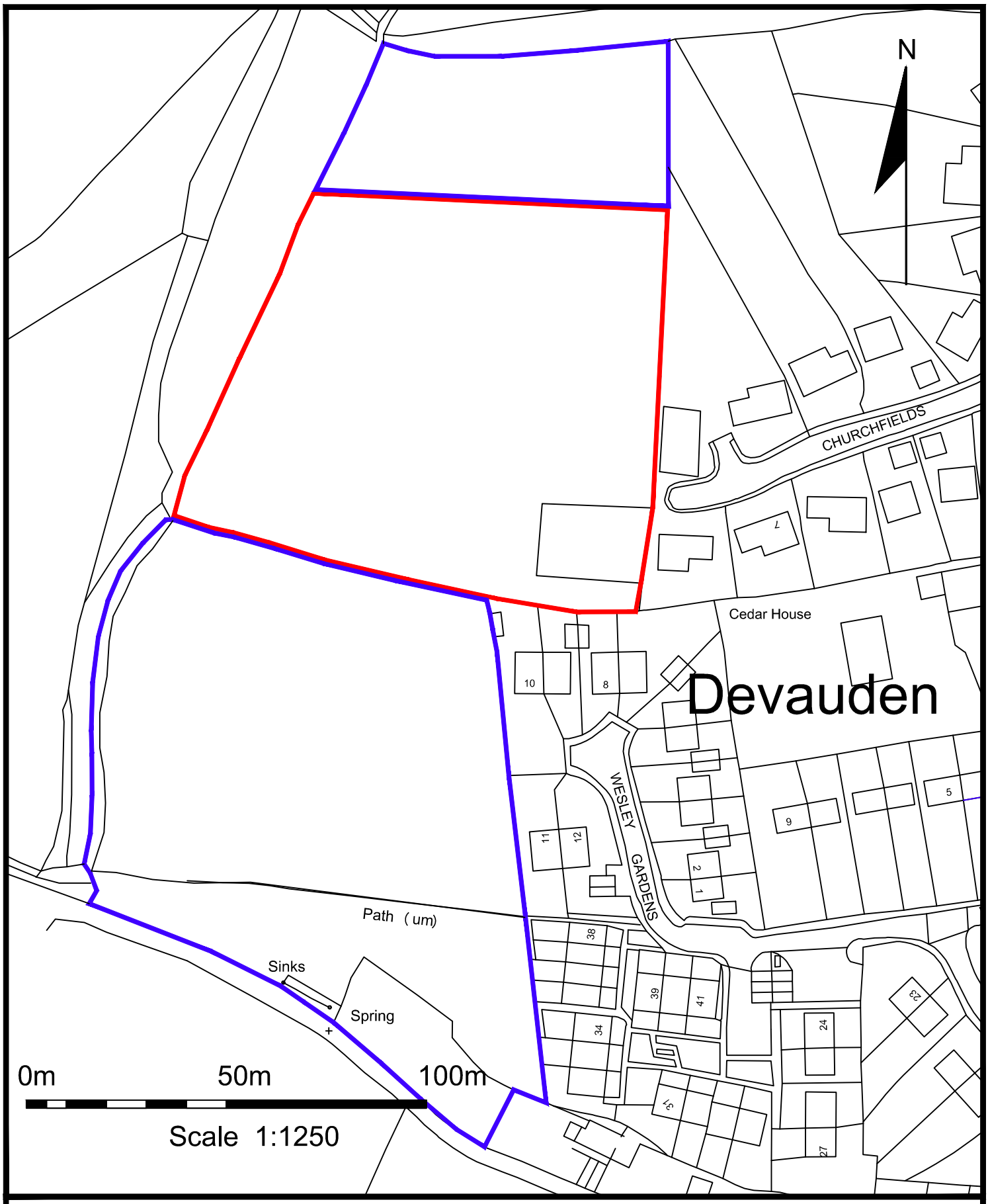
## APPENDIX I SITE LOCATION PLAN (RED LINE BOUNDARY)

