# Preliminary Ecological Appraisal Report

Davy Way, Llay
Reference: 81-960-R1-3
Date: October 24



e3p

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# EXECUTIVE SUMMARY

| | |
|---|---|
| **Site Address** | Davy Way, Llay Industrial Estate, Llay, Wrexham, LL12 0PB |
| **Coordinates** | E 332623, N 356744 |
| **Site Area** | Approximately 3 ha |
| **Current Site Use and Adjacent Site Use** | The site predominantly comprised two grassland fields bordered by treelines and scrub located in the north of Llay, within Llay Industrial Estate. Davy Way forms the north western boundary of the site, with Rackery Lane running along the north eastern site boundary. Industrial units border the site to the south east whilst a North Wales Police Station borders the site to the south-west. The wider area to the north and east is largely agricultural, whilst the south and west are largely industrial and residential. Llay Reservoir is located approximately 40 m east of the site. |
| **Designated Sites** | There are no statutory designated sites located within 1 km of the site.<br><br>One Local Wildlife Site (LWS) is located within 1 km of the site, comprising Nant-y-Gaer and Llay Valley LWS located approximately 650 m south east of the site. The LWS comprises semi-natural woodland along two joining valleys with semi-improved grassland bracken present along the valley floor.<br><br>Due to the lack of statutory designated sites and the large distance between the site and the LWS, no impacts on any designated sites are anticipated as a result of the proposed development. |
| **Survey Results** | The site was found to comprise other neutral grassland, mixed scrub, other woodland; broadleaved, treelines and waterbodies.<br><br>The site was found to have the following potential ecological constraints:<br><br>- Opportunities for common amphibians within the broadleaved woodland, mixed scrub, understorey of the treelines, margins of the other neutral grassland and waterbody.<br><br>- Potential presence of great crested newts within waterbodies located approximately 160 m north-east, 55 m south-west and 105 m south-west.<br><br>- Moderate commuting and foraging potential for bats along the treelines, mixed scrub and woodland on site.<br><br>- [redacted]<br><br>- Potential presence of hedgehogs within the scrub, woodland, and treeline understory habitats.<br><br>- Opportunities for nesting birds within the treelines, mixed scrub and woodland.<br><br>- Potential presence of reptiles within the grassland margins, understorey of the treelines, broadleaved woodland and scrub. |
| **Conclusions** | Great crested newt eDNA surveys are required on WB4, WB5 and WB6 between mid-April to June (inclusive) to determine whether the species is present or absent within these waterbodies.<br><br>The following mitigation is recommended: |

- Common amphibians are to be removed by hand from the working area during the clearance phase.
- The lighting design should ensure sensitive habitats including the treelines, woodland and scrub habitats on site are maintained as dark areas during and post-construction.
- Updated badger walkover prior to the start of works.
- Precautionary Working Methods for badger.
- Vegetation should be retained where possible. Where vegetation requires removal, it should be checked for the presence of hedgehog prior to removal. If any vegetation is too dense to be fully inspected, it should be strimmed to 50 cm and checked for hedgehog before being cleared to ground level. If trees are removed, their bases should be checked, prior to removal, for sheltering hedgehogs. It is recommended that any clearance takes place outside of December-March to avoid impacting hibernating hedgehogs.
- Vegetation should be retained where possible. If any vegetation requires removal, it should be removed outside of the breeding bird season (March to September inclusive). If this is not possible, a nesting bird check should be undertaken by a suitably qualified ecologist up to 24 hrs before works commence. If a nest, or nest in construction, is located, then a stand-off distance should be maintained until the young have fledged.
- Precautionary Working Methods for reptiles.

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# 1. INTRODUCTION

## 1.1. BACKGROUND

E3P were commissioned by RA & CE Platt Limited to undertake a Preliminary Ecological Appraisal at Davy Way, Llay, hereafter referred to as "the site".

This report has been prepared by Huw Morgan BSc (Hons) MIEnvSc MCIEEM, CEnv, Principal Ecologist at E3P, who has over eight years of professional experience as an ecological consultant. Huw has undertaken multiple Preliminary Ecological Appraisals across the UK in a variety of habitats. Huw holds a Natural England barn owl survey class licence, a class 1 bat Natural England licence and a class 2 great crested newt Natural England licence and has a Level 4 Field Identification Skills Certificate (FISC).

## 1.2. PROPOSED DEVELOPMENT

Development proposals comprise the construction of an industrial development with associated car parking, loading bays, landscaping and attenuation ponds.

## 1.3. SITE LOCATION

The site is located in the north of Llay within Llay Industrial Estate. Davy Way forms the north western boundary of the site, with Rackery Lane running along the north eastern site boundary. Industrial units border the site to the south east whilst a North Wales Police Station borders the site to the south west. The wider area to the north and east is largely agricultural, whilst the south and west are largely industrial and residential. Llay Reservoir is located approximately 40 m east of the site.

**Figure 1 Approximate Site Location**



## 1.4. OBJECTIVES

The objectives of the Preliminary Ecological Appraisal are as follows:

- Identify the major habitats present.
- Ascertain the presence or potential presence of any legally protected species and habitats.
- Recommend any further surveys or mitigation that may be required.

