LAND ADJACENT TO YSGOL PENDREF, DENBIGH

PRELIMINARY ECOLOGICAL APPRAISAL

(MAY 2021)



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EXECUTIVE SUMMARY

- Cheshire Ecological Services (CES), the commercial division of Cheshire Wildlife Trust, was commissioned to conduct a Preliminary Ecological Appraisal (PEA) of Land Adjacent to Ysgol Pendref, Denbigh, where a residential development is proposed.
- The survey was conducted on 20th May 2021 by CES Assistant Ecologist Grace Bishop
 Qualifying CIEEM. The purpose of the survey was to gain baseline ecological
 information of the site in order to assess its current status, to identify any ecological
 constraints to development, and to recommend further survey if necessary.
- The area of land requested to be surveyed total approximately 2.7 hectares and is hereafter referred to as the 'site'. The site is located on the outskirts of Denbigh, in North Wales.
- At the time of survey, the site comprised an agricultural field consisting of poor semiimproved grassland which was bounded by a species-poor and species-rich hedgerow.
- As part of the desk-based study, the Local Biodiversity Recording Centre, Cofnod, provided records of protected and Priority species occurring within 2km of the site, of which the data was filtered to show records within the last ten years.
- The site was generally of low ecological value with the exception of the species-rich hedgerow (H2), which has the potential to qualify as Important under the wildlife and landscape criteria of the Hedgerow Regulations 1997. A section of this hedgerow is proposed to be removed to facilitate the development.
- The habitat composition of the site was considered to have potential to support legally
 protected wildlife species, including nesting birds, brown hare and hedgehog. Great
 crested newts, badger and reptiles are considered likely to be absent from the site.
- However, for the avoidance of doubt, a number of recommendations are made in respect
 of the protection of badgers (pre-start check), bats (bat-friendly lighting scheme), and
 great crested newts (Reasonable Avoidance Measures).
- A number of recommendations are made with regard to the hedgerows on site, alongside recommended ecological enhancements such as the provision of integrated bird nesting features.

1.0 INTRODUCTION

- 1.1 Cheshire Ecological Services (CES), the commercial division of Cheshire Wildlife Trust, was commissioned to conduct a Preliminary Ecological Appraisal (PEA) of Land Adjacent to Ysgol Pendref, Denbigh where a residential development of 110 residential properties is proposed (Refer to Appendix A: Site Location Plan).
- 1.2 The PEA consisted of a desk-top study and an Extended Phase 1 Habitat Survey of the site. The purpose of the PEA was to gather baseline ecological information of the site in order to assess its current status, to identify any ecological constraints to development that may currently be associated with the site and/or the surrounding land, and to recommend further survey if necessary.
- 1.3 The survey was conducted by CES Assistant Ecologist Grace Bishop Qualifying CIEEM on 20th May 2021.
- 1.4 Weather conditions at the time of survey were cloudy with rain with a temperature of 11°C.

2.0 SITE DESCRIPTION

- 2.1 The survey was centred on OS grid reference SJ 04240 66131.
- 2.2 The area of land requested to be surveyed total approximately 2.7 hectares (27,280 m²), and is hereafter referred to as the 'site'. The site is located on the outskirts of Denbigh in North Wales (Refer to Appendix A: Site Location Plan).
- 2.3 At the time of the survey the site comprised a poor semi-improved grassland field bounded by an intact species-poor hedgerow, an intact species-rich hedgerow with trees and palisade fencing.
- 2.4 The site was bounded to the north by agricultural fields, to the east by the Ysgol (school) Pendref, to the south by the Gwaenynog road and to the west by agricultural fields.
- 2.5 Land-use in the wider area comprised of agricultural fields and the town of Denbigh.

3.0 SURVEY METHODS

3.1 The PEA comprises of a desk-based study and field survey.

Desk-based study

- 3.2 The desk-based study comprised consultation with the following consultees:
 - Defra's online mapping facility 'MAGIC'
 - Cofnod the local biological records centre for North Wales
 - Ordnance Survey OS mapping of the local and wider area
- 3.3 The desk-based study comprised consultation with Defra's online mapping facility 'MAGIC' to search for statutorily designated nature conservation sites within the local and wider area.
- 3.4 Cofnod was requested to provide information on non-statutory nature conservation sites and protected and Priority species within a 2km radius from the site boundary, within the past 10 years.
- 3.5 Ordnance Survey mapping of the local area was reviewed for the presence of habitats and features of potential ecological relevance to this survey, such as ponds.

Extended Phase 1 Habitat Survey

- 3.6 This survey involved the mapping of various habitat types on the site in addition to any habitat features and botanical species of conservation importance. A thorough walk-over survey was undertaken of the site. The methodology for this survey followed that described by the Joint Nature Conservation Committee (JNCC, 2010).
- 3.7 Priority habitats and species, for which there is a national or local Biodiversity Action Plan (BAP) and those listed under Section 42 of the Natural Environment and Rural Communities Act, 2006 (for Wales), were recorded as such where present. The Section 42 list of Priority habitats and species has now been superseded by the Section 7 list of the Environment (Wales) Act 2016, however, the lists are currently exactly the same and the two should therefore be considered interchangeable.
- 3.8 Preliminary searches were also carried out for legally protected and Priority species such as badgers, bats, reptiles and great crested newts (GCN) that may potentially use the site. Scientific names and the national status of vegetative species recorded follow Stace (2019). Scientific and common names are stated in the text.
- 3.9 All trees with features such as holes, cracks and crevices were assessed for their suitability to support roosting bats, and were categorised in accordance with the Bat Conservation Trust's (BCT) Bat Survey: Good Practice Guidelines, (2016). The guidelines outline the initial survey requirements of all trees, and where necessary, detail the required further actions and likely mitigation. Trees were allocated the following categories (based on an assessment of potential roost features when viewed from the ground), as contained in Table 1 below.

Table 1: Bat Roost Classification Guidelines

Suitability	Description – Roosting habitats	Commuting and foraging habitats	
Negligible	Buildings/trees with negligible habitat features to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats,	
Low	Buildings/trees with one of more potential roost sites that could be used by individual bats opportunistically, although they are unlikely to be suitable for maternity or hibernation roosting. This	Habitat that could be used by small numbers of commuting bats such as gappy hedgerows or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.	
	category also includes buildings/trees of sufficient size and age that elevated inspection may reveal features not previously identified, or features seen that have very limited roosting potential.	Suitable, but isolated habitat the could be used by small numbers foraging bats such as a lone tree (rin a parkland situation) or a patch scrub.	
Moderate	Buildings/trees with one or more potential roost sites to support roosting bats but unlikely to support a roost of high conservation status (with respect	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	
	to roost type only).	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.	
High	Buildings/trees with one of 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.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.	
		High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.	
		Site is close to and connected to known roosts.	

Survey Limitations

3.10 The observations made during this survey have been used to assess the presence, potential presence or likely absence of protected and Priority species within the proposed area of works, and to recommend further actions where required. It should

however, be noted that this survey serves as a single visit representing a 'snap-shot in time' whereby only the species present at the time of survey were recorded.

- 3.11 Positive evidence of species that use this site periodically or are in growth at different times of the year may not have been recorded. It is important to consider that the absence of a species from a particular survey does not necessarily indicate the absence (or continued absence) of that species from the area.
- 3.12 The survey was conducted inside of the optimal survey season for undertaking botanical assessment.

