

**LAND OFF LLANDEGAI ROAD, BANGOR
PRELIMINARY ECOLOGICAL APPRAISAL
JUNE 2020**



ces ecology
consultant ecologists

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BANGOR**

**PRELIMINARY ECOLOGICAL
APPRAISAL**

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Author	LP
Checked	SW
Revised	-

EXECUTIVE SUMMARY

- Cheshire Ecological Services Ltd. (CES Ecology) was commissioned to conduct a Preliminary Ecological Appraisal of a parcel of land off Llandegai Road, Bangor, where a 66-unit residential development is proposed.
- The survey was conducted on 15th June 2020 and the purpose 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 proposed development site totalled, 2.66 hectares and was located to the east of the city of Bangor, adjacent to Bangor Crematorium, along the eastern bank of the River Cegin/Afon Cegin to the west of Penrhyn Castle.
- At the time of survey, the site comprised a large semi-improved neutral grassland field, a residential property and associated amenity areas, a hard-standing access track containing pioneer/ephemeral vegetation, areas of scattered and dense scrub, scattered trees, a dry ditch and a small area of broadleaved semi-natural woodland. The site was bounded by stone walls with hedgerows present on the northern and western boundaries and barbed wire fences.
- As part of the desk-based study, the Local Biodiversity Recording Centre provided records of protected and/or BAP Priority Species occurring within 1km of the proposed development site, within the past twenty years.
- Features of ecological interest identified during the survey included native species hedgerows, dense scrub and onsite broadleaved woodland and mature trees. Although not necessarily afforded legal protection, it was recommended that where practicable, these features be retained and sufficiently protected during development works.
- A detailed hedgerow assessment may be required if Hedgerows 2 and 3 are to be affected by the proposed development.
- The habitat composition of the site was considered to have potential to support legally protected/BAP wildlife species, including bats, hedgehog, invertebrates, red squirrel and reptiles.
- Bat activity surveys should be conducted to provide information on how bats use the site and whether the proposed works would have an impact on key commuting routes and/or foraging sites.
- An inspection by a licensed bat ecologist will be required if the mature tree identified to have **Low** bat roost potential are to be impacted by the proposed development.
- The areas of suitable habitat for common reptile species on site are to be retained in the proposed developments plans and a scheme of Best Practice Measures (BPM) should be implemented to make sure reptile species are not impacted during the proposed works.
- A number of recommendations were made in respect of the protection of hedgehogs, nesting birds, invertebrates, red squirrel which may inadvertently stray on to/colonise the development site.

1.0 INTRODUCTION

- 1.1 Cheshire Ecological Services Ltd. (CES Ecology) was commissioned to conduct a Preliminary Ecological Appraisal of a parcel of land off Llandegai Road, Bangor, where a 66-unit residential development is proposed.
- 1.2 The purpose of this survey was to gain up to date 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 development area and/or the surrounding land, and to recommend further survey if necessary.
- 1.3 The survey was conducted by Assistant Ecologist Leo Plevin BSc MSc GradCIEEM on Monday 15th June 2020.
- 1.4 Weather conditions at the time of survey were warm and dry with a temperature of 20°C.

2.0 SITE DESCRIPTION

- 2.1 The survey was centred on the following OS grid reference SH 59272 71908
- 2.2 The area of land requested to be surveyed totals 2.66 hectares, and is hereafter referred to as the 'site'. The site was located east of the city of Bangor, adjacent to Bangor Crematorium, along the eastern bank of the River Cegin/Afon Cegin to the west of Penrhyn Castle.
- 2.3 At the time of survey, the site comprised a large semi-improved neutral grassland field, a residential property and associated amenity areas, a hard-standing access track containing pioneer/ephemeral vegetation, areas of scattered and dense scrub, scattered trees, a dry ditch and a small area of broadleaved semi-natural woodland. The site was bounded by stone walls with hedgerows present on the northern and western boundaries and barbed wire fences.
- 2.4 Land-use in the wider area comprised Bangor Crematorium and Maesgeirchen housing estate, mixed use farmland, Cegin Wood/Coed Cegin and the Llandegai Estate (refer to Appendix A - Site Location Plan).
- 2.5 The site was bounded to the north by Cegin Wood/Coed Cegin, to the east by mixed-use farmland behind a high boundary wall, to the south by the remainder of the semi-improved grassland field not considered to be part of this development and to the west by Llandegai Road.