The Preliminary Ecological Appraisal comprises a desk study and site walkover. This survey has been completed as a baseline assessment of the site, and as such please see the end of the report for further surveys and mitigation proposed.

# 2. METHODOLOGY

## 2.1. DESKTOP STUDY

The following sources of information and ecological records were consulted:

- MAGIC – A web-based interactive mapping system, on which geographic information regarding key environmental schemes and designations are collated, including details of statutory conservation sites, accessed September 2024.
- Aerial mapping and ordnance survey maps.
- Local data records provided by Cofnod the Local Record Centre for North Wales on 18th July 2024.

A 1 km search area was utilised for the data search, with this being deemed an appropriate distance for the Zone of Influence of the site. The 1 km data search was selected due to the size of the site as well as the largely urban surrounding area.

The data search included the request for details of protected and notable species of flora and fauna within 1 km of the central grid reference of the site. In addition, a request was made for any non-statutory designated sites within 1 km of the site boundary.

Please note that a lack of up-to-date records does not confirm the absence of a species from the area. Lack of records may simply be a result of a lack of protected species surveys being undertaken within the local area.

## 2.2. VEGETATION AND HABITATS

A Preliminary Ecological Appraisal of the proposed development site was undertaken by Huw Morgan, on 04th September 2024. The weather was sunny with light winds.

The walkover survey was undertaken to the standard methodology as detailed by the UK Habitat Classification Version 2.0 (UKHab, 2023). The assessment follows the methodology as per “Guidelines for Preliminary Ecological Appraisal” (CIEEM, 2017).

A vegetation and habitat plan has been produced for the proposed development site (please refer to Appendix I). The mapping is based on the UK Habitat Classification Version 2.0 (UKHab, 2023).

Searches were made for uncommon, rare, and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

Searches were carried out for the presence of invasive species, including those listed on the revised (April 2010) Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) including Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

## 2.3. FAUNA

A thorough search of the site for signs of protected species of fauna was undertaken during the site walkover. These searches considered the following:

- Suitability of any ponds to support notable amphibians, and the suitability of the site's terrestrial habitats to support amphibians.
- Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
- Signs of badgers (*Meles meles*), by way of setts, mammal paths, foraging signs or latrines to indicate usage of the site by the species.
- Search of any watercourses for signs or suitability for water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) by way of burrows, resting places, holts and foraging signs.
- Suitability of the site to support roosting, foraging and commuting bats.
- Suitability of the site to support notable bird species.
- Suitability of the site to support notable invertebrates.
- Search of the site for any invasive species.

## 2.4. PRELIMINARY ROOST ASSESSMENT

The Preliminary Roost Assessment (PRA) was undertaken by Huw Morgan on 04th September 2024 who holds a Class 1 Natural Resources Wales Bat Licence: S091568-1 and a Class 2 Natural England Bat Licence: 2023-11717-CL18-BAT.

The survey involved undertaking a systematic search of the trees, searching for signs of bats, or spaces where bats would be able to access. The methodology followed that described in *Bat Surveys for Professional Ecologists, 4th Edition (Collins, 2023)*.

The trees were categorised for their bat roosting potential as described in Table 1 in accordance with Collins (2023).

**Table 1 Bat Roosting Potential Classification of Trees**

| CATEGORY | DESCRIPTION |
|---|---|
| **PRF-I** | PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats. |
| **PRF-M** | PRF is suitable for multiple bats and may therefore be used by a maternity colony. |

There were no buildings or structures within or adjacent to the site.

## 2.5. HABITAT SUITABILITY INDEX

All ponds within a 250 m radius of the site boundary were evaluated using the *Habitat Suitability Index (HSI) (*Oldham et al., 2000*)* which was undertaken by Huw Morgan who holds a Class 2 Natural England Great Crested Newt Licence (2015-101083-CLS-CLS).

The ponds were examined with reference to the ten HSI scoring criteria, which are as follows:

- SI1: Geographical location.
- SI2: Pond area.
- SI3: Pond drying.
- SI4: Water quality (as indicated by the diversity of aquatic plants and invertebrates).
- SI5: Shade.
- SI6: Waterfowl.
- SI7: Fish.
- SI8: Abundance of other ponds within a 1 km radius.
- SI9: Quality of terrestrial habitat.
- SI10: Macrophyte cover (i.e. aquatic and emergent plants).

A score is given according to the most appropriate criteria level set within each attribute and a total score is calculated between 0 and 1. Pond suitability is assessed according to the following scale:

- < 0.50 = Poor.
- 0.50–0.59 = Below average.
- 0.60–0.69 = Average.
- 0.70–0.79 = Good.
- > 0.80 = Excellent.

## 2.6. SURVEY LIMITATIONS

A Preliminary Ecological Appraisal does not constitute a full botanical survey. Instead, key species are identified to give a representative description of each habitat type.

This survey was undertaken in September, which is an appropriate time of the year to undertake a survey. However, as a result of seasonal vegetation dieback, it is possible that some species of flora may have been missed or misidentified, including some invasive/non-native species.