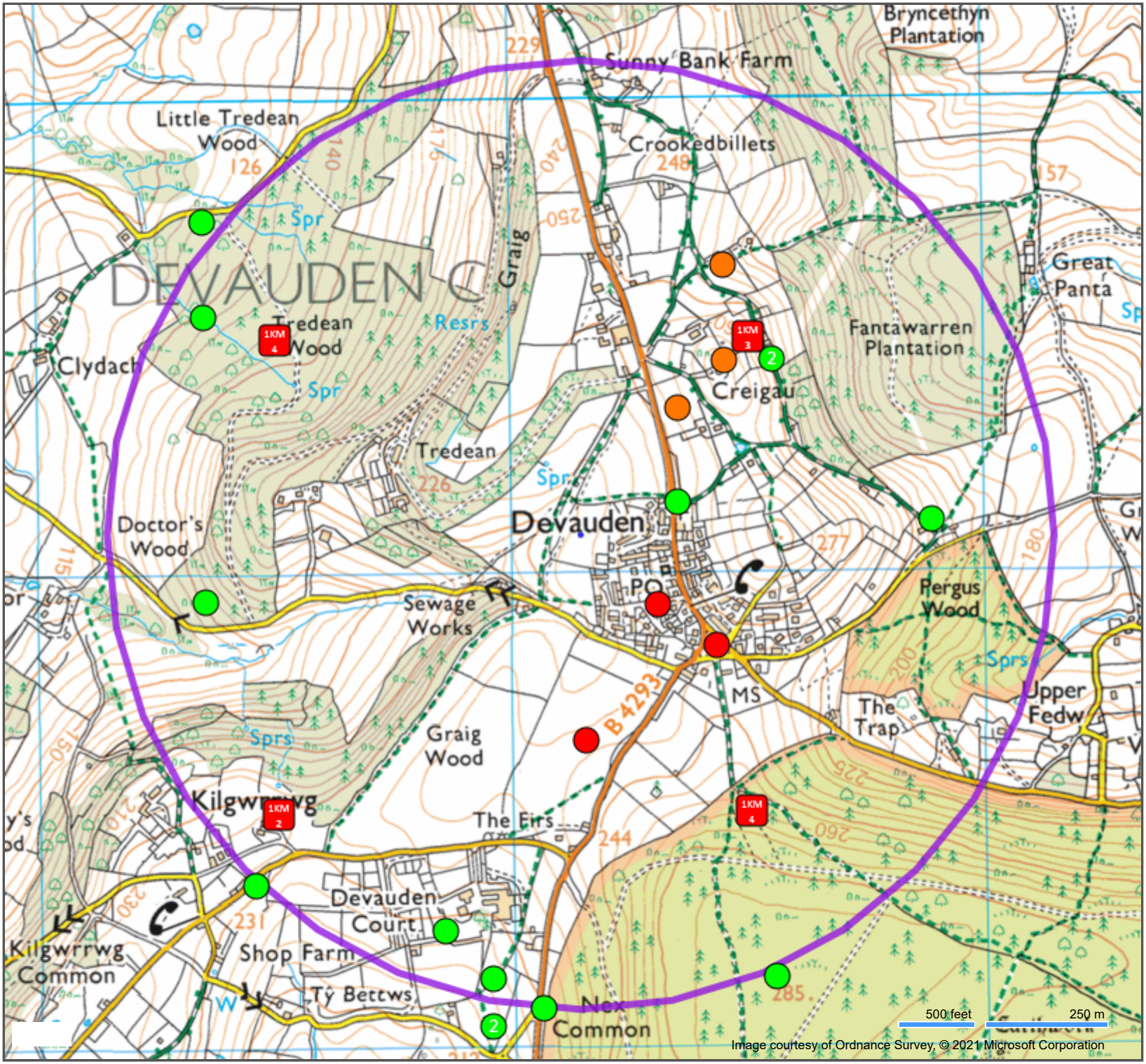



MHA
Monmouthshire Housing
Tai Sir Fynwy

# Land Located West Of Churchlands, Devauden.

Plan # D1

## APPENDIX II DESK STUDY INFORMATION RECEIVED FROM SEWBReC




Aderyn
LERC Wales' Biodiversity & Reporting Database

LOCAL ENVIRONMENTAL RECORDS CENTRES WALES
CANOLFANNAU CORNODION AMGYLCHEDDOL LLEOL CYMRU

**eMapper for LERC Wales Aderyn Commercial**

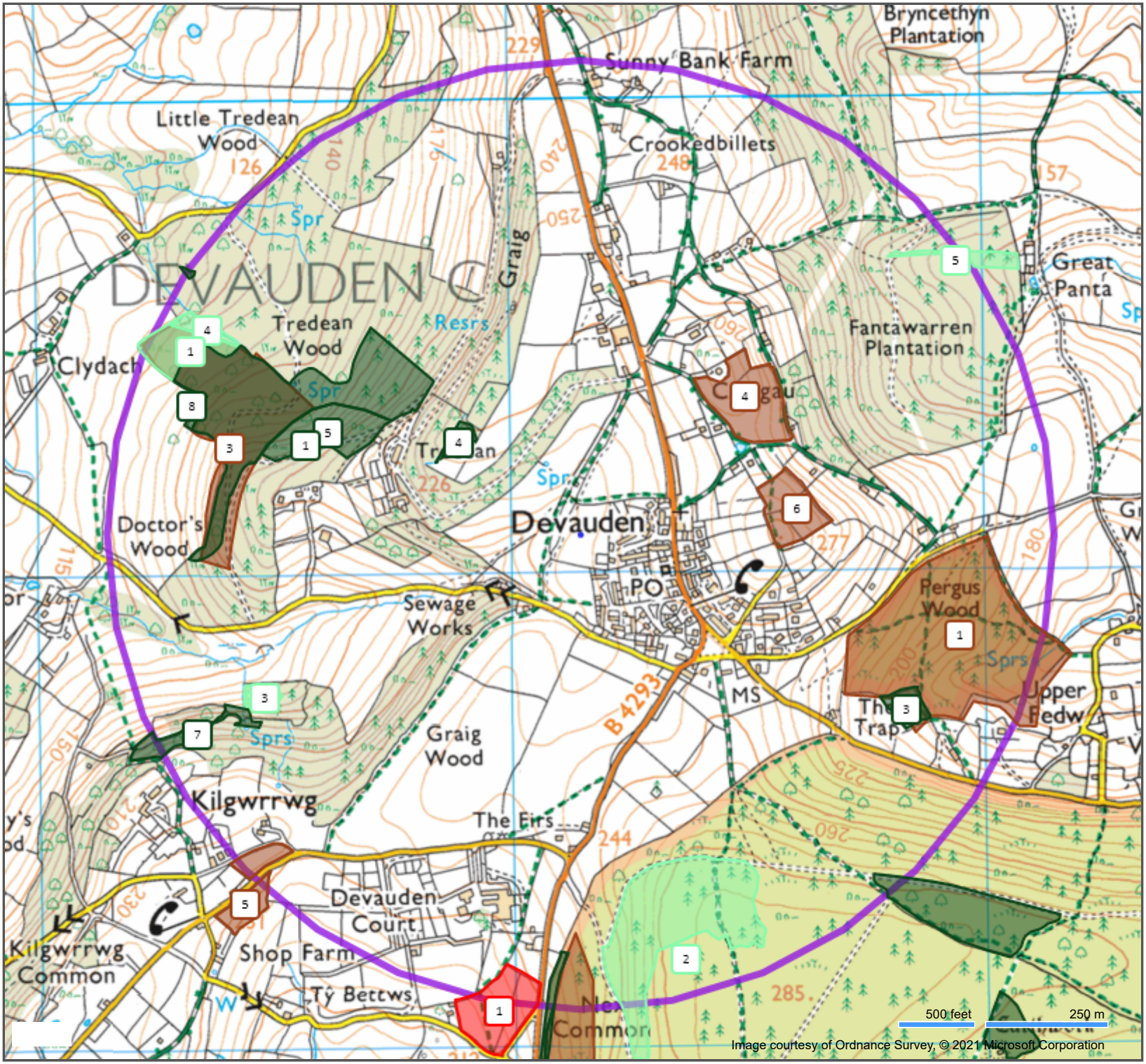
ben-satherley_14/06/2021_churchfields-devauden / 3243/0212-180

Devauden Species Map (Public)

**Key**

- Search Location
- Search Buffer (1000m)

- **Birds**
- **Butterflies and Moths**
- **Fungi, Lichen and Slime Moulds**
- **Mammals**
- **Other Invertebrates**
- **Plants**




Aderyn
LERC Wales' Biodiversity & Reporting Database

LOCAL ENVIRONMENTAL RECORDS CENTRES WALES
CANOLFANNAU CORNODION AMGYLCHEDDOL LLEOL CYMRU

**eMapper for LERC Wales Aderyn Commercial**

ben-satherley_14/06/2021_churchfields-devauden / 3243/0212-180

Devauden Sites Map (Public)

## Key

- Search Location
- Search Buffer (1000m)

### Ancient Semi-natural Woodland

- **1**: Ancient Semi Natural Woodland
- **2**: Ancient Semi Natural Woodland
- **3**: Ancient Semi Natural Woodland
- **4**: Ancient Semi Natural Woodland
- **5**: Ancient Semi Natural Woodland
- **6**: Ancient Semi Natural Woodland
- **7**: Ancient Semi Natural Woodland
- **8**: Ancient Semi Natural Woodland

### Ancient Woodland Site of Unknown Category

- **1**: Ancient Woodland Site of Unknown Category
- **2**: Ancient Woodland Site of Unknown Category
- **3**: Ancient Woodland Site of Unknown Category
- **4**: Ancient Woodland Site of Unknown Category
- **5**: Ancient Woodland Site of Unknown Category

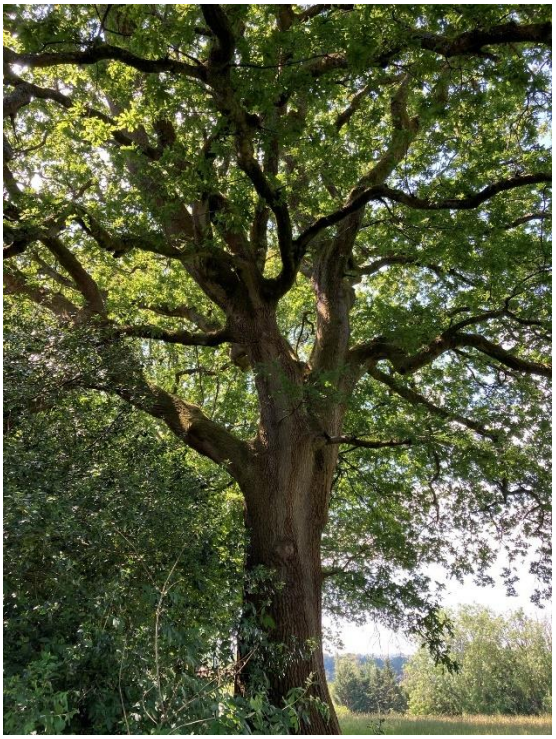
### Adopted SINC

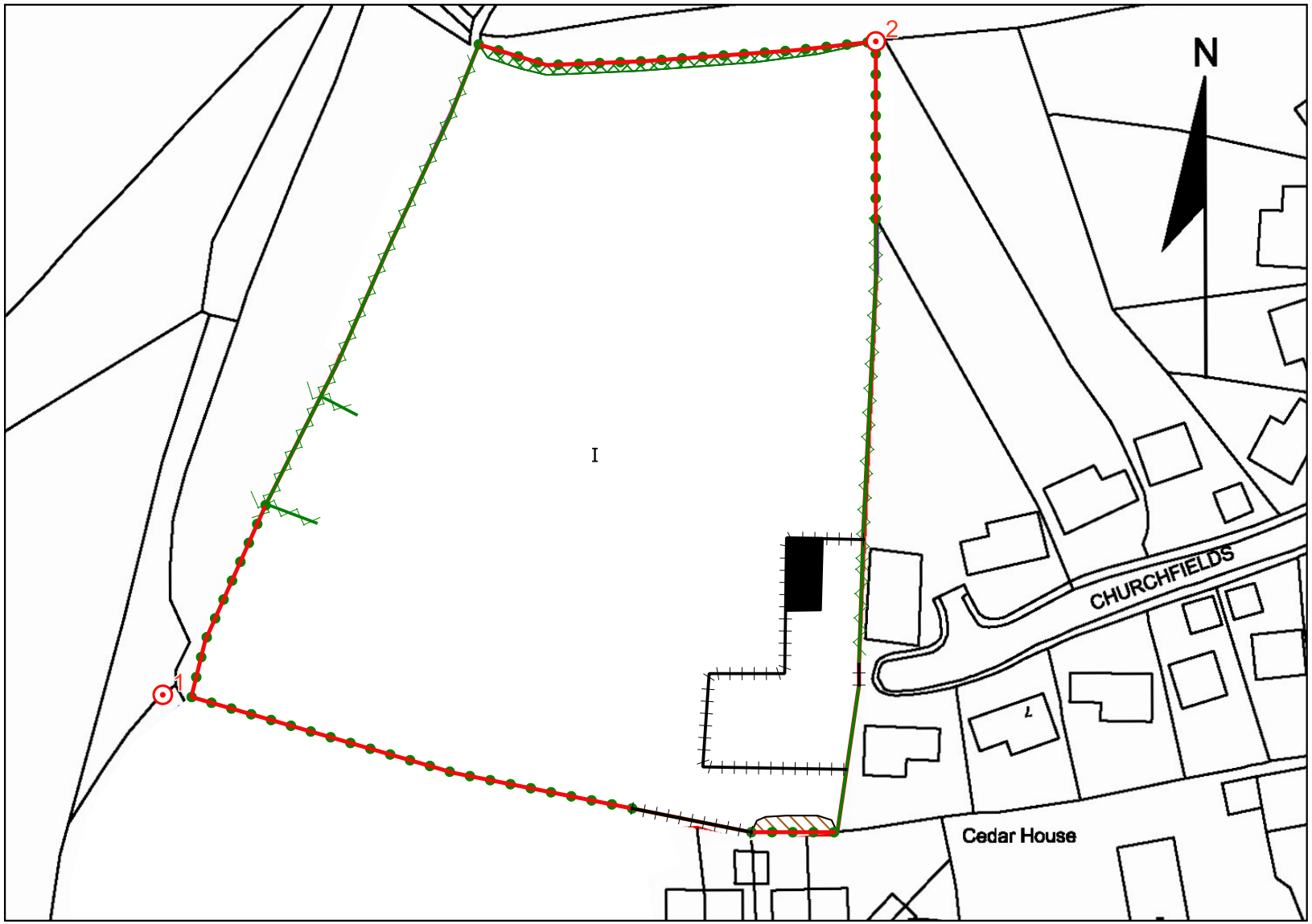
- **1**: Percus Wood
- **2**: Strip of Chepstow Park Wood
- **3**: Tredean Wood
- **4**: Creigau Meadow
- **5**: The Hill Meadows
- **6**: Devauden Hill Top