3.0 SURVEY METHODS

Desk-based study

- 3.1 The desk-based study comprised consultation with the following consultees:

- Lle Portal - A Geo-Portal for Wales
- 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

3.2 The desk-based study comprised consultation with the Lle Portal and Defra's online mapping facility 'MAGIC' to search for statutorily designated nature conservation sites within the local and wider area.

3.3 Cofnod was asked to provide information on statutory and non-statutory nature conservation sites within 1km of the site, and to provide records of protected and Priority species within a 1km radius from the site boundary, within the past 20 years.

3.4 Ordnance Survey mapping of the local area was reviewed to search for the presence of habitats and features of potential ecological relevance to this survey, such as ponds.

Preliminary Ecological Appraisal

3.5 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).

3.6 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.

3.7 Preliminary searches were also carried out for protected/BAP 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 stated in the text are also presented in Appendix C.

3.8 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, (2015). 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):

Suitability	Description – Roosting habitats	Commuting and foraging habitats
Negligible	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	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 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.	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. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Trees with one or more potential roost sites to support roosting bats but unlikely to support a roost of high conservation status (with respect to roost type only).	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. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	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

- 3.9 The observations made during this survey have been used to assess the presence, or potential presence, of protected and/or 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.

- 3.10 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.
- 3.11 Access into some of the areas of dense scrub on site was limited due to the size and density of the vegetation present. These areas were observed where possible but a detailed inspection could not be undertaken.
- 3.12 The onsite building and associated amenity areas were not subject to this survey as they will not be affected by the proposed development.

4.0 RESULTS

Desk-based Study

- 4.1 Defra's online mapping facility 'MAGIC' indicates that there are twelve statutorily designated nature conservation sites present within 5km of the site:
- Lavan Sands/Traeth Lafan Site of Special Scientific Interest (SSSI) and Special Protection Area (SPA) located 0.62km to the north of the site.
 - Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy Special Conservation Area (SAC) located approximately 0.62km to the north of the site.
 - Glannau Porthaethwy SSSI located approximately 2.5km to the north-east of the site.
 - Caeau Tyddyn Dicwm SSSI located approximately 3km to the south-east of the site.
 - Eithinog SSSI located approximately 3km to the west of the site.
 - Cadnant Dingle SSSI located approximately 3.3km to the north-west of the site.
 - Moelyci A Chors Ty N Y Caeau SSSI located approximately 3.9km to the south of the site.
 - Coedydd Afon Menai SSSI located approximately 4km to the west of the site.
 - Snowdonia/ Eiyri SSSI and SAC located approximately 4.4km to the south-east of the site.
 - Glannau Penmon SSSI located approximately 4.5km to the north-east of the site.
 - Baron Hill Park SSSI located approximately 4.8km to the north-east of the site.
 - Llyn Bodgylched SSSI located approximately 4.8km to the north of the site.
- 4.2 Cofnod indicates that there are six non-statutorily designated nature conservation sites present within 1km of the site:
- Llandegai Estate Wildlife Site (WS) located approximately 30m to the west of the site.
 - Bangor Mountain WS located approximately 0.44km to the north-west of the site.
 - Penrhyn Park Woodland 2 WS located approximately 0.49km to the north-east of the site.

- Penrhyn Arms Wood WS located approximately 0.48km to the south-east of the site.
- Porth Penrhyn and Menai WS located approximately 0.52km to the north of the site.
- Lon Pobty WS located approximately 0.6km to the south-west of the site.