The grassland on site had recently been mown making species identification difficult, however, an assemblage of the plant species and accurate identification of the grassland type was still able to be made, therefore, this is not considered to be a major constraint.

[redacted] In addition, access to Waterbody 4 (WB4), Waterbody 5 (WB5) and Waterbody 6 (WB6) was not possible due to being located on private land, therefore, an assessment for great crested newt suitability was not undertaken.

# 3. SURVEY RESULTS

## 3.1. SITE CONTEXT

The site predominantly comprised two grassland fields used for sileage, bordered by treelines and scrub. The habitats located on site are anticipated to provide foraging and commuting value for local wildlife, including birds and terrestrial mammals, such as bats, [redacted], and hedgehogs (*Erinaceus europaeus*).

Despite the suitable habitats on-site, the site itself is surrounded to the south east, south west and north west by industrial developments which may deter some wildlife from reaching the site.

Multiple areas of woodland are present in proximity to the site with the closest located approximately 300 m north east of the site. These woodland habitats are anticipated to support a wide range of flora and fauna including specialist species of invertebrates, fungi, and birds.

A former quarry is located approximately 280 m south of the site which has been colonised by trees and scrub with areas of bare ground and waterbodies also present. This mosaic of habitats may potentially contain Open Mosaic Habitat on Previously Developed Land, due to previous disturbance and modification. As such, if the habitat is present it is anticipated to provide valuable habitat for a variety of fauna, including rich assemblages of invertebrates. The bare ground, scrub and trees are also anticipated to provide habitat for terrestrial mammals, nesting birds, foraging and commuting bats, common amphibians and reptiles.

The wider landscape to the north and east largely comprises a network of agricultural fields interspersed with hedgerows. The fields are anticipated to provide nesting opportunities for ground-nesting birds including skylark (*Alauda arvensis*) as well as providing habitat suitable for brown hare (*Lepus europaeus*). The hedgerows are anticipated to provide suitable foraging and commuting habitat for bats as well as nesting opportunities for birds.

Six waterbodies were located within 250 m of the site, with Waterbody 1 (WB1) and Waterbody 2 (WB2) located on-site, Waterbody 3 (WB3) located approximately 40 m east, Waterbody 4 (WB4) located approximately 160 m north-east, Waterbody 5 (WB5) located approximately 55 m south-west and Waterbody 6 (WB6) located approximately 105 m south-west.

## 3.2. DESIGNATED SITES

There are no statutory designated sites located within 1 km of the site.

One Local Wildlife Site (LWS) is located within 1 km of the site, comprising Nant-y-Gaer and Llay Valley LWS located approximately 650 m south-east of the site. The LWS comprises semi-natural woodland along two joining valleys with semi-improved grassland bracken present along the valley floor.

Due to the lack of statutory designated sites and the large distance between the site and the LWS, no impacts on any designated sites are anticipated as a result of the proposed development.

## 3.3. HABITATS

The main habitats encountered during the survey are described in the following subsections. Please refer to Appendix I for the UKHab Habitat Plan.

### 3.3.1. OTHER NEUTRAL GRASSLAND (G3C)

The majority of the site comprised a large other neutral grassland field, with a smaller field present in the north-west of the site. The grassland had been recently mown; however, the field margins were untouched and likely indicative of the wider fields. Species present comprised perennial rye-grass (*Lolium perenne*), ribwort plantain (*Plantago lanceolata*), common knapweed (*Centaurea nigra*), Yorkshire fog (*Holcus lanatus*), false oat grass (*Arrhenatherum elatius*), creeping bent (*Agrostis stolonifera*), broad-leaved dock (*Rumex obtusifolius*), rosebay willowherb (*Chamaenerion angustifolium*), common ragwort (*Jacobaea vulgaris*), creeping thistle (*Cirsium arvense*), great willowherb (*Epilobium hirsutum*), timothy (*Phleum pratense*), bramble (*Rubus fruticosus agg.*), meadow foxtail (*Alopecurus pratensis*), compact rush (*Juncus conglomeratus*), creeping buttercup (*Ranunculus repens*), silverweed (*Potentilla anserina*), curled dock (*Rumex crispus*), tufted hair grass (*Deschampsia caespitosa*), prickly sow thistle (*Sonchus asper*), tufted vetch (*Vicia crecca*), gypsywort (*Lycopus europaeus*), creeping cinquefoil (*Potentilla reptans*), soft rush (*Juncus effusus*), common birds foot trefoil (*Lotus corniculatus*), common fleabane (*Pulicaria dysenterica*), meadow vetchling (*Lathyrus pratensis*), redshank (*Persicaria maculosa*), hoarry ragwort (*Jacobaea erucifolia*), common vetch (*Vicia sativa*), jointed rush (*Juncus articulates*), meadow buttercup (*Ranunculus acris*), selfheal (*Prunella vulgaris*), nipplewort (*Lapsana communis*) and scarlet pimpernel (*Anagallis arvensis*).