### Sites of Special Scientific Interest

- **1**: LOWER NEX MEADOWS, DEVAUDEN

## APPENDIX III EXTENDED PHASE 1 HABITAT SURVEY PLAN & TARGET NOTES

| Target Note | Description/Comment |
|---|---|
| ***Birds seen/ heard**: Starling, Buzzard, Blackbird, Raven, House Sparrow, Blue Tit.* | |
| 1 | Mature Oak found immediately adjacent to south-west corner of site (off-site). Tree is in good condition but has a small knot hole that may lead to a hidden cavity within trunk that could not be assessed from ground level. It was also not possible to assess the top part of the trees due to the canopy growth. Tree was considered to have a **Low Potential** to support roosting bats.<br>  |
| 2 | Well used mammal pathway leads through outgrown hedge/tree line in north-east corner of the candidate site.<br>  |




## Key

- Target Notes
- Site Boundary
- A2.1 Dense/Continuous Scrub
- A3.1 Line of Broad-Leaved Trees
- B4 Improved Grassland
- C3.1 Tall Ruderal
- J2.1.1 Intact Species-rich Hedgerow
- J2.1.2 Intact Species-poor Hedgerow
- J2.4 Fence
- J3.6 Buildings

0 20 40 60 m

PRELIMINARY | PLANNING | DESIGN | TENDER | CONSTRUCTION

Monmouthshire Housing Association
**Land at Devauden, Monmouthshire**

Extended Phase 1 Habitat Plan

E21102701 / DR01 BS MW 01 July 2021

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## APPENDIX IV BATS AND ARTIFICIAL LIGHTING IN THE UK GUIDANCE NOTE

**The following is an extract from the Bat Conservation Trust and Institution of Lighting Professionals (2018) guidance note on Bats and Artificial Lighting in the UK. Section 3 contains advice on how to mitigate for the impacts of artificial lighting on bats. Full citation:**

**Bat Conservation Trust & Institution of Lighting Professionals (2018) *Bats and artificial lighting in the UK*. *Guidance Note 08/18*. Bat Conservation Trust, London.**

# 3. Mitigation of artificial lighting impacts on bats

This section provides a simple process which should be followed where the impact on bats is being considered as part of a proposed lighting scheme. It contains techniques which can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. It also provides best-practice advice for the design of the lighting scheme for both lighting professionals and other users who may be less familiar with the terminology and theory.

The stepwise process and key follow-up actions are outlined in the flowchart overleaf, and are followed throughout the chapter.

The questions within this flow chart should be asked as early as possible, so that necessary bat survey information can be gathered in advance of any lighting design or fixing of overall scheme design.

Effective mitigation of lighting impacts on bats depends on close collaboration from the outset between multiple disciplines within a project. Depending on the specific challenges this will almost certainly involve ecologists working alongside architects and/or engineers; however, lighting professionals and landscape architects should be approached when recommended by your ecologist. This should be done as early in your project as possible in order to ensure mitigation is as effective as it can be and to minimise delays and unforeseen costs.

## Step 1: Determine whether bats could be present on site

If your site has the potential to support bats or you are at all unsure, it is highly recommended that an ecologist is appointed to advise further and conduct surveys, if necessary. This information should be collected as early as possible in the design process, and certainly before lighting is designed, so as to avoid the need for costly revisions.

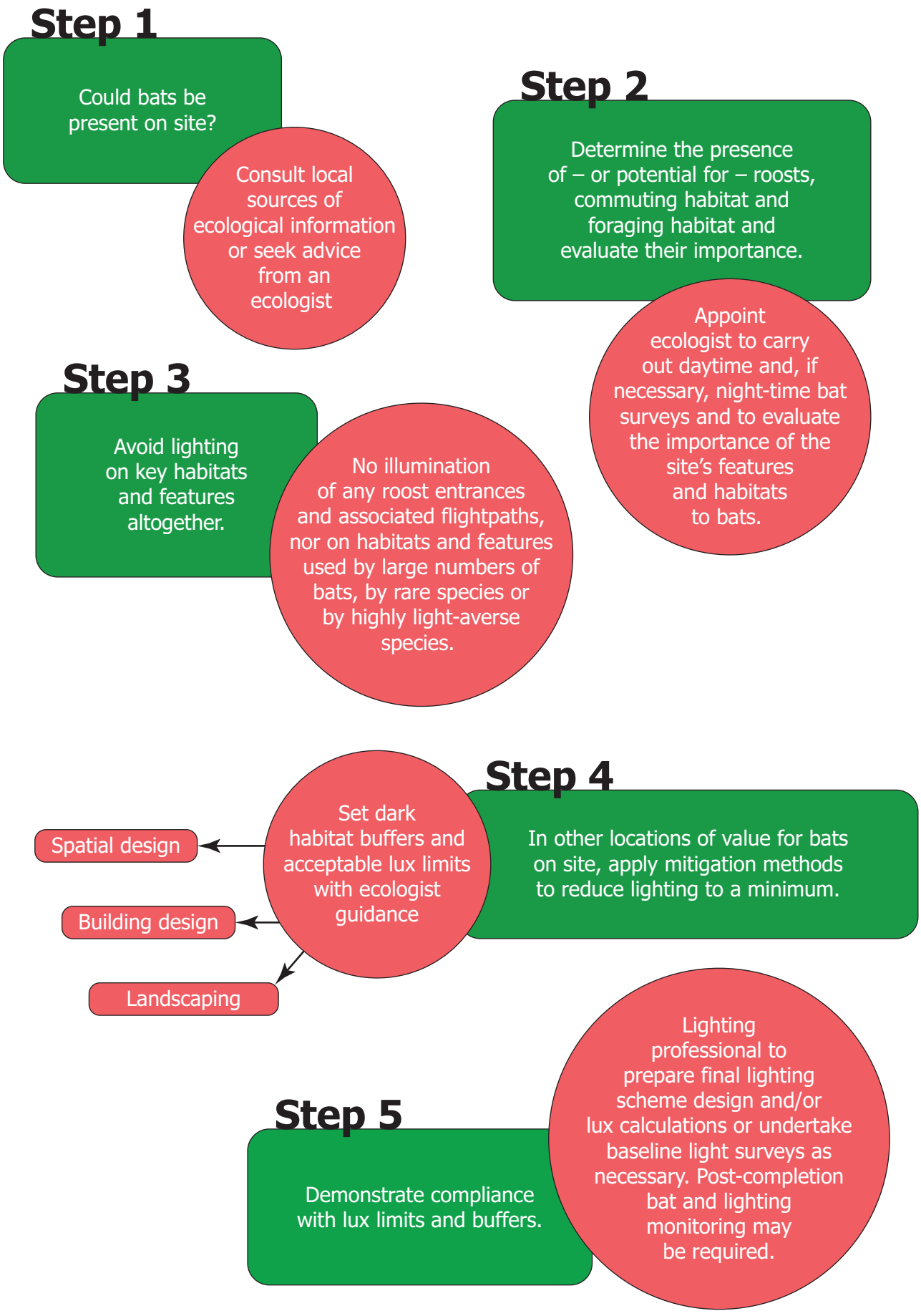
If any of the following habitats occur on site, and are adjacent to or connected with any of these habitats on or off site, it is possible that newly proposed lighting may impact local bat populations:

- Woodland or mature trees
- Hedgerows and scrub
- Ponds and lakes
- Ditches, streams, canals and rivers
- Infrequently managed grassland
- Buildings – pre 1970s or in disrepair

If you are unsure about whether bats may be impacted by your project, and an ecologist has not yet been consulted, sources of information on the presence of bats within the vicinity of your site include the following.

- Local environmental records centres (LERC) – Will provide third-party records of protected and notable species for a fee. Search http://www.alerc.org.uk/ for more information.
- National Biodiversity Network Atlas – Provides a resource of third-party ecological records searchable online at https://nbnatlas.org. Typically this is less complete than LERC data. Please note: Some datasets are only accessible on a non-commercial basis, while most can be used for any purpose, as long as the original source is credited.
- Local authority planning portals – Most local planning authorities have a searchable online facility detailing recent planning applications. These may have been accompanied by ecological survey reports containing information on bat roosts and habitats.
- Defra's MAGIC map – Provides an online searchable GIS database including details of recent European protected species licences and details of any protected sites designated for bat conservation.

The professional directory at the website of the Chartered Institute of Ecology and Environmental Management (www.cieem.net) will provide details of ecologists in your area with the relevant


Step 1
Could bats be present on site?
Consult local sources of ecological information or seek advice from an ecologist
Step 2
Determine the presence of – or potential for – roosts, commuting habitat and foraging habitat and evaluate their importance.
Appoint ecologist to carry out daytime and, if necessary, night-time bat surveys and to evaluate the importance of the site's features and habitats to bats.
Step 3
Avoid lighting on key habitats and features altogether.
No illumination of any roost entrances and associated flightpaths, nor on habitats and features used by large numbers of bats, by rare species or by highly light-averse species.
Step 4
Set dark habitat buffers and acceptable lux limits with ecologist guidance
Spatial design
Building design
Landscaping
In other locations of value for bats on site, apply mitigation methods to reduce lighting to a minimum.
Step 5
Demonstrate compliance with lux limits and buffers.
Lighting professional to prepare final lighting scheme design and/or lux calculations or undertake baseline light surveys as necessary. Post-completion bat and lighting monitoring may be required.

skills/experience. The early involvement of a professional ecologist can minimise the likelihood of delays at the planning stage (if applicable) and ensure your project is compliant with conservation and planning legislation and policy.