4.0 RESULTS

Desk-based Study

- 4.1 Defra's online mapping facility 'MAGIC' indicates that there are six statutorily designated nature conservation sites present within 5km of the site:
 - Coedydd Ac Ogofau Elwy A Meirchion Special Area of Conservation (SAC) located 3 km to the north west of the site.
 - Llwyn SAC located 4 km to the south east of the site.
 - Crest Mawr Wood Site of Special Scientific Interest (SSSI) located 0.8 km to the north east of the site.
 - Graig Quarry SSSI located 0.9 km to the north east of the site
 - Coedydd Ac Ogofau Elwy A Meirchion SSSI located 3 km to the north west of the site.
 - Llwyn SSSI located 4 km to the south east of the site.
- 4.2 Cofnod indicates that there are three non-statutorily designated nature conservation sites present within 1km of the site:
 - Coed Coppy Wildlife Site (WS) located approximately 0.8km to the north west of the site, at its closest point.
 - King's Mill /Afon Ystrad Woods located approximately 0.9km to the south of the site, at its closest point.
 - Denbigh Golf Course located approximately 0.9km to the north of the site, at its closest point.
- 4.3 Cofnod highlighted the presence of the following protected species and invasive species occurring within approximately 2km of the proposed development site since 2011:

Table 2: Protected & Priority Species records within 2km of the site since 2011.

Scientific name	Common name	Designations
Protected Species		
Meles meles	Badger	Bern, PBA, LBAP
Tyto alba	Barn Owl	Bern, CITES, WBA, WCA1.1, WCA9, LBAP
Populus nigra subsp. betulifolia	Black Poplar	LBAP
Chroicocephalus ridibundus	Black-headed Gull	S7, UKBA, WBR
Hyacinthoides non- scripta	Bluebell	WCA8
Fringilla montifringilla	Brambling	WCA1.1
Plecotus auritus	Brown Long-eared Bat	Bern, HDir, RD2(UK), S7, WCA5, LBAP
Ruscus aculeatus	Butcher's-broom	HDir, RD1(Wales)
Sinapis arvensis	Charlock	RD1(Wales)
Periparus ater	Coal Tit	Bern, WBA
Loxia curvirostra	Common Crossbill	Bern, WCA1.1
Pipistrellus pipistrellus	Common Pipistrelle	Bern, HDir, RD2(UK), S7, WCA5, LBAP
Cuculus canorus	Cuckoo	S7, UKBR, WBR, LBAP
Numenius arquata	Curlew	S7, UKBR, WBR, LBAP

Colontific name	Common name	Designations
Scientific name	Common name	Designations
Cinclus	Dipper	Bern, UKBA, WBA
Prunella modularis	Dunnock	Bern, S7, UKBA
Turdus pilaris	Fieldfare	UKBR, WBA, WCA1.1
Regulus	Goldcrest	Bern, WBA
Tringa ochropus	Green Sandpiper	Bern, UKBA, WCA1.1
Picus viridis	Green Woodpecker	Bern, WBA, LBAP
Perdix perdix	Grey Partridge	S7, UKBR, WBR, LBAP
Lepus europaeus	Hare	S7, LBAP
Erinaceus europaeus	Hedgehog	Bern, S7
Larus argentatus	Herring Gull	S7, UKBR, WBR, LBAP
Falco subbuteo	Hobby	Bern, CITES, WBA, WCA1.1, LBAP
Delichon urbicum	House Martin	Bern, UKBA, WBA
Passer domesticus	House Sparrow	S7, UKBR, WBA
Alcedo atthis	Kingfisher	BDir1, Bern, UKBA, WBA,
70000 0	Tanighono	WCA1.1, LBAP
Vanellus	Lapwing	S7, UKBR, WBR, LBAP
Larus fuscus	Lesser Black-backed	UKBA, WBA, LBAP
	Gull	
Rhinolophus	Lesser Horseshoe	Bern, HDir, RD2(UK), S7, WCA5,
hipposideros	Bat	LBAP
Acanthis cabaret	Lesser Redpoll	S7, UKBR, WBR, LBAP
Sylvia curruca	Lesser Whitethroat	LBAP
Populus nigra 'Italica'	Lombardy-Poplar	LBAP
Aegithalos caudatus	Long-tailed Tit	WBA
Poecile palustris	Marsh Tit	Bern, S7, UKBR, WBR, LBAP
Anthus pratensis	Meadow Pipit	Bern, UKBA, WBA
Myotis	Myotis Bat Species	Bern, HDir, WCA5, LBAP
Nyctalus noctula	Noctule Bat	Bern, HDir, RD2(UK), S7, WCA5, LBAP
Falco peregrinus	Peregrine	BDir1, Bern, CITES, WCA1.1
Pipistrellus	Pipistrellus Bat Species	WCA5, LBAP
Mustela putorius	Polecat	Bern, HDir, RD2(UK), S7
Lithospermum	Purple Gromwell	RD1(Wales), RD2(UK), LBAP
purpureocaeruleum	·	, , , , ,
Lagopus	Red Grouse	S7, UKBA, WBR, LBAP
Milvus milvus	Red Kite	BDir1, CITES, WBA, WCA1.1, WCA9
Phoenicurus phoenicurus	Redstart	Bern, UKBA, WBA, LBAP
Turdus iliacus	Redwing	UKBR, WBA, WCA1.1
Crepis biennis	Rough Hawk's-beard	RD1(Wales)
Alauda arvensis	Skylark	S7, UKBR, WBA, LBAP
	•	
Anguis fragilis	Slow-worm	Bern, S7, WCA5, LBAP
Coenonympha pamphilus	Small Heath	RD1(UK), S7
Coenonympha	Small Heath	RD1(UK), S7
pamphilus	5	
Silene gallica	Small-flowered	RD1(UK), RD1(Wales),
S. S. IS Gamoa	Catchfly	RD2(UK), S7
Turdus philomelos	Song Thrush	Bern, S7, UKBR, WBA, LBAP
Pipistrellus pygmaeus	Soprano Pipistrelle	Bern, HDir, RD2(UK), S7, WCA5,
, ipidu dilud pygiriadus		LBAP

Scientific name	Common name	Designations
Sturnus vulgaris	Starling	Bern, S7, UKBR, WBR
Helleborus foetidus	Stinking Hellebore	RD2(UK), LBAP
Hirundo rustica	Swallow	Bern, WBA
Apus	Swift	UKBA, WBA
Anthus trivialis	Tree Pipit	Bern, S7, UKBR, WBA, LBAP
Lasiommata megera	Wall	RD1(UK), S7
Meconopsis cambrica	Welsh Poppy	RD2(UK), LBAP
Myotis	Whiskered/Brandt's	Bern, HDir, WCA5, LBAP
mystacinus/brandtii	Bat agg.	
agg.		
Sylvia communis	Whitethroat	WBA
Poecile montana	Willow Tit	Bern, S7, UKBR, WBR, LBAP
Phylloscopus trochilus	Willow Warbler	UKBA, WBR
Scolopax rusticola	Woodcock	UKBR, WBA, LBAP
Emberiza citrinella	Yellowhammer	Bern, S7, UKBR, WBR, LBAP
Invasive Species		
Gunnera tinctoria	Giant-rhubarb	WCA9
Impatiens glandulifera	Himalayan Balsam	WCA9
Cotoneaster simonsi	Himalayan	WCA9
	Cotoneaster	
Fallopia japonica	Japanese Knotweed	WCA9
Crocosmia pottsii x	Montbretia	WCA9
aurea = C. x		
crocosmiiflora		
Lamiastrum	Variegated Yellow	WCA9
galeobdolon subsp.	Archangel	
argentatum		
Cotoneaster		WCA9
horizontalis	Wall Cotoneaster	

Note: All species names and designations provided by Cofnod.