**Figure 2 Showing Other Neutral Grassland**



### 3.3.2. MIXED SCRUB (H3H)

Mixed scrub was present throughout the site largely associated with the north west and north eastern boundaries and within the understorey of the treelines on-site. Species present comprised holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), bramble, grey willow (*Salix cinerea*), wild cherry (*Prunus avium*), ivy (*Hedera helix*), blackthorn (*Prunus spinosa*), hedge bindweed (*Calystegia sepium*), gorse (*Ulex europaeus*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), butterfly bush (*Buddleja davidii*), dog-rose (*Rosa canina*), guelder rose (*Viburnum opulus*), dogwood (*Cornus sanguinea*) and sweet briar (*Rose rubignosa).*

**Figure 3 Showing Mixed Scrub**



### 3.3.3. OTHER WOODLAND; BROADLEAVED (W1G)

An area of broadleaved woodland was located within the centre of the site and extended towards the south eastern boundary. The woodland was of poor quality and was dominated by grey willow and goat willow (*Salix caprea*) with mature pedunculate oak (*Quercus robur*) also present. The understorey comprised bramble, hazel, dogwood, blackthorn, hawthorn, sweet briar, bracken (*Pteridium aquilinum*), common nettle (*Urtica dioica*), gypsywort and silver birch (*Betula pendula*). A waterbody was also present within the woodland (WB2).

**Figure 4 Showing Other Broadleaved Woodland**



### 3.3.4. LINE OF TREES (33)

Three treelines were identified on site located around the site boundaries and separating the other neutral grassland fields. Please see Table 2 for a summary of these treelines.

**Table 2 Hedgerow Summaries**

| REFERENCE | DESCRIPTION | PHOTOGRAPH |
|---|---|---|
| TL1 | Treeline 1 (TL1) was present in the north western area of the site and comprised entirely of mature pedunculate oaks. The understorey comprised mixed scrub detailed in Section 3.3.2. |  |
| TL2 | Treeline 2 (TL2) was present along the eastern site boundary running from the north eastern corner of the site before joining the broadleaved woodland. Species present comprised hawthorn, grey willow, pedunculate oak, gorse, English elm (*Ulmus procera*), and ash (*Fraxinus excelsior*). |  |
| TL3 | Treeline 3 (TL3) was present in south eastern corner of the site and comprised oak, grey willow, sycamore (*Acer pseudoplatanus*) and hawthorn. |  |

### 3.3.5. WATERBODIES

Two waterbodies were present within the site with WB1 located in the northern corner of the site within mixed scrub and WB2 located within the broadleaved woodland. WB1 was dry at the time of the survey, whilst WB2 was of poor quality due to being heavily shaded by the surrounding woodland. Full descriptions and photographs are detailed in Appendix II and the waterbody locations are detailed in Appendix III.

## 3.4. PROTECTED AND NOTABLE SPECIES

### 3.4.1. AMPHIBIANS

Consultation with Cofnod identified numerous records of great crested newt (*Triturus cristatus*) within the 1 km search area. The closest record was recorded on-site within Waterbody 2 with a single adult female recorded in 2015.

Great crested newt presence / absence surveys were undertaken by Atmos Consulting Ltd in 2022 (report reference: 73750 R1 Rev3) in which Waterbody 1 was dry and Waterbody 2 did not record any great crested newts. In addition, great crested newt eDNA surveys were undertaken by Atmos Consulting Ltd on the two waterbodies on-site during the 2024 great crested newt survey season. Waterbody 1 was found to be dry during the survey and Waterbody 2 returned negative results for the presence of great crested newts (reference: SureScreen Scientifics Folio No 470-2024). Therefore, it is considered that the waterbodies on-site are not great crested newt breeding waterbodies. Waterbody 3 located approximately 40 m east of the site was found to be unsuitable for great crested newts due to comprising a fishing lake and therefore discounted from further assessment. The remaining waterbodies (WB4, WB5 and WB6) were not accessed due to being located on private land.

Suitable terrestrial habitat for the species was present throughout the site within the mixed scrub, broadleaved woodland, understorey of the treelines and the margins of the other neutral grassland fields. Despite the waterbodies on-site not containing great crested newts, further waterbodies are located within 250 m which may contain great crested newts, therefore, great crested newts may be present within the terrestrial habitats on-site should the waterbodies off-site contain populations.

Records of common frog (*Rana temporaria*), common toad (*Bufo bufo),* smooth newt (*Lissotriton vulgaris*) and palmate newt (*Lissotriton helveticus*) were identified within 1 km of the site boundary. The closest records comprised common toad and smooth newt located on-site within Waterbody 2. The on-site waterbodies provide optimal breeding habitat for common amphibians, whilst plentiful terrestrial habitat is present on-site within the broadleaved woodland, mixed scrub, understorey of the treelines and margins of the other neutral grassland providing shelter, foraging and hibernation habitat for the species group.

### 3.4.2. BATS

Consultation with Cofnod did not identify any recent records of bat species within the 1 km search area, however, historic records of common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), pipistrelle species (*Pipistrellus sp.*), myotis species (*Myotis sp.*), and brown long-eared (*Plecotus auritus*) were identified. The closest of these was located approximately 900 m south of the site comprising an unidentified bat species.