It should be noted that the measures discussed in this document relate only to the specific impacts of lighting upon bat habitat features on or adjacent to the site. If loss or damage to roosting, foraging or commuting habitat is likely to be caused by other aspects of the development, separate ecological advice will be necessary in order to avoid, mitigate or compensate for this legally and according to the ecologist's evaluation.

## Step 2: Determine the presence of – or potential for – roosts, commuting habitat and foraging habitat and evaluate their importance

Your ecologist will visit the site in order to record the habitats and features present and evaluate their potential importance to bats, and the likelihood that bats could be affected by lighting both on and immediately off site. This may also include daytime building and tree inspections. On the basis of these inspections further evening surveys may be recommended, either to determine the presence of roosts within buildings and/or trees or to assess the use of the habitats by bats by means of a walked survey. Such surveys may be undertaken at different times during the active season (ideally May to September) and should also involve the use of automated bat detectors left on site for a period of several days. The surveys should be carried out observing the recommendations within the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

The resulting report will detail the relative conservation importance of each habitat feature to bats (including built structures, if suitable). The ecologist's evaluation of the individual features will depend on the specific combination of contributing factors about the site, including:

- The conservation status of species recorded or likely to be present
- Geographic location
- Type of bat activity likely (breeding, hibernating, night roosting, foraging etc)
- Habitat quality
- Habitat connectivity off-site
- The presence of nearby bat populations or protected sites for bats (usually identified in a desk study)

The evaluation of ecological importance for each feature is most commonly expressed on a geographic scale from Site level to International level, or alternatively in terms of that feature's role in maintaining the 'favourable conservation status' of the population of bats using it.

The ecologist should set out where any key bat roost features and/or habitat areas (ie flightpath habitat and broader areas of foraging habitat) lie on a plan of the site or as an ecological constraints and opportunities plan (ECOP) together with their relative importance. The ECOP and report can then be used to help guide the design of the lighting strategy as well as the wider project.

## Step 3: Avoid lighting on key habitats and features altogether

As has been described in 'Artificial lighting', above, there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation. However in the public realm, while lighting can increase the perception of safety and security, measureable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully take into account the presence of protected species

and the obligation to avoid impacts on them.

Sources of lighting which can disturb bats are not limited to roadside or external security lighting, but can also include light spill via windows, permanent but sporadically operated lighting such as sports floodlighting, and in some cases car headlights. Additionally, glare (extremely high contrast between a source of light and the surrounding darkness – linked to the intensity of a luminaire) may affect bats over a greater distance than the target area directly illuminated by a luminaire and must also be considered on your site.

It is important that a competent lighting professional is involved in the design of proposals as soon as potential impacts (including from glare) are identified by the ecologist in order to avoid planning difficulties or late-stage design revision. Your lighting professional will be able to make recommendations about placement of luminaires tailored to your specific project.

Where highways lighting schemes are to be designed by the local planning authority (LPA) post-planning, an ecology officer should be consulted on the presence of important bat constraints which may impact the design and illuminance in order for the scheme to remain legally compliant with wildlife legislation.

Where adverse impacts upon the 'favourable conservation status' of the bat population using the feature or habitat would be significant, an absence of artificial illumination and glare, acting upon both the feature and an appropriately-sized buffer zone is likely to be the only acceptable solution. Your ecologist will be best placed to set the size of such a buffer zone but it should be sufficient to ensure that illumination and glare is avoided and so the input of a lighting professional may be required. Further information on demonstrating an absence of illumination via lux/illuminance contour plans is provided in Step 5.

Because different species vary in their response to light disturbance (as discussed in section 1 'Bats'), your ecologist will be able to provide advice tailored to the specific conditions on your project, however examples of where the no-lighting approach should be taken in particular include:

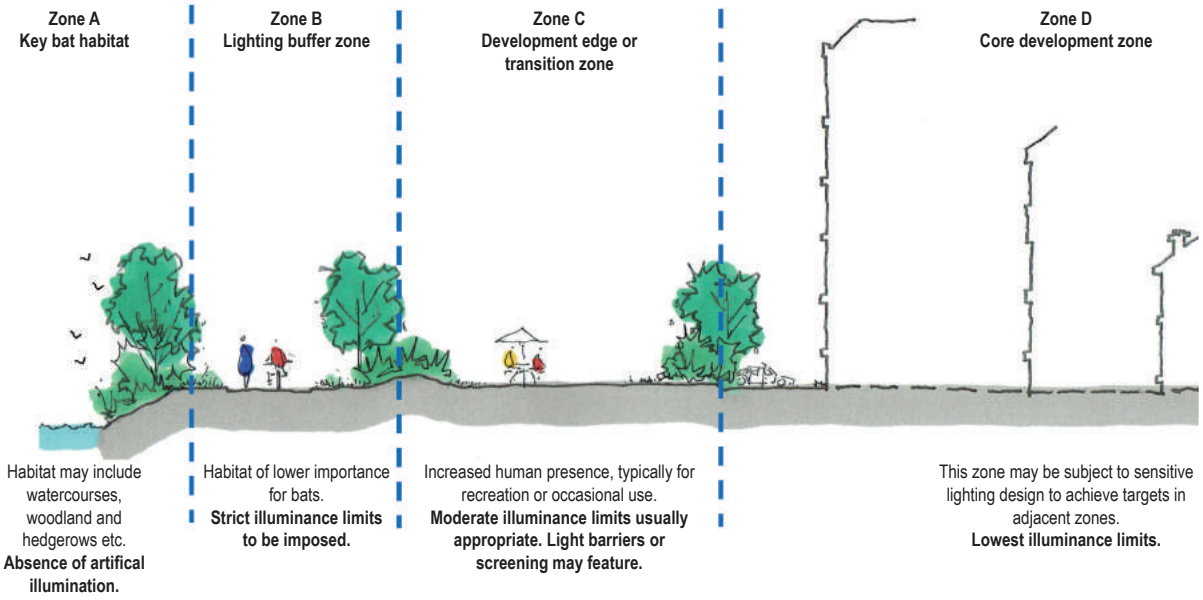
- Roosting and swarming sites for all species and their associated flightpath/commuting habitat.
- Foraging or commuting habitat for highly light-averse species (greater and lesser horseshoe bats, some Myotis bats, barbastelle bats and all long-eared bats).
- Foraging or commuting habitat used by large numbers of bats as assessed through survey.
- Foraging or commuting habitat for particularly rare species (grey long-eared bat, barbastelle, small Myotis, Bechstein's bat and horseshoe bats).
- Any habitat otherwise assessed by your ecologist as being of importance to maintaining the 'favourable conservation status' of the bat population using it.

Completely avoiding any lighting conflicts in the first place is advantageous because not only would proposals be automatically compliant with the relevant wildlife legislation and planning policy, but they could avoid costly and time-consuming additional surveys, mitigation and post-development monitoring. Furthermore, local planning authorities are likely to favour applications where steps have been taken to avoid such conflicts.

## Step 4: Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the

*Example of illuminance limit zonation*




ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved.

It is important to reiterate the legal protection from disturbance that bats receive under the Wildlife and Countryside Act 1981, as amended. Where the risk of offences originating from lighting is sufficiently high, it may be best to apply the avoidance approach in Step 3.

Advice from an ecologist and lighting professional will be essential in finding the right approach for your site according to their evaluation. The following are techniques which have been successfully used on projects and are often used in combination for best results.

### *Dark buffers, illuminance limits and zonation*

Dark buffer zones can be used as a good way to separate habitats or features from lighting by forming a dark perimeter around them. Buffer zones rely on ensuring light levels (levels of illuminance measured in lux) within a certain distance of a feature do not exceed certain defined limits. The buffer zone can be further subdivided in to zones of increasing illuminance limit radiating away from the feature. Examples of this application are given in the figure above.

Your ecologist (in collaboration with a lighting professional) can help determine the most appropriate buffer widths and illuminance limits according to the value of that habitat to bats (as informed by species and numbers of bats, as well as the type of use).