Designations key:

UKBR - RSPB UK Birds Red List (not based on IUCN criteria)

WBR - RSPB Welsh Birds Red List (not based on IUCN criteria)

LBAP - Local Biodiversity Action Plan species for Denbigh

WBA - RSPB Welsh Birds Amber List (not based on IUCN criteria)

RD1/2(UK) - Red Data Book listing for the UK not based on IUCN guidelines

RD1 (Wales) - Red Data Book listing for Wales not based on IUCN guidelines

INNS - Invasive Non-native Species

WCA1.1 - Wildlife & Countryside Act 1981 Schedule 1.1 (Birds which are protected at all times)

WCA5 - Wildlife & Countryside Act 1981 Schedule 5

WCA8 – Wildlife ^ Countryside Act 1981 Schedule 8

WCA9 - Wildlife ^ Countryside Act 1981 Schedule 9

Bern – Bern Convention on the Conservation of European Wildlife and Natural Habitats

UKBA - RSPB UK Birds Amber List (not based on IUCN criteria)

CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora

Bern - Bern Convention on the Conservation of European Wildlife and Natural Habitats

HDir – Habitats Directive Council Directive 92/43/EEC of 21 May 1992

BDir - Birds Directive 79/409/EEC in April 1979 Annex 1

PBA - Protection of Badgers Act 1992

4.4 A number of other species records were provided but have not been included in this report as it is considered highly unlikely that they would be associated with the proposed development site. For example, numerous records of waterbirds and red squirrel (Sciurus vulgaris) were provided. Given the habitat composition of the site and its distance from suitable habitat, it is considered highly unlikely that the proposed development would impact upon such species.

4.5 Cofnod highlighted the presence of restored Semi-Natural Ancient Woodland BAP Priority habitat located within 2km of the site. The nearest site being approximately 0.3km south of the site (refer to Appendix A).

Fieldwork

4.6 Features of interest recorded on the site during this survey are described in the Target Notes (TN) below. All numbered Target Notes correspond with the Phase 1 Habitat Map (Appendix B). Photographic plates are presented within Appendix C respectively.

Target Notes

- TN1 Hedgerow H1 Intact species-poor (Plates 1)
- TN2 Hedgerow H2 Intact species-rich with Trees (Plate 2)
- TN3 Ash Tree within Hedgerow H2 (Plate 3)
- TN4 Elm Trees within Hedgerow H2 (Plate 4)

5.0 DISCUSSION

Designated Sites

- 5.1 The nearest statutory designated site is Crest Mawr Wood Site of Special Scientific Interest (SSSI) located 0.8 km to the north east of the site. The site is designated for its ancient woodlands. This site is considered sufficiently distant from the proposed site to avoid any impacts from development and is not functionally linked to the development site. However, indirect impacts, such as increased visitor numbers are possible should the SSSI be publically accessible.
- 5.2 The remaining statutory designated sites are also at considerable distance from the site and not functionally linked. It is considered unlikely that the proposed development would adversely affect the status of these important sites.
- 5.3 The closest non-statutory designated site is Coed Coppy Wildlife Site (WS), which is located approximately 0.8km to the north-west of the site, at its closest point. It is considered unlikely that the proposed development would adversely affect the status of this important site due to the low value habitats on the development site and apparent lack of habitat connectivity between the sites.
- 5.4 The closest Priority habitat is the semi-natural ancient woodland approximately 0.3km south of the site. The site is not functionally connected to this area of ancient woodland and is separated from the site by Gwaenynog Road (B5382). It is considered unlikely that the proposed development would adversely affect the status of this important site.
- 5.5 The remaining semi-natural ancient woodlands are also located at considerable distance from the site and it is considered unlikely that the proposed development would adversely affect the status of these important sites.

Habitats

Species Poor Semi-improved Grassland (Plate 5)

5.6 The site comprised of an agricultural grassland field consisting of species-poor semi-improved grassland. The grassland had evidence of recent cattle grazing. The sward was dominated by grasses with limited herbaceous species, and included meadow foxtail (*Alopecurus pratensis*), Yorkshire fog (*Holcus lanatus*), perennial rye (*Lolium perenne*) common dandelion (*Taraxacum officinale*), creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*) and chickweed (*Stellaria media*). There were also ruderal species present; broad-leaved dock (*Rumex obtusifolius*) and creeping thistle (*Cirsium arvense*).

Field boundaries (Plate 6)

5.7 There was a metal palisade fence along the north eastern boundary of the site, defining the boundary between the site and the neighbouring school.

Hedgerows (Plates 1, 2, 3 & 4)

- 5.8 Two hedgerows were present on site; as described below:
 - H1 Intact Species-Poor Hedgerow (Plate 1). The hedgerow is along the northern boundary and had recently been flailed, and is approximately 120m in length. The woody species within the hedge included elder (Sambucus nigra), hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa).
 - **H2 Intact Species-Rich Hedgerow with Trees (Plates 2, 3 & 4).** The hedgerow formed a significant part of the south-western and south-eastern site boundaries, and was approximately 300m in length. The woody species within the hedge included elder, hawthorn, blackthorn, holly (*Ilex aquifolium*), ash (*Fraxinus excelsior*), and sycamore (*Acer pseudoplatanus*). The hedge had a single ash tree in the southern corner of the site and a row of elm (*Ulmus sp.*) trees in the eastern corner of the site.
- 5.9 It is concluded that Hedgerow H2 could potentially qualify as Important under the Wildlife and Landscape criteria of the Hedgerow Regulations, 1997 on account of the diversity of woody species and/or associated features. A section of Hedgerow H2 is proposed to be removed to create a new vehicular entrance (Site Layout: Revision H). It is possible that the Local Planning Authority may require a detailed hedgerow survey to be undertaken to determine the hedgerow's status in regard to the Hedgerow Regulations (1997).
- 5.10 Hedgerow H1 is unlikely qualify as Important under the Wildlife and Landscape criteria of the Hedgerow Regulations, 1997 because of its lack of woody species. It should however be noted that hedgerows over thirty years old can be protected by the Regulations for a number of other factors such as historical and archaeological interest. It is not the place of this ecological report to assess such other factors.
- 5.11 A hedgerow assessment differs from the Phase 1 hedgerow classification as it is far more detailed. It assesses each 30m stretch of hedgerow, looking at species diversity, associated features and management regimes. Even if the further surveys determine that the hedgerows are not ecologically important (under the Regulations), it is recommended that they be retained wherever possible.
- 5.12 Hedgerows comprising 80% or more of locally native woody species qualify as Priority habitat and those which meet certain criteria are protected under the Hedgerow Regulations 1997.
- 5.13 It is recommended that any new hedgerow planting associated with the proposed development should contain a minimum of five of the following species: Common hawthorn, field maple (*Acer campestre*), alder (*Alnus glutinosa*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), field rose (*Rosa arvensis*) wild cherry (*Prunus avium*), holly and guelder rose (*Viburnum opulus*).