4.3 Cofnod highlighted the presence of the following protected species occurring within approximately 1km of the proposed development site since 2000:

Scientific name	Common name	Designations
<i>Acanthis cabaret</i>	Lesser Redpoll	S7, UKBR, WBR
<i>Actitis hypoleucos</i>	Common Sandpiper	UKBA, WBA
<i>Aegithalos caudatus</i>	Long-tailed Tit	WBA
<i>Alcedo atthis</i>	Kingfisher	BDir1, Bern, UKBA, WBA, WCA1.1, LBAP[CON, DEN, FLI, GWY]
<i>Allium triquetrum</i>	Three-cornered Garlic	INNS, WCA9
<i>Anas acuta</i>	Pintail	BDir2.1, CITES, UKBA, WBA, WCA1.2, LBAP[CON, GWY]
<i>Anas clypeata</i>	Shoveler	BDir2.1, CITES, UKBA, WBA, LBAP[ANG, CON, GWY]
<i>Anas crecca</i>	Teal	BDir2.1, CITES, UKBA, WBA, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Anas penelope</i>	Wigeon	BDir2.1, CITES, UKBA, WBA, LBAP[CON, GWY]
<i>Anas platyrhynchos</i>	Mallard	BDir2.1, UKBA, WBA, LBAP[CON, GWY]
<i>Anguis fragilis</i>	Slow-worm	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Anthus pratensis</i>	Meadow Pipit	Bern, UKBA, WBA
<i>Anthus trivialis</i>	Tree Pipit	Bern, S7, UKBR, WBA, LBAP[CON, DEN, FLI, GWY]
<i>Apus apus</i>	Swift	UKBA, WBA
<i>Arenaria interpres</i>	Turnstone	Bern, UKBA, WBA, LBAP[CON, GWY]
<i>Aythya fuligula</i>	Tufted Duck	BDir2.1, WBA, LBAP
<i>Branta bernicla</i>	Brent Goose	BDir2.2, UKBA, WBA, LBAP[CON, GWY]
<i>Branta bernicla subsp. hrota</i>	Light-bellied Brent Goose	BDir2.2, UKBA, WBA, LBAP[CON, GWY]
<i>Bucephala clangula</i>	Goldeneye	BDir2.2, UKBA, WCA1.2
<i>Bufo bufo</i>	Common Toad	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Calidris alpina</i>	Dunlin	Bern, UKBA, WBR, LBAP[CON, GWY]
<i>Calidris canutus</i>	Knot	BDir2.2, UKBA, WBA, LBAP[CON, GWY]
<i>Capreolus capreolus</i>	Roe Deer	Bern, NRW
<i>Cephus grylle</i>	Black Guillemot	WBA, LBAP[ANG, GWY]
<i>Charadrius hiaticula</i>	Ringed Plover	Bern, S7, UKBR, WBA, LBAP[CON, GWY]
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	BDir2.2, S7, UKBA, WBR, LBAP[GWY]
<i>Cinclus cinclus</i>	Dipper	Bern, UKBA, WBA