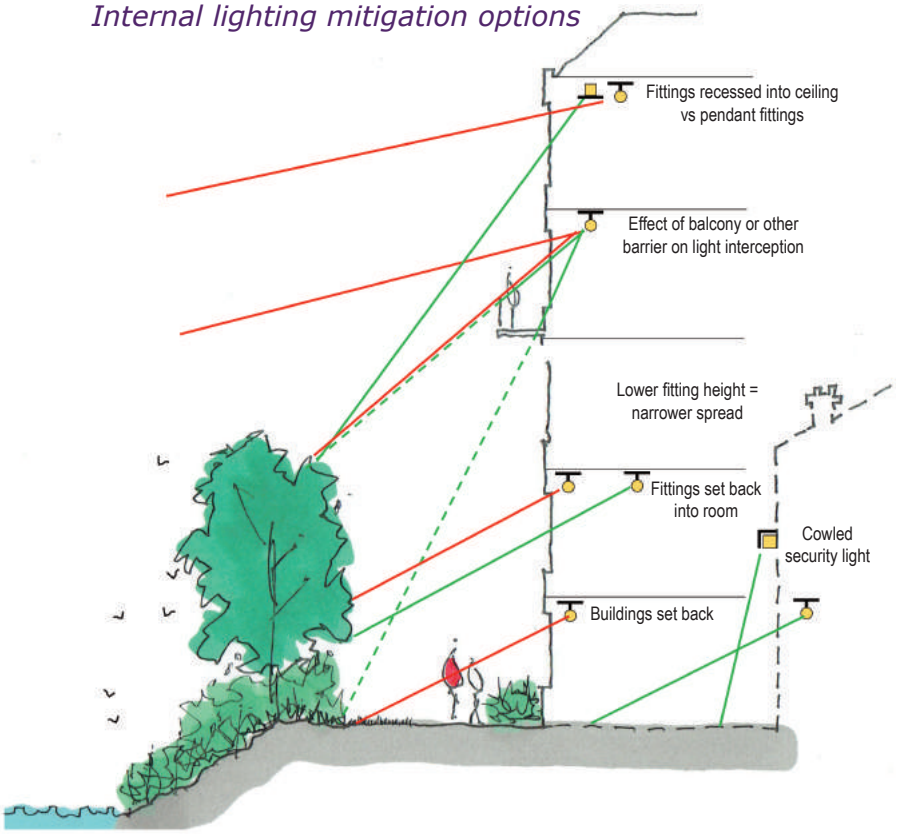
### *Appropriate luminaire specifications*

Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires.

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill. (See figure overleaf.)
- The use of specialist bollard or low-level downward directional luminaires to

retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.
- Column heights should be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.
- Luminaires should always be mounted on the horizontal, ie no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

*Internal lighting mitigation options*




### *Sensitive site configuration*

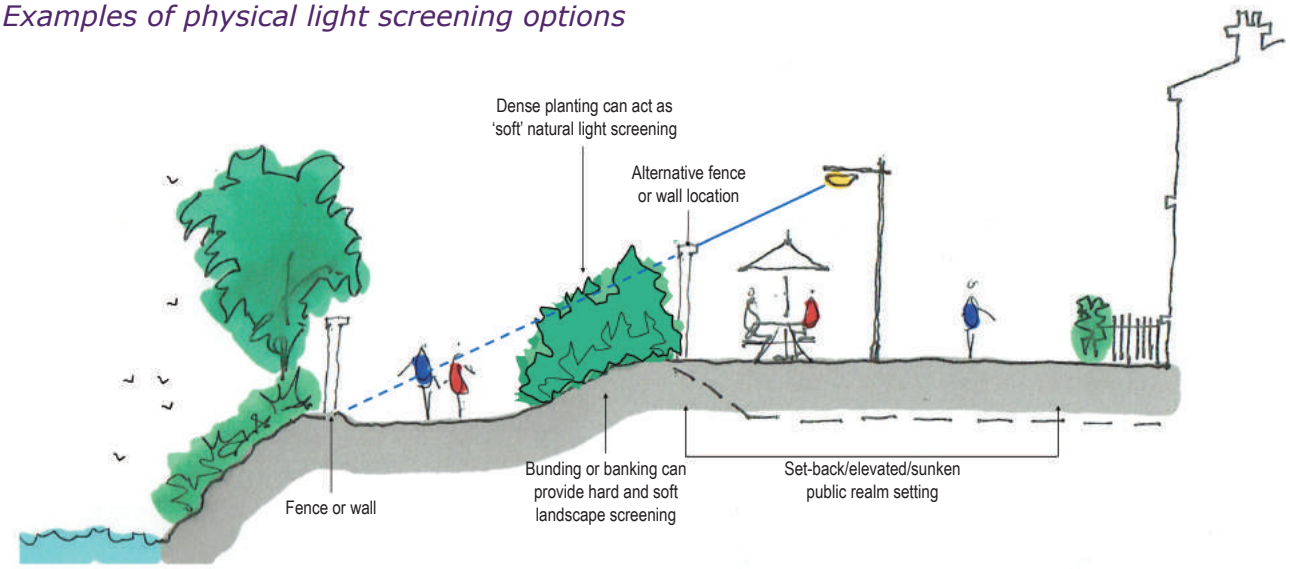
The location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill (see figure above for examples of good internal lighting design). Small changes in terms of the placement of footpaths, open space and the number and size of windows can all achieve a good outcome in terms of minimising light spill on to key habitats and features.
- It may be possible to include key habitats and features into unlit public open space such as parks and gardens.
- Buildings, walls and hard landscaping may be sited and designed so as to block light spill from reaching habitats and features.
- Taller buildings may be best located toward the centre of the site or sufficiently set back from key habitats to minimise light spill.
- Street lights can be located so that the rear shields are adjacent to habitats or optics selected that stop back light thereby directing light into the task area where needed.

### *Screening*

Light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding (see figure overleaf for example of physical light-screening options). In order to ensure that fencing makes a long-term contribution, it is recommended that it is supported on concrete or metal posts. Fencing can also be over planted with hedgerow species or climbing plants to soften its appearance and provide a vegetated feature which bats can use for navigation or foraging.

The planting of substantial landscape features integrated to the wider network of green corridors such as hedgerows, woodland and scrub is encouraged by

*Examples of physical light screening options*




planning policy and would make a long-term positive contribution to the overall bat habitat connectivity and light attenuation. A landscape architect can be appointed to collaborate with your ecologist on maximising these natural light screening opportunities.

It should be noted that newly planted vegetation (trees, shrubs and scrub) is unlikely to adequately contribute to light attenuation on key habitats for a number of years until it is well established. Sufficient maintenance to achieve this is also likely to be required. Consequently, this approach is best suited to the planting of 'instant hedgerows' or other similarly dense or mature planting, including translocated vegetation. In some cases, it is appropriate to install temporary fencing or other barrier to provide the desired physical screening effects until the vegetation is determined to be sufficiently established.

Given the fact that planting may be removed, die back, or be inadequately replaced over time it should never be relied on as the sole means of attenuating light spill.

### *Glazing treatments*

Glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features. Where windows and glass facades etc cannot be avoided, low transmission glazing treatments may be a suitable option in achieving reduced illuminance targets.

Products available include retrofit window films and factory-tinted glazing. 'Smart glass', which can be set to automatically obscure on a timer during the hours of darkness, and automatic blinds can also be used but their longevity depends on regular maintenance and successful routine operation by the occupant, and should not be solely relied upon.

Depending on the height of the building and windows, and therefore predicted light spill, such glazing treatments may not be required on all storeys. This effect can be more accurately determined by a lighting professional.

### *Creation of alternative valuable bat habitat on site*

The provision of new, additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development. Your ecologist will be able to suggest and design such alternative habitats although particular consideration as to its connectivity to other features, the species to be used, the lag time required for a habitat to sufficiently establish, and the provision for its ongoing protection and maintenance should be given.

*Dimming and part-night lighting*

Depending on the pattern of bat activity across the key features identified on site by your ecologist, it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

It should be noted that these systems depend on regular maintenance and a long-term commitment for them to be successful. Additionally, part-night lighting should be designed with input from an ecologist as they may still produce unacceptably high light levels when active or dimmed. Part-night lighting is not usually appropriate where lights are undimmed during key bat activity times as derived from bat survey data. Research has indicated that impacts upon commuting bats are still prevalent where lighting is dimmed during the middle of the night at a time when illumination for human use is less necessary (Azam et al, 2015). Thus this approach should not always be seen as a solution unless backed up by robust ecological survey and assessment of nightly bat activity.

## Step 5: Demonstrate compliance with illuminance limits and buffers

*Design and pre-planning phase*

It may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.

A horizontal illuminance contour plan can be prepared by a suitably experienced and competent lighting professional (member of the Chartered Institution of Building Services Engineers (CIBSE), Society of Light and Lighting (SLL), Institution of Lighting Professionals (ILP) or similar to ensure competency) using an appropriate software package to model the extent of light spill from the proposed and, possibly, existing luminaires. The various buffer zone widths and illuminance limits which may have been agreed can then be overlaid to determine if any further mitigation is necessary. In some circumstances, a vertical illuminance contour plot may be necessary to demonstrate the light in sensitive areas such as entrances to roosts.

Such calculations and documentation would need to be prepared in advance of submission for planning permission to enable the LPA ecologist to fully assess impacts and compliance.

Because illuminance contour plots and plans may need to be understood and examined by non-lighting professionals such as architects and local planning authority ecologists, the following should be observed when producing or assessing illuminance contour plans to ensure the correct information is displayed.

- A horizontal calculation plane representing ground level should always be used.
- Vertical calculation planes should be used wherever appropriate, for example along the site-facing aspects of a hedgerow or façade of buildings containing roosts to show the illumination directly upon the vertical faces of the feature. Vertical planes can also show a cross-sectional view within open space. Vertical planes will enable a visualisation of the effects of illumination at the various heights at which different bat species fly.
- Models should include light from all luminaires and each should be set to the maximum output anticipated to be used in normal operation on site (ie no dimming where dimming is not anticipated during normal operation).
- A calculation showing output of luminaires to be expected at 'day 1' of operation should be included, where the luminaire and/or scheme Maintenance Factor is set to one.