Features of Ecological Importance

- 5.14 The site habitats are generally of low ecological importance. However, the following features were considered to be of ecological importance at the site level or higher:
 - Hedgerows H1 & H2 (site ecological importance)
- 5.15 Although not necessarily afforded legal protection, it is recommended that where practicable, the above features of ecological importance should be retained and sufficiently protected during development works.
- 5.16 The habitat composition of the site has potential to support legally protected and Priority wildlife species. It was not within the scope of this survey to carry out detailed searches for protected species, although the potential for the study site to support the following species is discussed below:
 - Badger
 - Barn owl
 - Bats
 - Birds
 - Brown Hare
 - Great crested newt and other amphibians
 - Hedgehog
 - Invasive species
 - Invertebrates
 - Polecat
 - Reptiles

Legislation relating to each species discussed in this report is presented in Appendix D – Legislation. No other legally protected species are considered likely to be associated with the proposed development site due to a lack of suitable habitat on, and surrounding the site.

<u>Badger</u>

- 5.17 Badgers and their setts are protected under British law. Therefore, surveys are required to check for the presence of badgers or their setts if they are likely to be disturbed for any reason. Statutory guidance indicates that a licence may be required if potentially disturbing works are to take place within 30m of a badger sett.
- 5.18 Cofnod provided details of badgers occurring within 2km of the proposed development site since 2011.
- 5.19 At the time of the survey no badger activity was observed nor were any setts identified within or adjacent to the site. However, the site offers suitable foraging habitat within the species-poor semi-improved grassland as well as some sett creation habitat along the hedgerows.

- 5.20 It is likely that badgers are present within the local area. Consequently, it is appropriate to recommend that the development proceeds under the following scheme of Reasonable Avoidance Measures (RAMs) for the protection of badgers.
- 5.21 The badger RAMs detailed below should be implemented during development works and may be secured by means of planning condition(s):
 - a) Prior to commencing development at the site, a suitably experienced consultant ecologist should be appointed by the developer to ensure that the badger RAMs are successfully implemented.
 - b) As badgers are a highly mobile species and can quickly create new setts, a precommencement check of the site should be undertaken by the appointed ecologist, no more than one month prior to the commencement of development activities at the site, in order to ensure the status of badgers at the site has not changed and that no setts are present on or within 30m of the working area.
 - c) Wherever practicable, excavations should be made good to ground level at the earliest opportunity so as to remove any hazard to badgers or other wildlife that may inadvertently stray on to the construction site.
 - d) Should any excavations be required to be left open at night, they should be covered with boards or similar. Alternatively, for shallower excavations that cannot easily be covered, a means of escape (e.g. a wooden ramp or plywood, etc.) should be provided.
- 5.22 If evidence of badger sett building activity is recorded on or adjacent the working area (i.e. within 30m) during the development works, work should cease and CES be contacted for advice.

Barn owl

- 5.23 Barn owls receive special protection under Schedule 1 of the Wildlife & Countryside Act, 1981 (as amended). In addition to the protection afforded to all wild birds under Section 1 of the Act, species listed on Schedule 1 also receive special legal protection when breeding; making it an offence to intentionally or recklessly disturb any wild barn owl whilst it is at or near a nest containing eggs or young, or disturb the dependent young of such a bird. Barn owls nest and roost in buildings and within deep cavities in trees, and will readily utilise nest boxes where available.
- 5.24 Cofnod provided details of Barn Owl occurring within around 2km of the site since 2011.
- 5.25 The on-site trees within the hedgerows do not offer suitable nesting opportunities for barn owl, as the trunk diameters of the trees are too small for sufficiently-sized cavities to form. The poor semi-improved grassland field is categorised as Type 3 habitat (Shawyer 2011); offering limited suitability for foraging due to the current agricultural management of the grassland and the structure/diversity of the sward.
- 5.26 Consequently, no further survey effort in respect of this species is considered necessary.

Bats

- 5.27 All British bat species are protected under both European and British law. Therefore, surveys are required to check for their presence in areas where bats or their roosts are likely to be disturbed for any reason.
- 5.28 Bats roost in buildings and mature trees, where they rest, give birth, raise young and hibernate. Buildings provide a choice of safe, dry places and can present a whole range of potential roost sites such as within wall cavities, eaves or roofs.
- 5.29 Some bat species rely exclusively on trees for roost sites; others use them for only part of the year. The importance of trees to bats depends on species, season and foraging behaviour. Even in winter, deep cavities can provide protection against bad weather and fluctuations in temperature. Furthermore, trees and hedgerows, especially native ones, can host many species of insects, which are food for bats, and can also aid bat navigation.
- 5.30 Cofnod provided details of common and soprano pipistrelle bats occurring within around 2km of site since 2011.
- 5.31 No buildings are present within the site and none are due to be affected by the proposed development.
- 5.32 There were six trees associated with Hedgerow 2; a single ash and a line of elm trees. The trees were semi-mature and were in good condition. The trees had Negligible bat roost potential (refer to Table 1).
- 5.33 The hedgerows along the site boundaries offer Moderate suitability for commuting and foraging bats. The site is connected to the wider landscape through hedgerows, small streams and broadleaved woodlands. The majority of Hedgerow 1 & 2 will be retained (Site Layout: Revision H), maintaining connectivity between the site and habitat in the surrounding area.
- 5.34 It is recommended that any lighting of the proposed development site should be kept to a minimum, and every effort should be made to reduce light spillage onto the hedgerows.
- 5.35 If the above recommendation for a bat-friendly lighting scheme can be built into the development, no further survey effort in respect of these species is considered necessary.

Birds

- 5.36 All species of wild bird, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act, 1981 (as amended). Therefore, surveys are required to check for their presence where they are likely to be disturbed for any reason.
- 5.37 Cofnod provided details of protected bird species occurring within around 2km of site since 2011.

- 5.38 The grassland field is of low/negligible suitability for ground nesting birds on account of the homogenous sward offering little in the way of camouflage or cover (required by species such as lapwing and skylark). All woody vegetation on site has potential to support nesting birds. The retention of hedgerows and trees will help reduce the potential development impacts on breeding birds.
- 5.39 It is recommended that all site preparation works, including vegetation removal, be conducted between September and February (i.e. outside of the 'core' nesting bird season, which generally encompasses March to August inclusive). If this is not possible and works are required to be conducted during the 'core' bird nesting season, CES should be contacted and a nesting bird survey be conducted prior to any potentially disturbing works taking place. In the event that nesting birds are found to be present, an appropriate mitigation strategy should be formulated and implemented.
- 5.40 It is also acknowledged that birds may nest outside the 'core' nesting bird season, and as such, due diligence must be shown by site staff or contractors when undertaking vegetation clearance activities outside this time. Should an active nest be suspected, vegetation clearance works should cease and CES contacted for advice.
- 5.41 Bird boxes should be erected on existing trees and are recommended to be integrated within the new residential properties. Nest boxes should be of the design suitable for Priority species, such as house sparrow and starling. House sparrow nest boxes comprise a hole of 32mm diameter and starling 45mm in diameter. Supplementary Planning Documents for other LPA districts required 30% of units to feature integrated bird nesting features. This is recommended.