All trees within the site were assessed for their suitability to support roosting bats, as detailed in Collins (2023), there were no buildings or structures present within or adjacent to the site. All trees were assessed as being unsuitable for roosting bats due to a lack of features that could support bat roosts.

Large areas of the site comprised mixed scrub, treelines and broadleaved woodland which provide optimal foraging and commuting habitat for bats whilst the other neutral grassland may provide foraging opportunities for bats that favour open habitats. The tree lines and mixed scrub in the northern and western areas of the site were assessed as being the most valuable foraging and commuting features for bats due to the presence of a series of mature pedunculate oak trees and a diverse mix of scrub species within the understorey that are likely to attract invertebrate prey.

Despite the suitable habitats on-site, the site itself is surrounded to the south east, south west and north west by industrial developments, therefore, the site is not likely to be a key commuting route for bats

across the wider area. Taking the surrounding area and the high-quality habitats onsite into account, the site is assessed as having Moderate suitability for foraging and commuting bats.

### 3.4.3. BADGER

[redacted]

### 3.4.4. OTHER TERRESTRIAL MAMMALS

Numerous records of European hedgehog were located within the 1 km search area, the closest of which was located approximately 160 m south west of the site. The site was assessed as providing suitable refuge and foraging habitat for hedgehogs within the scrub, woodland, and treeline understory. These habitats may also offer suitable hibernation opportunities for the species.

There were no records of brown hare recorded within the 1 km search area. The grassland on-site provides suitable habitat for brown hare, however, the site is surrounded on all aspects by security fencing which may prevent the species from entering the site. Therefore, brown hare are not considered to be present on-site.

### 3.4.5. OTTER AND WATER VOLE

Consultation with Cofnod identified one historic record of otter, however, an accurate grid reference was not provided. No records of water vole were identified within the data search.

There are no watercourses present within or adjacent to the site, therefore, otter and water vole have been discounted from further assessment.

### 3.4.6. BREEDING BIRDS

Consultation with DBRC identified numerous records of notable birds within the search area, including barn owl (*Tyto alba*), barnacle goose (*Branta leucopsis*), black-headed gull (*Chroicocephalus ridibundus*), black-tailed godwit (*Limosa limosa*), bullfinch (*Pyrrhula pyrrhula*), curlew (*Numenius arquata*), dipper (*Cinclus cinclus*), dunnock (*Prunella modularis*), green sandpiper (*Tringa ochropus*), greenfinch (*Chloris chloris*), greylag goose (*Anser anser*), herring gull (*Larus argentatus*), hobby (*Falco subbuteo*), house martin (*Delichon urbicum*), kestrel (*Falco tinnunculus*), kingfisher (*Alcedo atthis*), lapwing (*Vanellus vanellus*), lesser black-backed gull (*Larus fuscus*), linnet (*Linaria cannabina*), little egret (*Egretta garzetta*), little ringed plover (*Charadrius dubius*), mallard (*Anas platyrhynchos*), meadow pipit (*Anthus pratensis*), merlin (*Falco columbarius*), mistle thrush (*Turdus viscivorus*), moorhen (*Gallinula chloropus*), pintail (*Anas acuta*), pochard (*Aythya farina*), red kite (*Milvus milvus*), redshank (*Tringa totanus*), redwing (*Turdus iliacus*), reed bunting (*Emberiza schoeniclus*), rook (*Corvus frugilegus*), sedge warbler (*Acrocephalus schoenobaenus*), shoveler (*Spatula clypeata*), skylark (*Alauda arvensis*), Slavonian grebe (*Podiceps auritus*), snipe (*Gallinago gallinago*), song thrush (*Turdus philomelos*), sparrowhawk (*Accipiter nisus*), stonechat (*Saxicola rubicola*), swallow (*Hirundo rustica*), tree pipit (*Anthus trivialis*), tree sparrow (*Passer montanus*), whitethroat (*Curruca communis*), willow warbler (*Phylloscopus trochilus*), wood warbler (*Phylloscopus sibilatrix*) and woodpigeon (*Columba palumbus*).

During the site visit, blue tit (*Cyanistes caeruleus*), great tit (*Parus major*), long-tailed tit (*Aegithalos caudatus*), chiffchaff (*Phylloscopus collybita*), robin (*Erithacus rubecula*), carrion crow (*Corvus corone*) and woodpigeon were recorded on site.

Common and notable bird species are anticipated to be present within the scrub, woodland, and treelines. The site is assessed as having limited value for ground-nesting birds due small size of the grassland fields and being surrounded by scrub, woodland and treelines which could support perching predators, further reducing the site's suitability for ground-nesting birds.

### 3.4.7. REPTILES

Consultation with Cofnod identified records of grass snake (*Natrix helvetica*) and common lizard (*Natrix helvetica*) within the search area. The closest record comprised both species located adjacent to the site, with a grass snake recorded adjacent to the south-eastern boundary and a common lizard record located adjacent to the south-western boundary.

The site is not anticipated to support large numbers of reptiles due to the large expanse of other neutral grassland that makes up the majority of the site, which is subject to management and regular disturbance, however, the grassland margins, understorey of the treelines, broadleaved woodland and scrub may provide some shelter for the species. As such, they may be present on-site in small numbers.