- Where dimming, PIR or variable illuminance states are to be used, an individual set of calculation results should accompany each of these states.
- The contours (and/or coloured numbers) for 0.2, 0.5, 1, 5, and 10 lux must be clearly shown as well as appropriate contours for values above these.
- Each contour plan should be accompanied by a table showing their minimum and maximum lux values.
- Where buildings are proposed in proximity to key features or habitats, plots should also model the contribution of light spill through nearby windows, making assumptions as to internal luminaire specification and transmissivity of windows. It should be assumed that blinds or curtains are absent or fully open although low-transmittance glazing treatments may be appropriate. Assumptions will need to be made as to the internal luminaire specification and levels of illuminance likely to occur on 'day 1' of operation. These assumptions should be clearly stated and guided by the building/room type and discussions between architect, client and lighting professional. It is acknowledged that in many circumstances, only a 'best effort' can be made in terms of accuracy of these calculations.
- Modelled plots should not include any light attenuation factor from new or existing planting due to the lag time between planting and establishment and the risk of damage, removal or failure of vegetation. This may result in difficulties in the long term achievement of the screening effect and hamper any post-construction compliance surveys.
- The illuminance contour plots should be accompanied by an explanatory note from the lighting professional to list where, in their opinion, sources of glare acting upon the key habitats and features may occur and what has been done/can be done to reduce their impacts.

N.B. It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light averse behaviour (Stone, 2012).

### *Baseline and post-completion light monitoring surveys*

Baseline, pre-development lighting surveys may be useful where existing on- or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved. This data can then be used to help isolate which luminaires might need to be removed, where screening should be implemented or establish a new illuminance limit reduced below existing levels. For example, where baseline surveys establish that on- and off-site lighting illuminates potential key habitat, improvements could be made by installing a tall perimeter fence adjacent to the habitat and alterations to the siting and specification of new lighting to avoid further illumination. Further information and techniques to deal with modeling pre-development lighting can be found in ILP publication PLG04 *Lighting Impact Assessments* due to be published late 2018.

Baseline lighting surveys must be carried out by a suitably qualified competent person. As a minimum, readings should be

taken at ground level on the horizontal plane (to give illuminance hitting the ground), and in at least one direction on the vertical plane at, for example, 1.5m or 2m above ground (to replicate the likely location of bats using the feature or site). The orientation should be perpendicular to the dominant light sources or perpendicular to the surface/edge of the feature in question (such as a wall or hedgerow) in order to produce a 'worst case' reading. Further measurements at other orientations may prove beneficial in capturing influence of all luminaires in proximity to the feature or principal directions of flight used by bats. This should be discussed with the ecologist.

Baseline measurements should be taken systematically across the site or features in question. That is, they will need to be repeated at intervals to sample across the site or feature, either in a grid or linear transect as appropriate. The lighting professional will be able to recommend the most appropriate grid spacing.

Measurements should always be taken in the absence of moonlight, either on nights of a new moon or heavy cloud to avoid artificially raising the baseline. As an alternative, moonlight can be measured at a place where no artificial light is likely to affect the reading.

As all proposed illuminance level contours will be produced from modelled luminaires at 100% output, baseline measurements need to be taken with all lights on and undimmed, with blinds or screens over windows removed. Cowls and other fittings on luminaires can remain in place.

Where possible, measurements should be taken during the spring and summer when vegetation is mostly in leaf, in order to accurately represent the baseline during the principal active season for bats and to avoid artificially raising the baseline.

The topography of the immediate surrounding landscape should be considered in order to determine the potential for increased or decreased light spill beyond the site.

### *Post-construction/operational phase compliance-checking*

Post-completion lighting surveys are often required where planning permission has been obtained on the condition that the proposed lighting levels are checked to confirm they are in fact achieved on site and that the lighting specification (including luminaire heights, design and presence of shielding etc) is as proposed.

All lighting surveys should be conducted by a suitably qualified competent person and should be conducted using the same measurement criteria and lighting states used in the preparation of the illuminance contour plots and/or baseline surveys as discussed above. It may be necessary to conduct multiple repeats over different illumination states or other conditions specific to the project.

Results should always be reported to the LPA as per any such planning condition. A report should be prepared in order to provide an assessment of compliance by the lighting professional and a discussion of any remedial measures which are likely to be required in order to achieve compliance. Any limitations or notable conditions such as deviation from the desired lighting state or use of blinds/barriers should be clearly reported. Ongoing monitoring schedules can also be set, especially where compliance is contingent on automated lighting and dimming systems or on physical screening solutions.

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## APPENDIX V CANDIDATE SITE ASSESSMENT FORM

# Local Development Plan
# Ecological Site Assessments in Monmouthshire
# 2021

# 1 Introduction

To inform the allocation and deliverability of candidate sites through the LDP process in line with relevant policy and legislation, Monmouthshire County Council requires the submission of baseline ecological information. This methodology has been prepared in order to ensure that there is a consistent approach to this submission and that the quality of the information provided is adequate.

Site Appraisals shall be presented in a report and describe the existing ecological value of the proposed LDP sites, principally based on botanical survey but with consideration of other potential Protected or Priority species that may be present. Sites must be also assessed for their potential to qualify wholly or in part as Sites of Importance for Nature Conservation (SINCs) using the Guidelines for the Selection of Wildlife Sites in South Wales adapted for Monmouthshire (Available on the Monmouthshire County Council Website).

Following the site appraisal, an evaluation of status or potential impact on the biodiversity of the site must be made and classified as either: High, Medium or Low value. This status will be quality assured and checked by Monmouthshire County Council through the Candidate Sites Assessment Process prior to the Deposit Plan.

Information gathered from the Monmouthshire County Council Connectivity Assessment (available on the Monmouthshire County Council Website) will also need to be used to help inform the overall value of the proposed LDP Candidate Sites.

In accordance with policy and legislation, site appraisals shall include ecological enhancements that could be delivered through development including ecological connectivity opportunities in line with the 'Dear CPO' letter dated 23/10/2019[1].

In addition to this, GIS (Geographical Information Systems) data in the format of shape files must be provided to provide visual representation of the ecological status of each site. (A guidance note on this requirement is available on the LDP webpages relating to the ecological site assessments of Candidate Sites on the MCC website.)

[1] https://gov.wales/sites/default/files/publications/2019-11/securing-biodiversity-enhancements.pdf

If you have prepared an ecological site assessment in 2019 or 2020 in line with this methodology, it can be used for your submission in 2021.

# 2 Requirements for LDP Candidate Site Assessment

Due to the large number of candidate sites proposed, Monmouthshire County Council requires a consistent approach to ecological data gathering and summarisation. All Appraisals must comply with the CIEEM Guidelines for Preliminary Ecological Appraisal and be undertaken and reviewed by CIEEM members only. All appraisals must include a summary sheet to be used by the LPA (template included at the end of this document). The LDP should be based on robust evidence and our expectation is that this guidance is followed.

It is strongly recommended that ecological information is submitted during the call for candidate sites in 2021.

## 2.1. Desk-Based Study

The desk based study shall be based on the following as a minimum:

- A 1km SEWBReC data search for Protected and Priority Species
- A 1km SEWBReC data search for existing designations including SACs, SPA, Ramsar site, SSSIs, Local Wildlife Sites, Sites of Importance for Nature Conservation. This must include 'reasons for designation' for LWS/SINCs.
- Review of relevant ecological information available for the candidate site via NRW Wales Environmental Information portal[2]
- Use of the Ancient Woodland Inventory to identify woodland designations ASNW, PAWS etc.
- Identification of whether the site falls within the Juvenile Sustenance zone[3] for the Wye Valley and Forest of Dean Bat Sites SAC*
- Review of any previous walkover undertaken for the adopted LDP – information is available on the MCC LDP webpages

[2] https://naturalresources.wales/evidence-and-data/maps/wales-environmental-information/?lang=en

[3] Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost (SSSI)
Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost (SSSI)

- Review of the Monmouthshire Ecological Connectivity Assessment[4] to assess the context of the candidate site in providing ecological connectivity- information is available on the MCC LDP webpages
- Appraisals will be expected to consider any relevant ecological records that have been previously generated by studies to inform planning undertaken on or near the sites
- Consideration of net benefit for biodiversity that could be delivered through development

## 2.2. Field Assessments

The optimum period for the assessment of biodiversity and habitats is between the months of April -July. Sites to be surveyed according to the methodology detailed in the 'Handbook for Phase 1 habitat survey' . The following details and features must also be noted:

- Habitats present and features of nature conservation interest including Priority Habitat (Section 7 Habitat[5])
- Protected or Priority (Section 7) species - signs indicating presence and potential for the habitat to support such
- Site of Importance for Nature Conservation – assessment of the condition of the site with respect to its potential to qualify as a SINC
- Consideration of all hedgerows in the context of the Hedgerow Regulations 1997.
- Veteran trees - presence of over-mature trees
- Consideration of the value of the site in terms of habitat connectivity
- Consideration of opportunities for delivery of net benefit for biodiversity and ecosystem resilience through development
- Requirements for further ecological survey.

## 2.3. Expertise of consultants

The information will need to be prepared and reviewed by an appropriately experienced ecologist that is a member of the Chartered Institute of Ecology and Environmental Management.

## 2.4. Biodiversity Evaluation

Using the results of the desk-based survey and field assessments, an evaluation of status or impact of the biodiversity of the site shall be made and classified as either: High, Medium or Low value.

[4] Ecological Connectivity Assessment of Settlements in Monmouthshire Report, 2010
[5] Environment (Wales) Act 2016

## 2.5. Site of Importance for Nature Conservation Identification

Local Development Plan Candidate Sites must be assessed against the criteria in the 'Guidelines for the Selection of Wildlife Sites in South East Wales' which have been adapted for Monmouthshire.