Brown hare

- 5.42 Brown hare are a Local and UK BAP Priority species, and is listed on Section 7 of the Environment (Wales) Act.
- 5.43 Brown hare are associated with farmland habitats, such as those found at the site, where they feed on grass shoots and utilise areas of tall vegetation for cover.
- 5.44 Cofnod provided details of brown hare occurring within around 2km of the proposed development site since 2011.
- 5.45 As the site contains suitable grassland it is therefore recommended that care be taken to avoid causing harm to any brown hares or their leverets that may be present. This may be achieved by covering excavations overnight, and commencing soil strip / site clearance in such a way that animals are able to disperse from the site into other areas of suitable habitat. Prior to site clearance, the grass on site should maintained with a short sward height (<10cm) until development works begin. This should deter brown hares from breeding on the site.
- 5.46 If brown hares or leverets are discovered during development works, CES should be contacted for advice. No further survey effort in respect of this species is considered necessary.

Great crested newt and other amphibians

- 5.47 GCN are protected under both European and British law. Adult GCN predominantly live terrestrially, but utilise ponds for breeding purposes during the spring and summer months. Statutory guidance indicates that a survey may be necessary to check for the presence of GCN if background information on distribution suggests that they may be present. Detailed indicators include:
 - Any historical records for GCN on the site, or in the general area
 - A pond on or near the site (within around 500m), even if it holds water only seasonally. Note that muddy, cattle-poached, heavily vegetated or shady ponds, ditches and temporary flooded hollows can be used by GCN
 - Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland or hedgerows within 500m of a pond
- 5.48 However, the terrestrial range of GCN from their breeding ponds is typically considered to be within 250m where suitable terrestrial habitat is present within proximity of the ponds.
- 5.49 Cofnod provided details of great crested newt (*Triturus cristatus*) within 2km of the proposed development site since 2011. There was one record for GCN approximately 437m north-east of the site, recorded within Pond 2 as shown on the Site Location Plan (Appendix A). Cofnod showed two recordings at this location, one in 1993 and a more recent record in 2014.
- 5.50 The proposed development site did not have any ponds within its boundary.
- 5.51 OS mapping highlighted the presence of two ditches (Ditch 1 & 2) within 250m of the site boundary and a further three ponds (Ponds 1, 2 & 3) and one ditch (Ditch 3) within 500m of the site boundary (refer to Appendix A).
- 5.52 Ditches 1, 2 and 3 appear to be narrow flowing ditches associated with agricultural fields or woodlands. Flowing diches typically offer limited / negligible suitability for GCN.
- 5.53 Ponds 1 and 2 are associated with a farm and agricultural fields, and separated from the site by Ffordd Coppy Road. Pond 3 is associated with Ditch 2 and appears to be very small. All of these ponds are over 250m from the proposed development area.
- 5.54 The site offers very limited terrestrial shelter habitat for GCN within the species-poor semi-improved grassland. However, when development activities commence, the storage of materials and movement of spoil is likely to incidentally create suitable shelter opportunities for GCN/amphibians, where they could take refuge and be harmed as a consequence of construction works.
- 5.55 It is therefore considered appropriate to recommend that the following Reasonable Avoidance Measures are implemented during the construction phase for the avoidance of impacts on GCN/amphibians:

- a) It is recommended that the areas of grassland at the proposed development area should be maintained at a short level. This should discourage amphibians from the proposed development area.
- b) The working area, together with any on-site storage/lay down areas, should be kept clear of debris and, where practicable, stored materials should be kept off the ground on stillages or pallets so as to prevent amphibians from seeking shelter or protection under/within them.
- c) Where materials need to be delivered to the site for immediate use and/or temporary storage, care should be taken not to cause unnecessary or inadvertent damage or disturbance to neighbouring habitat.
- d) Any skips or bins, if used, should ideally be stored on baulks of timber to keep them off the ground so as to prevent amphibians from seeking shelter under them.
- e) In the event that spoil needs to be removed from the site, it should be taken away at the earliest opportunity for appropriate disposal.
- f) Should any excavations be left open overnight for any reason, the excavations should be searched and checked for sheltering amphibians before works recommence.
- g) All open excavations should ideally incorporate soil 'ramps' at either end to allow amphibians, and small mammals falling into them to escape. All excavations that are left open overnight should first be checked for the potential presence of amphibians / other animals before in-filling.
- h) The RAMs DO NOT allow for GCN to be captured and moved from the site. In the event that GCN are found within the working area, work must stop and the CES be contacted immediately for advice on how to proceed.

<u>Hedgehog</u>

- 5.56 Hedgehog are a UK BAP Priority species and listed on Section 7 of the Environment (Wales) Act. Hedgehogs favour mosaic habitats such as scrub, woodland edges and mature gardens, where they can forage amongst short vegetation and shelter in dense scrub and amongst cover objects.
- 5.57 Cofnod provided details of hedgehog occurring within approximately 2km of the proposed development site since 2011.
- 5.58 The hedgerows on site were considered to offer hedgehog with suitable foraging and shelter habitat. Development at the site has the potential to impact upon hedgehogs, therefore it is recommended that all woody and scrub vegetation (standing or fallen) to be affected by the works be removed by hand prior to any potentially disturbing works taking place. These measures should be sufficient in discouraging and/or displacing hedgehogs from the working areas.

5.59 Upon completion of the development, it is also recommended that hedgehogs be able to gain access to the gardens through a series of holes/gaps if close-panel fencing or walls are to be used; although ideally boundaries would comprise hedgerows. Gaps should be at ground level, approximately 13cm by 13cm, and incorporated in to each garden.

Invasive Species

- 5.60 Cofnod provided details of a number of invasive species occurring within around 2km of the proposed development site. A number of these species are listed under Schedule 9, Part II of the Wildlife and Countryside Act 1981. As such, it is an offence under section 14(2) of the Act to plant this species or to cause it to grow in the wild.
- 5.61 At the time of the survey, no invasive species were identified on site. No further survey effort in respect of Invasive Non-Native Species (INNS) species is considered necessary.

Invertebrates

- 5.62 Cofnod provided details of Small Heath and Wall butterflies occurring within 2km of the site since 2011, Section 7 species of the Environment (Wales) Act.
- 5.63 The foodplant of small heath caterpillars consist of grasses like fescues (*Festuca spp.*), meadow-grasses (*Poa spp.*) and bents (*Agrostis spp.*). The foodplant of the wall caterpillar includes more common grasses such as cock's foot (*Dactylis glomerata*) and Yorkshire fog.
- 5.64 The site is considered to offer some suitable habitat for both of these species. However, given the common occurrence of these foodplants combined with the poor structural diversity of the site's grassland, the site is not likely to act as an important resource for either of these butterfly species, or other invertebrates at the local level or above. Consequently, no further survey effort in respect of invertebrates is currently considered necessary.

Polecat

- 5.65 Polecats are a UK and Local Biodiversity Action Plan (BAP) species and are listed on Section 7 of the Environment (Wales) Act.
- 5.66 Polecats occur in a wide range of habitats, including woodland, farmland, grassland and hedgerows, preferring lowland areas including valleys and farms within Wales. Polecats will often make dens in rabbit burrows throughout the summer.
- 5.67 Cofnod provided one record of a polecat in 2013 occurring within approximately 1.7km south east of the development site.
- 5.68 The site does offer suitable foraging habitat for polecats within the hedgerows and grassland field. However, the site offers little in the way of resting or sheltering habitat.
- 5.69 No further specific survey effort in respect of this species is currently considered necessary as the recommendations made in respect of brown hare and hedgehogs should also provide protection for this species.