### 3.4.8. NOTABLE INVERTEBRATES

The data search identified records of notable invertebrate species within the search area, including dingy skipper (*Erynnis tages*), shaded broad-bar (*Scotopteryx chenopodiata*), cinnabar (*Tyria jacobaeae*) and grayling (*Hipparchia semele*).

Notable invertebrates are unlikely to be present within the woodland on site due to its immature nature and the lack of deadwood habitat. The remaining habitats on site are also not anticipated to support notable invertebrates due to their lack of floristic diversity. As such, notable invertebrates are not anticipated to be present on site.

## 3.5. INVASIVE PLANT SPECIES

Consultation with Cofnod identified records of Canadian waterweed (*Elodea canadensis*), entire-leaved cotoneaster (*Cotoneaster integrifolius*), Himalayan balsam, Himalayan cotoneaster (*Cotoneaster simonsii*), Japanese knotweed, Japanese rose (*Rosa rugosa*) montbretia (*Crocosmia pottsii x aurea*), Nuttall's waterweed (*Elodea nuttallii*) and variegated yellow archangel (*Lamiastrum galeobdolon*),

During the survey, no invasive plant species were identified on-site.

# 4. ECOLOGICAL CONSTRAINTS AND MITIGATION

## 4.1. DEVELOPMENT PROPOSALS

Development proposals comprise the construction of an industrial development with associated car parking, loading bays, landscaping and attenuation ponds.

## 4.2. HABITATS

The site comprised habitats that were found to be widespread within the local area; however, they did contain value for wildlife such as bats, birds, [redacted], hedgehog, reptiles and common amphibians.

### 4.2.1. TREELINES AND WOODLAND

Development proposals comprise the removal of the poor quality woodland, with a higher quality, species-rich woodland proposed in the northern area of the site.

It is recommended that, where possible, the treelines are retained and protected through development. If any trees require removal, they should be replaced as soon as practicable. Any replacement planting should endeavour to be on the same aspect as that to be lost.

It is recommended that the landscape planting comprises native species and species known to be of value for the attraction of wildlife. This will include fruiting and flowering species. Species deemed suitable for this development could include berry-bearing native species such as:

- Hawthorn.
- Rowan (*Sorbus aucuparia*).
- Holly.
- Whitebeam (*Sorbus aria*).
- Spindle (*Euonymus europaea*).
- Dog rose.
- Guelder rose.
- Elder (*Sambucus nigra*).

All planting should be from a trusted pest-free source and, where possible, be of local provenance.

Any trees or shrubs within the site or boundary, to be retained, are to be appropriately protected during the construction phase. Temporary protective demarcation fencing will be used to protect the trees and shrubs. The fencing must extend outside the canopy of the retained trees and must remain in position until all the development has been completed to ensure protection is provided throughout the construction phase.

The fencing will be in accordance with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations*.

### 4.2.2. WATERBODIES

Two waterbodies were located within the site boundary, though one was dry at the time of the survey. Please refer to Section 4.3.1 for specific details on amphibians.

It is recommended that, where possible, the waterbodies are retained and enhanced through the development to retain open water habitat within the site.

Enhancements to the waterbodies would be dependent on the results of further amphibian surveys however, they could broadly include:

- Thinning of over-shading trees.
- Management of nutrient levels within the waterbodies.
- Eradication of fish (if present).
- Planting of emergent vegetation to provide egg-laying material for breeding amphibians.
- Planting of rough grassland around the perimeters of the ponds to provide terrestrial habitat for amphibians.

If it is not possible to retain and enhance the waterbody within the site, then compensation waterbodies should be created. Waterbody design should follow the guidance set out in Froglife and English Nature (2001) for pond design and construction. Ponds should be created to comprise different depths to support different species of wildlife including amphibians and invertebrates. If compensation waterbodies are to be created, it is recommended that a net increase in open water habitat on-site is provided.

## 4.3. PROTECTED AND NOTABLE SPECIES

### 4.3.1. AMPHIBIANS

The site may support common amphibians during their breeding phase within the waterbodies on-site and within their terrestrial phase within the broadleaved woodland, mixed scrub, understorey of the treelines and margins of the other neutral grassland. It is recommended that during the clearance phase of works, any common amphibians encountered be moved by hand, away from construction activities.

As described in Section 4.2.2, efforts should be made to retain and enhance the waterbodies on-site or provide significantly better habitats for amphibians should this not be possible. Detailed mitigation is dependent on the outcomes of further amphibian surveys within the site.

### 4.3.2. BATS

The mixed scrub, treelines and broadleaved woodland habitats on site were found to provide some foraging and commuting value for local bat species. It is understood that the treelines and the majority of the mixed scrub on-site will be retained. In addition, the habitats in the northern and western areas of the site which were assessed as having the highest suitability for bats it being retained, therefore, it is not considered that there will be a detrimental impact of foraging and commuting habitat as a result of habitat loss.