# 3. Summary of Outputs

The following will be expected to submitted to the LPA during the call for sites in 2021.

## 3.1 Preliminary Ecological Appraisal Report (PEAR)

A Preliminary Ecological Appraisal Report (PEAR) in accordance with the CIEEM Guidelines for Preliminary Ecological Appraisal / Guidelines for ecological report writing.

## 3.2 Site summary form

A Site Summary Form shall be completed for each Candidate Site based on both field survey and desk-based assessments. A blank Site Detail Form and accompanying explanatory notes are provided in Annexes 1 & 2.

## 3.3 Site Values

For all sites, the overall value for biodiversity will need to be defined (see evaluation criteria below). Monmouthshire County Council may adjust this value depending on further ecological survey and evidence prior to the Deposit Plan.

## 3.4 SINC Assessment

Candidate sites/parts of sites must be considered for the potential for them to be of SINC quality. If the site, or part of the site meets the SINC criteria, please contact the LPA Biodiversity and Ecology team to discuss how data shall be presented. Designation will be thereafter undertaken by the SINC expert panel[6].

## 3.5 GIS information

The ecological status of the site will need to be digitised using GIS (Geographical Information Systems) in the format of shape files. A guidance note and template GIS shape file will be available on the Monmouthshire LDP website on the LDP page relating to the ecological site assessments of Candidate Sites. This shall include the format that digitisation will need to take.

[6] SINC Expert Panel includes Monmouthshire County Council, Gwent Wildlife Trust, Natural Resources Wales and Monmouthshire Meadows Group.

# 4. Evaluation Criteria

Sites must be evaluated using the following criteria drawn together using the methodology for the adopted Local Development Plan, Ratcliffe Criteria[7] and Local Wildlife Site guidelines[8]. The evaluation will be checked and quality assured by Monmouthshire County Council. Deliberate underestimation of ecological value could jeopardise the sites inclusion in the deposit plan.

HIGH (Red)

- Candidate Site includes land designated as SAC/SPA/Ramsar/SSSI
- Site within the Juvenile Sustenance Zone[9] of a Wye Valley Forest of Dean Bat Sites SAC Maternity roost SSSI
- Site wholly designated as Local Wildlife Site/SINC/ASNW
- Site identified as Site of Importance for Nature Conservation (SINC) quality during field assessment
- Site is in the majority (>50%) composed of Priority Habitat(s) (Section 7) Environment (Wales) Act 2016
- Site of existing value for connecting semi-natural habitats in the landscape which is considered to be critical in the context of a protected species or protected site
- Protected species recorded on site to an extent that development will not be possible

MEDIUM (Orange)

- Site close / adjacent to a SAC/SPA/Ramsar/SSSI/LWS/SINC/ASNW
- Site habitat(s) close to SINC quality but threshold for designation not reached
- Part of the site includes habitats that meet LWS / SINC threshold
- An already designated LWS/SINC present within a candidate site of overall lower biodiversity value
- Presence of Priority Habitat (Section 7) within the candidate site (except hedgerow)
- 'Important' hedgerow/s present o Veteran / over mature tree(s) present

[7] Ratcliffe, 1977
[8] South Wales Wildlife Sites Partnership, 2004 (as amended)
[9] Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost (SSSI)
Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost (SSSI)

- Site of existing value for connecting semi-natural habitats in the landscape as identified in the ecological connectivity assessment and/or during field surveys.
- Protected species recorded / reasonable likely to be found on site but unlikely to prevent development if appropriate mitigation and compensation provided
- Site within the Juvenile Sustenance Zone[10] of a Horseshoe Maternity roost (not designated).

LOW (Green)

- Site not near any protected sites SAC/SPA/Ramsar/SSSI/LWS/ANSW
- Site assessed as not of SINC quality
- Limited or no features of biodiversity interest
- No priority habitats on site (with the exception of hedgerows)
- Site of very limited value for connecting semi-natural habitats in the landscape
- No protected species on or near site

[10] Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost
Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost

Annex 1 Site Detail Form (See Annex 2 for Guidance Notes)

# Reference No: CS0135

| Site General Information | |
|---|---|
| Name: Land at Devauden, Monmouthshire | Grid Reference: ST 48171 99094 |
| Current land use & management: agricultural/grazed | Size: 1.4ha |
| Proposed use: Residential development | Form Completed by: Ben Satherley (Ecologist) Ben.satherley@soltysbrewster.co.uk |
| Overall Site Evaluation: Medium / Low | |

## Site Summary Table

| | | | |
|---|---|---|---|
| Statutory Designated Site(s) | no | Section 7 Habitat(s) | yes |
| SAC Juvenile sustenance zone | no | Protected Species | poss |
| Non Statutory Designated Site(s) | adj | Section 7 Species | yes |
| SINC Recommendation | no | Ecological Connectivity | conn |
| SEWBReC unique data code: | | | |

## Statutory Designated Sites

Is the site within or adjacent to an International or European Designated Site? (Special Protection Area, Ramsar Site or Special Area of Conservation) (Underline the relevant designation)

| | |
|---|---|
| Whole of site | |
| Part of site | |
| Directly adjacent/within 250m buffer | |
| Within 500m buffer | |
| Within 1km buffer | |
| No | X |

Is the site within or adjacent to a Nationally Designated Site? (National Nature Reserve or Site of Special Scientific Interest) (Underline the relevant designation)

| | |
|---|---|
| Within | |
| Part of site | |
| Directly adjacent/within 250m buffer | |
| Within 500m buffer | |
| No | X |

Juvenile sustenance zones - Is any part of the site within 1km of a greater horseshoe bat roost SSSI or within 600m of a lesser horseshoe bat roost SSSI?

| | |
|---|---|
| Greater Horseshoe | |
| Lesser Horseshoe | |
| Distance from roost (m) | |
| No | X |

Non Statutory Designated Sites

Is the site within or adjacent to a pre-designated Locally Designated Site? (Local Wildlife Site / Site of Importance for Nature Conservation or Ancient Semi Natural Woodland)

| | |
|---|---|
| Within | |
| Part of site | |
| Directly adjacent/within 250m buffer | |
| Within 500m buffer | adj |
| No | |

| |
|---|
| List All Relevant Statutory and Non Statutory Designated Sites identified by the desktop study: |
| Lower Nex Meadows SSSI |
| Devauden Hill Top SINC |
| Creigau Meadow SINC |
| Percus Wood SINC |
| Tredean Wood SINC |
| Strip of Chepstow Park Wood SINC |
| The Hill Meadows SINC |

SINC Recommendation

Is the whole site or part of the site of SINC (LWS) quality? (underline whole or part as appropriate)

Yes ☐ Whole ☐ Part ☐

Qualifying criteria ☐

Borderline ☐

No ☐ no

Has the Monmouthshire County Council Biodiversity & Ecology Team been contacted to discuss what further information may be required?

Yes: ☐. No: ☐ X

Date: ☐

Priority Habitats and Important Features

| Phase 1 Habitat | Wales Priority Habitat (Section 7) | % of whole site |
|---|---|---|
| | | |
| | | |

Are there any veteran trees or over-mature trees on site?

Yes ☐ No ☐ X

| | |
|---|---|
| If ‘Yes’ how many and what species? | |

Does the site have any hedgerows?

| | | |
|---|---|---|
| Species-rich (high) potential<br>Hedgerow Regs Quality | 150m | Length (m) |
| Species-poor (medium)<br>Has some potential | 25m | Length (m) |
| Species-poor (low)<br>Single species dominant AND Gappy | 15m | Length (m) |
| No | | |

Does the site have any water features present?

| | |
|---|---|
| Ponds | |
| Steams | |
| Ditches | |
| Other: | |
| No | X |

Ecological Connectivity Adjacent Land Uses & Habitats

| |
|---|
| Residential development at Devauden and B4293 carriageway to east<br>Agricultural/grazing pastures to north, south and west |

Does the site have any ecological connectivity value to either adjacent habitat or the wider landscape?

Critical connectivity: [ ] Existing Connectivity [X] No connectivity: [ ]

Connectivity Opportunity: [X]

## Net Benefit for Biodiversity

What ecological enhancements can be delivered by the scheme to provide a net benefit for biodiversity and promote ecosystem resilience?

- Strengthening of species-poor hedgerows and tree line boundaries with new native tree and shrub planting
- Use of native flora or species with a known biodiversity benefit in soft landscape strategy
- Inclusion of bird and bat boxes onto new residential units
- Design of garden boundary fences to include 130x130mm gap to allow for continued connectivity for hedgehog and other small mammals throughout the development

## Protected Species

Have protected species been recorded at the site / reasonably likely to be present at site?

Confirmed [ ] Reasonably likely [X] No and unlikely to be present [ ]

| List Species:<br><br>SEWBReC record | Evidence of presence on site (seen directly or field signs) | Potential to be present on site (habitat and location mean that it is likely) |
|---|---|---|

| | | |
|---|---|---|
| **Badger**<br>Single record - Known sett located approx. 230m north of site. | None. | High Potential |
| **Bats**<br>Common Pipistrelle, Soprano Pipistrelle and Lesser Horseshoe Bat summer day roost located within 350m of site. | None | High Potential to support foraging and commuting bats. |
| **Birds**<br>Records for Red Crossbill and Goshawk within 1km | None | Low Potential |
| **GCN**<br>No records | None | Low/negligible Potential |
| **Reptiles**<br>No records | None | Low Potential |
| **Hazel Dormouse**<br>Single recent record (2012) relating to edge of Fantawarren Plantation woodland to the east of Devauden. Multiple historic (>10 years) records found within 1km of the site. | Boundary hedgerows have some potential to support occasional use by dormouse – they contain suitable food plant options, dense continuous understories and have connectivity to more suitable habitats in the wider landscape. | Moderate Potential |
| **Otter**<br>Two records Otter – both road casualty incidents associated with the B4293 carriageway within 1km of the site | None | Low/Negligible Potential |

## Priority Species

Are there records for Priority (Section 7) Species (not included above)?