<i>Clangula hyemalis</i>	Long-tailed Duck	BDir2.2, RD1(UK)VU, UKBR, WBA, WCA1.1
<i>Coccothraustes coccothraustes</i>	Hawfinch	Bern, S7, UKBR, WBA, LBAP[CON, DEN, FLI, GWY]
<i>Coenagrion pulchellum</i>	Variable Damselfly	RD1(UK)NT, LBAP[GWY, SNP]
<i>Columba oenas</i>	Stock Dove	BDir2.2, Bern, UKBA, LBAP[GWY]
<i>Corvus cornix</i>	Hooded Crow	WBA
<i>Cotoneaster integrifolius</i>	Entire-leaved Cotoneaster	INNS, WCA9
<i>Cotoneaster simonsii</i>	Himalayan Cotoneaster	INNS, WCA9
<i>Crococsmia pottsii x aurea</i> = <i>C. x crocosmiiflora</i>	Montbretia	INNS, WCA9
<i>Cuculus canorus</i>	Cuckoo	S7, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]
<i>Cygnus olor</i>	Mute Swan	BDir2.2, UKBA, WBA
<i>Delichon urbicum</i>	House Martin	Bern, UKBA, WBA
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	Bern, S7, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]
<i>Egretta garzetta</i>	Little Egret	BDir1, Bern, CITES, LBAP[CON, GWY]
<i>Emberiza citrinella</i>	Yellowhammer	Bern, S7, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Emberiza schoeniclus</i>	Reed Bunting	Bern, S7, UKBA, WBA, LBAP[CON, DEN, FLI, GWY]
<i>Epilobium brunnescens</i>	New Zealand Willowherb	INNS
<i>Erinaceus europaeus</i>	Hedgehog	Bern, S7, LBAP[ANG, CON, FLI, GWY]
<i>Falco peregrinus</i>	Peregrine	BDir1, Bern, CITES, WCA1.1, LBAP[ANG, CON, GWY]
<i>Falco tinnunculus</i>	Kestrel	Bern, CITES, S7, UKBA, WBR, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Fallopia japonica</i>	Japanese Knotweed	INNS, WCA9
<i>Fringilla montifringilla</i>	Brambling	WCA1.1
<i>Gallinago gallinago</i>	Snipe	BDir2.1, UKBA, WBA, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Gavia immer</i>	Great Northern Diver	BDir1, Bern, UKBA, WBA, WCA1.1, LBAP[CON, GWY]
<i>Gavia stellata</i>	Red-throated Diver	BDir1, Bern, WBA, WCA1.1, LBAP[CON, GWY]
<i>Haematopus ostralegus</i>	Oystercatcher	BDir2.2, UKBA, WBA, LBAP[CON, GWY]
<i>Hepialus humuli</i>	Ghost Moth	S7, LBAP[GWY]
<i>Hirundo rustica</i>	Swallow	Bern, WBA, LBAP[ANG, CON, GWY]
<i>Hyacinthoides non-scripta</i>	Bluebell	WCA8
<i>Hyacinthoides non-scripta x hispanica</i> = <i>H. x massartiana</i>	Bluebell	INNS
<i>Impatiens glandulifera</i>	Himalayan Balsam	INNS, WCA9
<i>Larus argentatus</i>	Herring Gull	BDir2.2, S7, UKBR, WBR, LBAP[CON, GWY]
<i>Larus canus</i>	Common Gull	BDir2.2, UKBA, WBR

<i>Larus fuscus</i>	Lesser Black-backed Gull	BDir2.2, UKBA, WBA, LBAP[CON, GWY, SNP]
<i>Larus marinus</i>	Great Black-backed Gull	BDir2.2, UKBA, WBR
<i>Lepus europaeus</i>	Hare	S7, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Limosa lapponica</i>	Bar-tailed Godwit	BDir1, BDir2.2, S7, UKBA, WBR, LBAP[CON, GWY]
<i>Limosa limosa</i>	Black-tailed Godwit	BDir2.2, UKBR, WBA, WCA1.1, LBAP[CON, GWY]
<i>Linaria cannabina</i>	Linnet	Bern, S7, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Lissotriton helveticus</i>	Palmate Newt	Bern, WCA5
<i>Locustella naevia</i>	Grasshopper Warbler	S7, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]
<i>Loxia curvirostra</i>	Common Crossbill	Bern, WCA1.1
<i>Lutra lutra</i>	Otter	Bern, CITES, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP, WRE]
<i>Melanitta nigra</i>	Common Scoter	BDir2.2, S7, UKBR, WBA, WCA1.1, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Meles meles</i>	Badger	Bern, PBA
<i>Mergus serrator</i>	Red-breasted Merganser	BDir2.2, WBA
<i>Milvus milvus</i>	Red Kite	BDir1, CITES, WBA, WCA1.1, WCA9, LBAP[CON, GWY]
<i>Morus bassanus</i>	Gannet	UKBA, WBA, LBAP[CON, GWY]
<i>Motacilla flava</i>	Yellow Wagtail	Bern, S7, UKBR, WBR
<i>Mustela erminea</i>	Stoat	Bern, NRW
<i>Myotis brandtii</i>	Brandt's Bat	Bern, EPS, HDir, RD2(UK), WCA5, LBAP[ANG, DEN, FLI, GWY, SNP]
<i>Neovison vison</i>	American Mink	INNS, WCA9
<i>Nepeta cataria</i>	Cat-mint	RD1(UK)VU, RD1(Wales)VU, LBAP[GWY]
<i>Numenius arquata</i>	Curlew	BDir2.2, S7, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Numenius phaeopus</i>	Whimbrel	BDir2.2, UKBR, WBA, WCA1.1, LBAP[CON, GWY]
<i>Oenanthe oenanthe</i>	Wheatear	Bern, WBA
<i>Paraclusia tigrina</i>	Paraclusia tigrina	LBAP[GWY]
<i>Passer domesticus</i>	House Sparrow	S7, UKBR, WBA, LBAP[CON, FLI, GWY]
<i>Passer montanus</i>	Tree Sparrow	S7, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY]
<i>Periparus ater</i>	Coal Tit	Bern, WBA
<i>Phalacrocorax aristotelis</i>	Shag	Bern, UKBR, LBAP[CON, GWY]
<i>Phalacrocorax carbo</i>	Cormorant	WBA, LBAP[CON, GWY]
<i>Phoenicurus ochruros</i>	Black Redstart	Bern, UKBR, WBA, WCA1.1, LBAP[GWY]
<i>Phylloscopus trochilus</i>	Willow Warbler	UKBA, WBR
<i>Picus viridis</i>	Green Woodpecker	Bern, WBA, LBAP[CON, DEN, FLI, GWY, SNP]