With large areas of habitat being retained, it is recommended that any lighting during construction is appropriately placed to avoid being directed at any retained habitats. To reduce the potential lighting impacts on bats, the following recommendations are advised for the lighting strategy:

- Lighting should be pre-fixed on any proposed buildings, to ensure impacts on sensitive areas such as the treelines, hedgerows and scattered trees are diminished.
- Warm white tones are preferable to blue toned lights (3000k).
- LED lights are preferable as they produce minimal UV.
- To avoid light spill skyward, ensure lights face downward.
- Make use of vegetation to block light spill into dark areas.

Lighting should follow the protocols outlined in The Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and The Institution of Lighting Professionals (ILP) (2023). "Bats and Artificial Lighting at Night. Guidance Note GN08/23".

It is recommended that any planting within the site be of native fruiting/flowering species in order to enhance the site for foraging bats post-completion.

### 4.3.3. BADGERS

No badger setts were located on-site during the survey, though the habitats on site were identified as being suitable for the species. Badgers are highly mobile and can create new setts in a short period of time. It is recommended that an updated site walkover prior to the development is carried out to identify any new badger setts.

If a badger sett is located, a stand-off distance may be required as well as precautionary working methods. If the sett requires closure, a Badger Licence would be required. Please note that badger licences can only be obtained between July and November each year to avoid potential impact on pregnant females.

The following precautionary working methods will be adhered to during the construction phase to ensure that no badgers within the local area are impacted by the proposed development:

- All site operatives will be inducted to the presence of the species and their working limits and legal responsibilities.
- If the woodland is too dense to be fully inspected for signs of badger during the updated walkover, vegetation clearance will be undertaken in stages under the supervision of an ecologist to check for any potential badger setts.
- All site operatives will be inducted as to identifying potential badger setts and should be vigilant if they suspect they locate a new sett during works and inform the project ecologist immediately.
- All site machinery and materials will be appropriately stored to avoid harm to the species, notably between July and November each year when extra care is needed to avoid potential impacts on pregnant females.

It is not anticipated that the development will have a significant negative impact on badgers within the local area.

### 4.3.4. HEDGEHOGS

The site was assessed as providing suitable refuge, foraging and hibernation opportunities for hedgehogs within the scrub, woodland, and treeline understory. These habitats should be retained where possible. Where vegetation requires removal, it should be checked for the presence of hedgehog prior to removal. If any vegetation is too dense to be fully inspected, it should be strimmed to 50 cm and checked for hedgehog before being cleared to ground level. If trees are removed, their bases should be checked, prior to removal, for sheltering hedgehogs. It is recommended that any clearance takes place outside of December-March to avoid impacting hibernating hedgehogs.

Post-development, a series of hedgehog houses could be installed throughout the site to enhance the site's value for the species.

### 4.3.5. BREEDING BIRDS

The site was assessed as having value for common bird species within the scrub, woodland, and treelines. These habitats should be retained where possible.

If any vegetation requires removal, it should be carried out outside of nesting bird season. Breeding bird season occurs between March–September (inclusive). If this is not possible a suitably qualified ecologist should inspect the area no more than 24 hours prior to the removal. Should any nests, or nests in construction be located, a suitable stand-off distance should be maintained until the young have fledged. The ecologist will advise on suitable standoff and provide a toolbox talk to all site contractors regarding their working limits and legal implications.

### 4.3.6. REPTILES

The site was assessed as having potential for a small number of reptiles, within the grassland margins, understorey of the treelines, broadleaved woodland and scrub. As such, these habitats should be retained where possible. However, if they require clearance, it is recommended that the following Precautionary Working Methods are followed:

- All site contractors are to be inducted as to the potential presence of the species group, their legal responsibilities and working limits, by a suitably qualified experienced ecologist.
- Any scrub to be removed will be checked by an ecologist for the presence of reptiles, and once deemed free, the area will be turfed with a toothed bucket. If any scrub is too dense to be inspected, it will be strimmed to a length of approximately 150 mm under the supervision of the ecologist.
- It will be checked by an ecologist for the presence of reptiles, and once the area is deemed free, the area will be turfed with a toothed bucket.
- During works the site should be kept tidy of debris and material, and any vegetation within the working areas should be maintained below 50 mm in height to discourage amphibians or reptiles from re-entering these areas.
- If a reptile is identified, works should cease, and the project ecologist contacted immediately to capture the individual.

# 5. FURTHER SURVEYS

## 5.1. GREAT CRESTED NEWTS

Three waterbodies were located within 250 m of the site which may have the potential to support great crested newts comprising WB4 located approximately 160 m north-east, WB5 located approximately 55 m south-west and WB6 located approximately 105 m south-west. The site was also assessed as having suitable terrestrial habitat for the species, therefore, it is recommended that great crested newt eDNA surveys are undertaken on WB4, WB5 and WB6.

Great crested newt eDNA surveys can be undertaken and will be required between mid-April to June (inclusive) to determine whether the species is present or absent WB4, WB5 and WB6. If the eDNA surveys return positive results for great crested newts, further surveys will be required to determine the population size present in the waterbodies. Should population surveys be required, six surveys would need to be undertaken between mid-April and the end of June, with at least three of the surveys taking place between mid-April and mid-May. A European Protected Species Licence (EPSL) will then be required for development to proceed and would require up-to-date surveys from two years prior to the application submission. An EPSL can only be applied for when planning permission has been obtained and all wildlife conditions discharged.