Reptiles

- 5.70 All six species of British reptile are protected against intentional killing, injury or sale under Schedule 5 of the Wildlife and Countryside Act, 1981. The sand lizard and smooth snake are afforded a higher degree of protection under European law, which, amongst other things, makes it an offence to damage, destroy or obstruct their places of shelter or disturb these species in such a place. However, the distribution of these species is limited, and is largely restricted to a few southern counties in England, with the exception of some coastal sites in Merseyside and North Wales which support populations of sand lizard.
- 5.71 The distribution of the remaining 'common' species (i.e. adder, grass snake, slow worm and common lizard) is widespread. With some variation between species, reptiles prefer undisturbed habitats with open areas for basking and warmth, and more vegetated areas for shelter and feeding. They shelter and hibernate in crevices underground, such as within old mammal burrows, cracks within concrete bases and within spoil/rubble mounds.
- 5.72 Cofnod provided details of slow-worm occurring within 2km of the proposed development site since 2011.
- 5.73 The site is predominantly of low habitat suitability for slow worm and other widespread reptiles given the homogenous sward of the grassland which offers little in the way of shelter or cover. However, the hedgerows are of some increased suitability offering shelter, basking and dispersal opportunities.
- 5.74 It is considered unlikely that slow worm or other reptiles are present on site, however the presence of low numbers is possible, although not likely.
- 5.75 It is considered that the Reasonable Avoidance Measures recommended in respect of GCN (refer to paragraph 5.56) would provide sufficient protection for any slow worm / other reptiles that may potentially be discovered on site. However, if slow worm or other reptile species are discovered on site, work should cease and CES be contacted for advice.

6.0 SUMMARY RECOMMENDATIONS TABLE

Species	Species potentially associated with the site/s?	Further survey effort required?	Survey timing	Recommendations
Badger	Yes	No	-	Badger Reasonable Avoidance Measures should be implemented during development works, including a pre-commencement check.
Barn owl	No	No	-	-
Bats	Yes	No	-	It is recommended that any lighting of the proposed development site should be kept to a minimum, and every effort should be made to reduce light spillage onto the hedgerows.
Birds	Yes	Potentially: Nesting bird surveys will be required if vegetation removal works are to take place between March & September.	March - September	Vegetation removal works should take place outside of the bird breeding season (i.e. October – February). A survey will not be required if potentially disturbing works are undertaken during this period.
Brown hare	Yes	No	-	Grassland on site should be kept low (<10cm) to deter brown hare from using the site.
Great crested newt and other amphibians	Yes	No	-	Recommend Best Practice Measures are implemented during the construction phase for the avoidance of impacts on GCN/amphibians.
Hedgehog	Yes	No	-	Where possible, all woody/scrub vegetation to be affected should be removed by hand prior to potentially disturbing works taking place.
Invasive	No	No	-	-
Invertebrates	Yes	No	-	-
Polecat	Yes	No	-	The recommendations made in respect of brown hare and hedgehogs should provide protection for this species.
Reptiles	No	No	-	-

Species	Species potentially associated with the site/s?	Further survey effort required?	Survey timing	Recommendations
Hedgerows	On site	Yes: Hedgerow H2 should be subject to a detailed hedgerow assessment if it is to be lost/impacted by the proposed development. Recommendations relating to nesting bird are discussed separately.	April - October	No potentially disturbing works should take place until the results of the hedgerow assessment are known.
Recommendations for enhancement	 Ten bird boxes should be erected across the site, to compensate for the potential loss of hedgerows and the ash tree. The landscape plan should include the creation of additional hedgerows to compensate for the loss of hedgerows on site. These hedgerows should derive from a minimum of five woody species. 			

7.0 REFERENCES

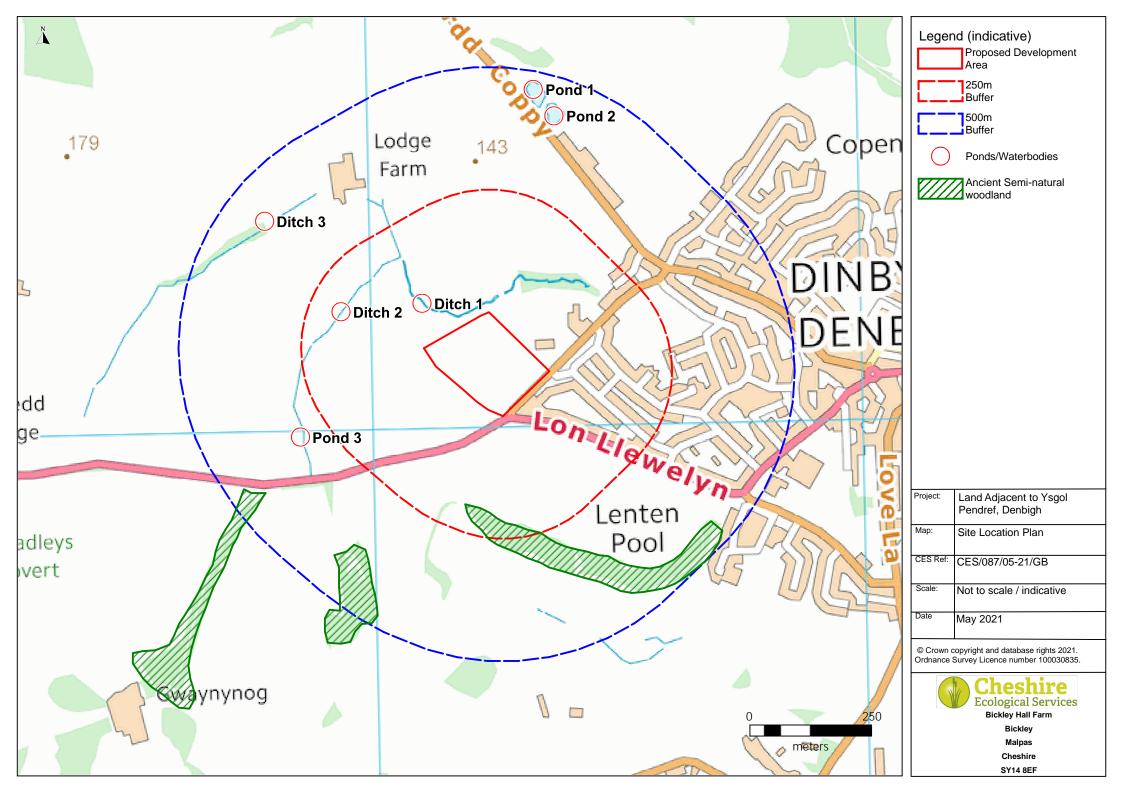
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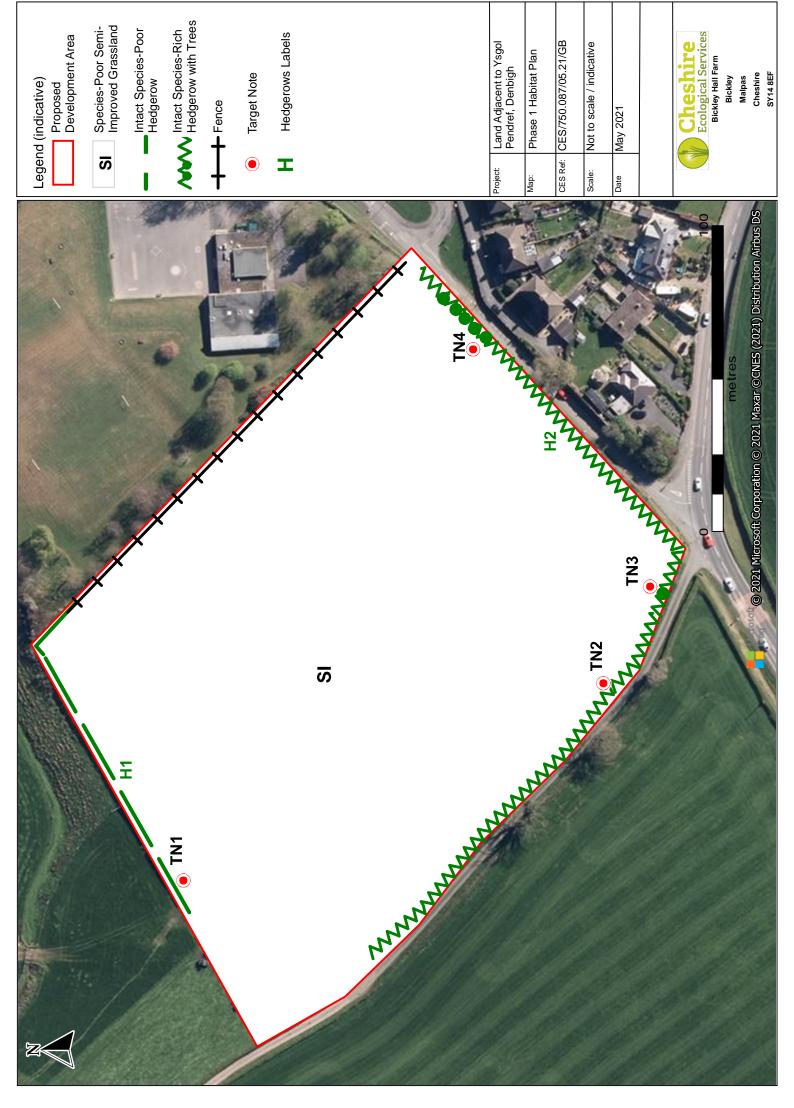
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Appendix A: Site Location Plan