Yes [X] Potential [ ] No [ ]

| List Species:<br><br>SEWBReC record | Evidence of presence on site (seen directly or field signs) | Potential to be present on site (habitat and location mean that it is likely) |
|---|---|---|
| **Amphibians**<br>No recent or historic records | None | Low potential |
| **Birds**<br>Records of Yellowhammer, Dunnock, House Sparrow, Song Thrush, Eurasian Skylark and Linnet within 1km search radius | House Sparrow and Starling seen during survey. | High potential (confirmed) |
| **Mammals**<br>Records of hedgehog and polecat within 1km search radius | None | Moderate Potential |
| **Terrestrial invertebrates**<br>No relevant priority species recorded within 1km | No priority species recorded during survey. | Low Potential |

## Conclusions

What additional ecological surveys/assessments will be required?

| | |
|---|---|
| To determine if the site could be allocated for the purpose identified | Prior to the submission of planning application to influence site design etc.<br>• Bat activity survey (activity transect + automated monitoring)<br>• Hazel Dormouse - Dependent on likely impacts of any future development layout |

Summary of potential biodiversity constraints

| |
|---|
| Boundary hedgerows and tree lines likely to support locally commuting and foraging bats.<br>Habitats at the candidate site considered likely to support tree/scrub nesting bird species.<br>Use of candidate site by foraging and commuting badger.<br>Boundary hedgerows and tree lines have some potential to support occasional use by Hazel Dormouse.<br>Presence of priority habitats (hedgerows). |

Recommended avoidance / mitigation / compensation measures

| |
|---|
| Retention of priority habitats, or as far as practicable.<br>Retention of linear habitat features (e.g., boundary hedgerows and tree lines) and trees with bat roost potential.<br>Mitigation measures regarding the use of site by foraging and commuting bats and badger. |

Summary of net benefit for biodiversity to be delivered through development including ecological connectivity opportunities

| |
|---|
| Strengthening of species-poor hedgerows and tree lines with new native tree and shrub planting<br>Use of native flora or species with a known biodiversity benefit in soft landscape strategy<br>Inclusion of bird and bat boxes onto new residential units<br>Design of garden boundary fences to include 130x130mm gap to allow for continued connectivity for hedgehog and other small mammals throughout the development |

## Annex 2: Notes to Accompany Site Detail Form

Monmouthshire County Council reserve the right to amend any Site Detail Form upon detailed consideration of the site and quality assurance of the information submitted. Full justification of this adjustment will be recorded by the LPA.

### Site General Information

Site reference number, name, National Grid Reference, size (ha) and proposed use. 'Current Use & current management' describes the use of the site at the time of surveying and how it appears to be managed.

### Overall Site Evaluation

To be completed based upon Section 4 of this guidance. One of the evaluation categories can be chosen i.e. High / Medium / Low. This evaluation could be subject to change upon consideration of the site and quality assurance by Monmouthshire County Council.

### Summary Table

The summary table gives a quick reference guide to the ecological constraints of the site.

Protected sites are considered on page ii of the form. The summary needs to show an existing protected site (yes), adjacent sites within 250m (adj) adjacent sites within 500m (adj) and no protected sites within 500m (no). Note that development can potentially affect protected sites that are further than 500m away.

The potential for consideration of horseshoe bat SAC juvenile sustenance zones is considered on page ii of the form. The summary should address whether the site falls within the site buffers (yes) or not (no).

Non-statutory sites are considered on page iii of the form. The summary needs to show an existing site (yes), adjacent sites within 250m (adj) adjacent sites within 500m (adj) and no protected sites within 500m (no).

SINC recommendation is shown on page iv of the form. The table indicates whether the whole site is recommended for SINC designation (yes), part of the site is recommended for SINC designation

(part), the site may meet the criteria following further survey and examination (borderline site – bord), or the site is not recommended for SINC designation (no).

Wales Priority Habitat (Section 7) is considered according to the table on page v of the form. This shows whether these habitats cover over 50% of a site (yes), less than 50% of a site (part) or are not present (no).

Projected and Priority species are considered on page vii of the form. Presence (yes), reasonable likelihood of presence / possible presence (poss) and likely absence (no) of Protected and Priority species are indicated in the summary table.

Ecological connectivity is considered on page vi of the form. The summary table indicates the importance of that connectivity from critical (crit), some (conn), to no connectivity (no).

### Statutory Designated Sites

The information regarding designated sites shall be obtained via SEWBReC. Some interpretation of that data will need to be undertaken to establish the proximity of sites to Juvenile Sustenance Zones for horseshoe bats associated with the Wye Valley and Forest of
Dean Bat Sites SAC (maternity roost SSSIs). The juvenile sustenance zone for Greater

### Non Statutory Designated Sites

The information regarding SINCs/LWS sites shall be obtained via SEWBReC (site name and reason for designation). Detailed site designation forms (recommended for sites within 250m of the Candidate Site) will be available from Monmouthshire County Council (SINCs) and Gwent Wildlife Trust (LWS).

Designated ancient woodland is defined as ancient semi-natural woodland (ASNW) – areas that have been wooded since at least 1600. ASNW is listed on Ancient Woodland Inventory 2011 and available on the Lle website. However, in Monmouthshire, a large number of ASNW are designated as SINC and shall therefore be generated during the above data search.

### SINC Recommendation

This section indicates whether the whole site or part of the site meets the criteria for SINC designation in Guidelines for the Selection of Wildlife Sites in South Wales adapted for

Monmouthshire. The criterion under which the site qualifies shall be noted. The LPA Biodiversity & Ecology Officers should be contacted for relevant templates and to discuss the value of the site / part of the site.

## Priority Habitats and Important Features

Habitats as defined by the Phase 1 survey guidelines and Wales Priority Habitat (defined as those listed as Section 7 Habitats of Principal Importance for Conserving Biological Diversity in Wales under the Environment (Wales) Act 2016) shall be listed in the table. A % value for the habitat types shall be listed.

This information will also be demonstrated on the GIS shape files submitted to the LPA (see separate guidance).

Guidance for assessment of the importance of hedgerows and veteran/over mature trees is included in Annex 3 & 4.

## Ecological Connectivity

Sites shall be assessed for existing value for connecting semi-natural habitats in the landscape using Ecological Connectivity Assessment and/or during field surveys. Both habitats and species need to be considered. Opportunities for delivery of habitat connectivity to be listed under the Net benefit section on page viii of the form.

## Net Benefit for Biodiversity

Sites shall be assessed for opportunities to deliver net benefit for biodiversity by reviewing desk study information and during field assessments. Both habitats and species need to be considered. A summary of opportunities shall be provided in the site detail form with more information provided in ecological assessments and masterplans as the schemes come forward.

## Protected species

These tables indicate the presence or potential presence of protected species, based on SEWBReC records, the desk survey and field survey results. Species with protection or designation at several levels are listed under their highest degree of protection only.

Field signs and sightings are those recorded during the Phase 1 habitat survey.

Potential presence is based on the habitats on and adjacent to the site, the ecology of the species, and knowledge of the species distribution.

Protected Species are defined as those species listed on Schedules 2 and 4 of the Conservation of Habitats and Species Regulations 2017 or species listed under Schedules 5 and 8 of the Wildlife & Countryside Act 1981 (as amended) or the Protection of Badgers Act, 1992. Species protected from sale only are excluded.

Wales Priority Species are defined as those listed as species of Principal Importance for Conserving Biological Diversity in Wales under Section 7 of the Environment (Wales) Act 2016.

## Conclusions

Additional surveys and assessments are listed. These are based on the potential presence of protected species as detailed on page vii of the form. Any surveys that may be necessary prior to the allocation of the site should be identified e.g. horseshoe bat surveys

Potential constraints are summarised, based on the findings of the desk-based assessment and field survey, as recorded in previous sections.

Recommendations for mitigation and net benefit for biodiversity are suggested. These are intended as an indication only, as further survey will be needed to inform mitigation, and the design and purpose of the development will determine ecological impacts and influence mitigation and enhancement possibilities. Reference can be made to the Ecological Connectivity Assessment where appropriate.

## Annex 3: Hedgerow Classification

HIGH: Species-rich containing at least five native woody species in a 30 metre sample. Consider features such as banks, ditches, standing trees, ground flora associated and connecting hedges/woodland areas.

Four woody species are recorded and other features are considered important. This would include, potential dormouse habitat.

MEDIUM: Less than five native woody species in a 30 metre stretch, without other features present.

Less than four native woody species, with other features present

LOW: Less than four native woody species, without other features present.
Gappy hedges, newly planted.

Annex 4: Veteran and Over Mature Tree Classification

HIGH: Veteran trees >3.7m circumference, 1.3m from base (to include native and non-native species)

Large over-mature trees >2m circumference, or estimated to be over 200 years old, which exhibit characteristics such as dead wood, rot hollows and bracket fungi. To include native and non-native species.