<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, DEN, FLI, GWY, SNP]
<i>Plecotus auritus</i>	Brown Long-eared Bat	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Poa angustifolia</i>	Narrow-leaved Meadow-grass	LBAP[DEN, GWY]
<i>Podiceps auritus</i>	Slavonian Grebe	BDir1, Bern, UKBR, WBA, WCA1.1
<i>Poecile palustris</i>	Marsh Tit	Bern, S7, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]
<i>Prunella modularis</i>	Dunnock	Bern, S7, UKBA
<i>Prunus laurocerasus</i>	Cherry Laurel	INNS
<i>Puffinus puffinus</i>	Manx Shearwater	Bern, UKBA, WBA, LBAP[CON, GWY]
<i>Pyrrhula pyrrhula</i>	Bullfinch	S7, UKBA, WBR, LBAP[CON, DEN, FLI, GWY]
<i>Rallus aquaticus</i>	Water Rail	BDir2.2, Bern, LBAP[CON, DEN, FLI, GWY]
<i>Regulus regulus</i>	Goldcrest	Bern, WBA
<i>Rhododendron ponticum</i>	Rhododendron ponticum	INNS, WCA9
<i>Riparia riparia</i>	Sand Martin	Bern, WBA, LBAP[CON, DEN, FLI, GWY]
<i>Rissa tridactyla</i>	Kittiwake	Bern, UKBR, LBAP[GWY]
<i>Sciurus vulgaris</i>	Red Squirrel	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Scolopax rusticola</i>	Woodcock	BDir2.1, UKBR, WBA, LBAP[CON, DEN, FLI, GWY]
<i>Scopula marginepunctata</i>	Mullein Wave	S7, LBAP[GWY]
<i>Sedum album</i>	White Stonecrop	INNS
<i>Sinapis alba</i>	White Mustard	LBAP[GWY]
<i>Sinapis arvensis</i>	Charlock	RD1(Wales)VU
<i>Somateria mollissima</i>	Eider	BDir2.2, UKBA, WBA, LBAP[CON, GWY]
<i>Spilosoma lubricipeda</i>	White Ermine	S7, LBAP[GWY]
<i>Stachys sylvatica x palustris = S. x ambigua</i>	Hybrid Woundwort	LBAP[GWY]
<i>Sterna hirundo</i>	Common Tern	BDir1, Bern, UKBA, WBR, LBAP[ANG, CON, GWY]
<i>Sterna paradisaea</i>	Arctic Tern	BDir1, Bern, UKBA, WBR, LBAP[ANG, CON, GWY]
<i>Sterna sandvicensis</i>	Sandwich Tern	BDir1, Bern, UKBA, WBA, LBAP[ANG, CON, GWY]
<i>Streptopelia turtur</i>	Turtle Dove	BDir2.2, CITES, S7, UKBR, WBR, LBAP[CON, GWY]
<i>Sturnus vulgaris</i>	Starling	BDir2.2, Bern, S7, UKBR, WBR, LBAP[CON, FLI, GWY]
<i>Sylvia borin</i>	Garden Warbler	WBA
<i>Sylvia communis</i>	Whitethroat	WBA
<i>Tadorna tadorna</i>	Shelduck	Bern, UKBA, WBA, LBAP[CON, GWY]
<i>Tringa nebularia</i>	Greenshank	BDir2.2, UKBA, WCA1.1