Appendix B: Extended Phase 1 Habitat Map



Appendix C: Photographic Plates



Plate 1: Intact Species-Poor Hedgerow (H1)



Plate 2: Intact Species-Rich Hedgerow with trees (H2)



Plate 3: Ash Tree within Intact Species-Rich Hedgerow with trees (H2)



Plate 4: Elm Trees within Intact Species-Rich Hedgerow with trees (H2)



Plate 5: Species Poor Semi-improved Grassland



Plate 6: Field boundaries

Appendix D: Legislation

Species/Habitat	Protected by:	UK BAP	Local BAP
Badger	Protection of Badgers Act, 1992	No	Yes
Barn owl	Schedule 1, Part 1 of the Wildlife and Countryside Act, 1981	No	Yes
Bats	Regulation 42 of The Conservation of Habitats and Species Regulations, 2017	Dependent on species	Dependent on species
	Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)		
	Section 7 of the Environment (Wales) Act 2016		
Bluebell	Schedule 8 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No	Yes
Brown hare	Section 7 of the Environment (Wales) Act 2016	Yes	Yes
Butterflies & Moths	Section 7 of the Environment (Wales) Act 2016	Dependent on species	Dependent on species
Common frog	Provision 5 of Section 9 of the Wildlife and Countryside Act, 1981 (as amended)	No	
Common toad	Provision 5 of Section 9 of the Wildlife and Countryside Act, 1981 (as amended)	Yes	
	Section 7 of the Environment (Wales) Act 2016		
Cotoneaster	Section 14 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No	No
Great crested newt	Regulation 42 of <i>The Conservation of Habitats</i> and Species (Amendment) Regulations, 2017 Section 9 of the Wildlife and Countryside Act,	Yes	Yes
	1981 (as amended)		
Hodgobogo	Section 7 of the <i>Environment (Wales) Act 2016</i> Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	No
Hedgehogs Hedgerows	The Hedgerows Regulations, 1997	Yes	Yes
Invasive species	Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	103	103
Nesting birds	Section 1 of the Wildlife and Countryside Act, 1981	Dependent on species	Dependent on species
Otters	Regulation 41 of The Conservation of Habitats and Species Regulations, 2017	Yes	Yes
	Section 5 of the <i>Wildlife and Countryside Act</i> , 1981		
Polecat	Section 6 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	Yes	Yes
	Section 7 of the Environment (Wales) Act 2016		
Water vole	Section 9 of the Wildlife and Countryside Act, 1981 (as amended)	Yes	Yes
'Widespread'	Section 7 of the <i>Environment (Wales) Act 2016</i> Provisions 1 and 5 of Section 9 of the <i>Wildlife and</i>	Yes	Dependent
vviuespieau	I TOVISIONS I AND 3 OF SECTION 3 OF THE WHOME AND	169	Dehement

reptiles	Countryside Act, 1981 (as amended)	on species
	Section 7 of the Environment (Wales) Act 2016	

The Conservation of Habitats and Species Regulations, 2017

European protected species are listed on Schedule 2 of the *Conservation of Habitats and Species Regulations* 2010. Those species listed on Schedule 2 are protected under Regulation 41, which refers to the protection of wild animals of a European Protected Species. The following is a summary of the offences listed under Regulation 41, however, the *Conservation Regulations* should always be referred to for the exact and current wording:

Under Regulation 41 of the *Conservation of Habitats and Species Regulations*, 2010 it is an offence to –

- deliberately capture or kill a wild animal of a European protected species;
- deliberately disturb wild animals, in particular any disturbance which is likely:
 - o to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or
 - to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - to affect significantly the local distribution or abundance of the species to which they belong
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.

Wildlife and Countryside Act, 1981 (as amended)

British protected species of animal are listed on Schedule 5 of the *Wildlife and Countryside Act*, 1981 (as amended). Those species listed on Schedule 5 are protected under Part 1, Section 9, which refers to the protection of certain wild animals. The following is a summary of the offences listed under Section 9; however the Act should always be referred to for the exact and current wording:

Under Section 9 of the Wildlife and Countryside Act, 1981 (as amended) if any person -

- intentionally kills, injures or takes any wild animal included in Schedule 5;
- has in his possession or control any live or dead wild animal included in Schedule 5 or any part of, or anything derived from such an animal;
- intentionally or recklessly damages or destroys, or obstructs access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection;
- disturbs any such animal included in Schedule 5 while it is occupying a structure or place which it uses for that purpose;
- sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in Schedule 5, or any part of, or anything derived from, such an animal; or,

 publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things, he shall be guilty of an offence.

Wildlife and Countryside Act, 1981 (as amended) - Birds

All species of wild bird, their nests and eggs are protected under Section 1 of the *Wildlife and Countryside Act*, 1981 (as amended); therefore surveys are required to check for their presence where they are likely to be disturbed for any reason.

The following is a summary of the offences listed under Section 1; however the Act should always be referred to for the exact and current wording:

Under Section 1 of the Wildlife and Countryside Act, 1981 (as amended), if any person:

- Intentionally kills, injures or takes any wild bird;
- Intentionally takes, damages or destroys the nest of any wild bird while that nest is in use or being built;
- Intentionally takes or destroys an egg or any wild bird, he shall be guilty of an offence;
- Has in his possession or control any live or dead wild bird or any part of, or anything derived from, such a bird; or
- Has in his possession or control an egg of any wild bird or any part of such an egg, he shall be guilty of an offence.