## 5.2. TABLE OF FURTHER SURVEYS

Please refer to Table for a summary of further surveys required to inform a planning application.

**Table 3 Further Surveys Recommended**

| SURVEY TYPE | TIMESCALES |
|---|---|
| **Great Crested Newt eDNA Survey** | One survey on WB4, WB5 and WB6 between mid-April and June (inclusive) |

# 6. REFERENCES


- Atmos Consulting Ltd (2023). Preliminary Ecological Report and Great Crested Newt Survey – 8 Acres, Rackery Lane, Llay Industrial Estate. 73750 R1 Rev3.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal.
- CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.
- Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition. The Bat Conservation Trust, London.
- Environment Alliance (2007). PPG5: Pollution Prevention Guidelines; Works and Maintenance In or Near Water; PPG5.
- Froglife (2001). Great Crested Newt Conservation Handbook.
- Institute of Lighting Engineers (2005). Guidance Notes for the Reduction of Obtrusive Light.
- The Institution of Lighting Professionals (ILP) (2023). Bats and Artificial Lighting at Night. Guidance Note GN08/23.
- Natural England Joint Publication JP029 (2019). The Biodiversity Metric 2.0. Auditing and Accounting for Biodiversity, User Guide, Beta Version.
- Oldham, R. S., Keeble J., Swan, M. J. S. & Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143–155.
- Stace, C. A. (2019). New Flora of the British Isles. Fourth Edition. Cambridge University Press.
- UKHab (2023) UK Habitat Classification Version 2.0
- Wildlife and Countryside Act (2010) Schedule 9 of the Wildlife and Countryside Act 1981.


## END OF REPORT

# APPENDIX I
# UKHAB HABITAT PLAN






Key:

- Red Line Boundary
- Brash pile1
- Treelines
- Mixed scrub
- Other neutral grassland
- Other woodland; broadleaved
- Waterbodies

Notes

| Issue: | Revision: | Date: | Drawn: | Authorised: |
|---|---|---|---|---|
| 1 | 2 | 17/10/2024 | NS2 | CK |

| Client: | Job No. | Date: |
|---|---|---|
| Oak Moss Property Services Limited | 81-960 | 17/10/2024 |
| | Drawing No. 003 | Scale: 1:1350 @A4 |

| Job title: | Drawing title: |
|---|---|
| Davy Way, Llay | UKHab Habitat Plan |

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# APPENDIX II
# WATERBODY DESCRIPTIONS AND HSI ASSESSMENT



| DISTANCE FROM SITE | DESCRIPTION | HSI CALCULATION | | | | | | | | | | | PHOTOGRAPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SI1 | SI2 | SI3 | SI4 | SI5 | SI6 | SI7 | SI8 | SI9 | SI10 | S | |
| **Waterbody 1** | | | | | | | | | | | | | |
| **On-site** | The waterbody was located in the northern corner of the site located within an area of mixed scrub. The waterbody was dry at the time of the survey and lacked any aquatic marginal vegetation indicating it regularly dries out.<br><br>HSI score = **SCOPED OUT - DRY** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |  |
| **Waterbody 2** | | | | | | | | | | | | | |

| DISTANCE FROM SITE | DESCRIPTION | HSI CALCULATION | | | | | | | | | | PHOTOGRAPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SI1 | SI2 | SI3 | SI4 | SI5 | SI6 | SI7 | SI8 | SI9 | SI10 | S | |
| On-site | The waterbody was located within the broadleaved woodland on-site and was heavily shaded by the surrounding grey willow. The water depth was shallow and poor quality, with no aquatic or emergent vegetation noted.<br><br>HSI score = **AVERAGE** | 1 | 1 | 0.5 | 0.33 | 0.2 | 1 | 1 | 1 | 1 | 0.3 | 0.63 |  |

**Waterbody 3**

| DISTANCE FROM SITE | DESCRIPTION | HSI CALCULATION | | | | | | | | | | PHOTOGRAPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SI1 | SI2 | SI3 | SI4 | SI5 | SI6 | SI7 | SI8 | SI9 | SI10 | S | |
| **40 m east of the site** | Waterbody comprised a large fishing lake with a number of fishing pegs located around the banks of the waterbody. A number of anglers were present at the time of the survey. The waterbody likely contains a large number of fish and has therefore been discounted from further assessment.<br><br>HSI score = **SCOPED OUT** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |  |

# APPENDIX III
# WATERBODY PLAN






Key:

- 250m Buffer
- Site Boundary
- Waterbodies

Notes

| | | | | |
|---|---|---|---|---|
| Issue: 1 | Revision: 1 | Date: 18/09/2024 | Drawn: HB | Authorised: CK |
| Client: Oak Moss Property Services Limited | | | Job No. 81-960 | Date: 18/09/2024 |
| | | | Drawing No. 81-960-002 | Scale: 1: 3900 @ A4 |
| Job title: Davy Way, Llay | | | Drawing title: Waterbody Plan | |

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