<i>Tringa totanus</i>	Redshank	BDir2.2, UKBA, WBA, LBAP[ANG, CON, GWY]
<i>Turdus iliacus</i>	Redwing	BDir2.2, UKBR, WBA, WCA1.1, LBAP[CON]
<i>Turdus philomelos</i>	Song Thrush	BDir2.2, Bern, S7, UKBR, WBA, LBAP[ANG, CON, DEN, FLI, GWY, SNP, WRE]
<i>Tyria jacobaeae</i>	Cinnabar	S7, LBAP[GWY]
<i>Uria aalge</i>	Guillemot	UKBA, WBA
<i>Vanellus vanellus</i>	Lapwing	BDir2.2, S7, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]
<i>Zootoca vivipara</i>	Common Lizard	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]

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 Gwynedd
WBA - RSPB Welsh Birds Amber List (not based on IUCN criteria)
RD1(UK) - Red Data Book listing for the UK based on IUCN guidelines
RD2(UK) - Red Data Book listing for the UK 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
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
PBA - Protection of Badgers Act 1992
HDir - EU Habitats Directive
S7 - Environment (Wales) Act 2016 (Section 7)

- 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 fungi associated with specific protected sites were provided. Given the habitat composition of the site and the nature of the proposed works, it is considered highly unlikely that the proposed development would impact upon such species.
- 4.5 Cofnod highlighted the presence of Ancient Woodland BAP Priority habitat located within 1km of the site.

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 Habitats Maps (Appendix B). Species lists for each area and photographic plates are presented within Appendices C and D respectively.

Target Notes

TN1 – Tree with Low bat roost potential (Plate 1)

TN2 – Rubble and log pile refugia (Plates 2-4)

TN3 – Species rich area of semi-improved neutral grassland (Plate 5)

5.0 DISCUSSION

Designated Sites

- 5.1 Defra's online facility 'MAGIC' indicates that the closest statutorily designated nature conservation sites are Lavan Sands/Traeth Lafan SSSI, SPA and Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy SAC.

Lavan Sands/Traeth Lafan SSSI, SPA has an area of approximately 2703ha and is located approximately 0.62km to the north of the site at its closest point. This large area of intertidal sand- and mud-flats lies at the eastern edge of the Menai Strait. The area has a range of exposures and a diversity of conditions, enhanced by freshwater streams that flow across mud and salt flats. The site is designated for its importance for wading and wintering birds including nationally important populations of Oystercatcher (*Haematopus ostralegus*).

Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy (SAC) has an area of approximately 26501ha and is located approximately 0.62km to the north of the site at its closest point. The sites general character includes marine areas, tidal rivers, mud flats, salt flats, salt marshes and marine cliffs. The site is designated for its sandbanks which are slightly covered by seawater all the time, (this is a relatively rare type of subtidal bank in Wales), for salt and mudflats including Lavan Sands/Traeth Lafan, the shores of the Menai Strait and the Foryd estuary, and for the reefs between mainland Wales and Anglesey.