Schedule 1 (Part 1 and Part 2) of the *Wildlife and Countryside Act*, 1981 (as amended) lists bird species that receive special attention under Section 1. Any person convicted of an offence listed above, in respect of a bird included in Schedule 1 or any part of, or anything derived from, such a bird; the nest of such a bird; or an egg of such a bird or any part of such an egg, shall be liable to a special penalty.

Also, if any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturbs dependent young of such a bird, he shall be guilty of an offence and liable to a special penalty.

Schedules 1, 2, 3 and 4 of the *Wildlife and Countryside Act*, 1981 (as amended) list different species of bird and different Parts of Section 1 of the Act refer to different offences which may be committed in relation to the varying Schedules. The following is a summary of the type of protection offered to species of wild bird listed on each of the Schedules, however the Act itself should always be referred to for the exact and current wording and full species lists:

Schedule 1: Birds which are protected by special penalties:

Part 1: At all times.

Part 2: During the close season.

Schedule 2: Birds which may be killed or taken:

Part 1: Outside the close season.

Part 2: By authorised persons at all times.

Schedule 3: Birds which may be sold:

Part 1: Alive at all times if ringed and bred in captivity.

Part 2: Dead at all times.

Part 3: Dead from 1st September to 28th February.

Schedule 4: Birds which must be registered and ringed if kept in captivity.

Section 7 of the *Environment (Wales) Act*, 2016 replaces the duty in Section 42 of the *Natural Environment and Rural Communities (NERC)*, Act, 2006 (as amended). Section 7 comprises a list of species and habitats of principle importance which is the same as the list under the superseded Section 42 of the *NERC Act*, 2006. The *Environment (Wales) Act* itself should be referred to for the exact and current wording however a summary is detailed below:

- The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales:
- They must therefore consider any appropriate evidence, for example as provided in the State of Natural Resources Report, and also engage with any relevant stakeholders;
- The Welsh Ministers must also 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.

The Hedgerow Regulations, 1997

Hedgerows are distinctive features in the countryside and are the traditional type of field boundary in many areas of England and Wales. Many of these date back to the original enclosure of the land and so are of historic interest and importance.

Hedgerows (particularly older hedgerows) can contain a diverse mix of species and provide important links between other areas of habitat thus allowing wildlife to disperse. This role that hedgerows play in conserving and enhancing biodiversity is recognised by the UK BAP for this habitat type.

Hedgerows which meet certain criteria are protected by *The Hedgerows Regulations*, 1997. The aim of the Regulations is to protect important hedgerows in the countryside by controlling their removal through a system of notification. Under the Regulations it is against the law to remove or destroy certain hedgerows without permission from the Local Planning Authority (LPA). The criteria used to assess hedgerows relate to the value of a hedgerow from an archaeological, historical, landscape or wildlife perspective. They exclude hedgerows that are less than 30 years old. If a hedgerow is at least 30 years old and qualifies under any one of the criteria, then it is important and LPA approval is required before it can be lawfully removed or destroyed.

Removal of a hedgerow in contravention of the Regulations is a criminal offence, punishable in some cases in the Magistrates Court, by a fine of up to £5,000. For anyone convicted on indictment in the Crown Court, the fine is unlimited.

If a hedgerow is over 30 years old and meets the criteria in the Regulations it is classified as 'important'. A summary of the criteria is set out below, however, *The Hedgerow Regulations*, 1997 should be referred to for the exact and current wording:

- Marks a pre-1850 parish or township boundary; or
- Incorporates an archaeological; or
- Is part of, or associated with, an archaeological site; or
- Marks the boundary of, or is associated with, a pre-1600 estate or manor; or
- Forms an integral part of a pre-Parliamentary enclosure field system; or
- Contains certain categories of species of birds, animals or plants listed in the Wildlife and Countryside Act or Joint Nature Conservation Committee (JNCC) publications.
- Includes:

- o At least 7 woody species, on average, in a 30 metre length; or
- At least 6 woody species, on average, in a 30 metre length and has at least 3 associated features; or
- At least 6 woody species, on average, in a 30 metre length, including a black-poplar tree, or large-leaved lime, or a small-leaved lime, or wild service-tree; or
- At least 5 woody species, on average, in a 30 metre length and has at least 4 associated features.
- Runs alongside a bridleway, footpath, road used as a public path, or byway open to all traffic and includes at least 4 woody species, on average, in a 30 metre length and has at least 2 of the associated features listed at (i) to (v) below.

(Note: The number of woody species is reduced by one in the North of England (which does not include Cheshire). The list of 56 woody species comprises mainly shrubs and trees. It generally excludes climbers (such as clematis, honeysuckle and bramble) but includes wild roses)

Associated features:

- (i) A bank or wall supporting the hedgerow;
- (ii) Less than 10% gaps;
- (iii) On average, at least one tree per 50 metres;
- (iv) At least 3 species from a list of 57 woodland plants;
- (v) A ditch;
- (vi) A number of connections with other hedgerows, ponds or woodland; and
- (vii) A parallel hedge within 15 metres.

The Protection of Badgers Act, 1992

The following is a summary of the offences contained in the Act; however the *Protection of Badgers Act*, 1992 itself should always be referred to for the exact and current wording.

Under the *Protection of Badgers Act*, 1992 a person is guilty of an offence if, except as permitted by or under this Act he:

- wilfully kills, injures or takes, or attempts to kill, injure or take, a badger;
- has in his possession or under his control any dead badger or any part of, or anything derived from, a dead badger;
- cruelly ill-treats a badger;
- uses badger tongs in the course of killing or taking, or attempting to kill or take, a badger;
- digs for a badger; or,
- sells a live badger or offers one for sale or has a live badger in his possession or control.

A person is also guilty of committing an offence under the *Protection of Badgers Act*, 1992 if he intentionally or recklessly interferes with a badger sett by doing any of the following things:

- damaging a badger sett or any part of it;
- destroying a badger sett;
- obstructing access to, or any entrance of, a badger sett;
- causing a dog to enter a badger sett; or,
- disturbing a badger when it is occupying a badger sett,

The definition of a badger sett within the meaning of the 1992 Act is given as "any structure or place, which displays signs indicating current use by a badger". 'Current' is not defined in the Act, and may be open to interpretation. Natural England indicates that a sett is in 'current' use if it has been occupied at all over the previous 12 months. Whatever the interpretation of 'current use' however, it is important to note that a sett is protected whether or not there is a badger actually in residence at the time of inspection.

Natural England Guidelines (which is also referred to in Wales) state that work that disturbs badgers or their setts is illegal if not carried out under licence. Badgers could be disturbed by work near their sett even if there is no direct interference or damage to the sett itself, for example, using very heavy machinery within 30 metres of an active sett. Lighter machinery (particularly for any digging operation) within 20 metres, or light work such as hand digging or scrub clearance within 10 metres of an active sett, all require a licence. There are some activities which can cause disturbance at a far greater distance (such as using explosives or pile driving) and should therefore be given individual consideration. Certain criteria must be met before a licence can be issued to enable otherwise prohibited works to proceed. Such criteria may be subject to change without notice.

Timing of operations should also be considered. If required, site-specific badger disturbance licences are normally only issued between the months of July and October so as to avoid the badger's breeding season. This aspect should be borne in mind when assessing any possible constraints upon the development timetable.



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