The proposed development site is separated from these statutorily designated sites by mixed use farmland and broadleaved woodland within Penrhyn Park, the River Cegin/Afon Cegin and Cegin Wood/Coed Cegin. It is considered unlikely that the proposed development would adversely impact upon these protected sites.

Statutorily designated sites within the wider area are separated from the site by the built environs of Bangor, mainline railway networks and the A55 North Wales express way or are located on the island of Anglesey and so it is considered unlikely that the proposed development would adversely impact upon these sites.

- 5.2 Cofnod indicated that the closest non-statutorily designated site is Llandegai Estate Wildlife Site. This site has a total area of approximately 13.8ha and is located approximately 30m to the west of the development site on the western side of Llandegai Road. Habitats on site include restored ancient woodland which hosts a population of red squirrel and numerous bat roosts as well as a length of the River Cegin/Afon Cegin which is home to populations of salmon and otter.

It is considered unlikely that the proposed development would adversely affect the status of this important site, due the separation of the sites by Llandegai Road. However, it should be noted that the development is likely to increase the footfall of visitors into this site, along with a potential increase in use by domestic animals such as dog walkers and cats.

- 5.3 Cofnod indicated the presence of Cegin Wood/Coed Cegin, a Candidate Wildlife Site located along the northern boundary of the site. Although this site is not currently designated, Cofnod highlighted the presence of restored Ancient Woodland priority habitat, the River Cegin/Afon Cegin, and records of badger and otter within this area.

The northern boundary of the development site is separated from the majority of Cegin Wood/Coed Cegin by a public footpath (Plate 21). The path and the southern edge of Cegin Wood/Coed Cegin are situated approximately 15m lower than the topography of the site with a sharp decline.

It is considered unlikely that the proposed development would adversely affect the status this site, due to separation of the site by the public footpath, however the development is likely to increase the footfall of visitors into this site, along with a potential increase in use by domestic animals such as dog walkers and cats.

- 5.4 Cofnod highlighted the presence of restored Ancient Woodland priority habitat occurring within 1km of the development site within Cegin Wood/Coed Cegin and Llandegai Estate Wildlife Site. The trees along the outside of the northern boundary fence of the site are included within this priority habitat and should be protected where practicable during the proposed works. The site is separated from the rest of Cegin Wood/Coed Cegin by a public footpath so it is considered unlikely that the proposed development would have any adverse impacts on this Priority habitat.

Habitats

5.5 Semi-improved neutral grassland (Plates 6 and 7)

The majority of the site comprised a semi-improved neutral grassland field split into two sections by a hard standing track. The sward of the grassland was low and showed obvious signs of grazing. The grassland was abundant in grass species including Yorkshire fog, creeping bent, red fescue and cock's-foot with frequent herbs including common catsear, creeping buttercup, meadow buttercup and common sorrel. An area along the western boundary of the site which sloped down towards hedgerow 2 was of a much more species rich nature (TN3). This area contained sweet vernal grass, false oat grass and crested dog's-tail as the dominant grasses and was more abundant in herb species including dominant bird's-foot trefoil, common mouse-ear, ribwort plantain and cinquefoil, with locally abundant common knapweed and ground ivy.

5.6 Hard standing with pioneer/ephemeral vegetation (Plates 8 and 9)

A hard standing track was present from the site entrance across the site towards Incline Cottage. This track travelled north from Incline Cottage towards an offsite residential property within Penrhyn Park. Pioneer/ephemeral vegetation was present in the areas of hard standing at the site entrance and between Incline Cottage and the off-site residence. Two cattle grids were also present within the areas of hard standing.

5.7 Scrub (Plates 10 and 15)

Dense scrub was present along the northern, eastern and western boundaries of the site and at the bases of hedgerows 2,3 and 4. Dense scrub also covered a dry ditch at the north-eastern end of the site. Species present within the dense scrub on site included bramble, common nettle, hawthorn, blackthorn, willow sp. and bracken. Scattered scrub was also present along the walls on the eastern boundary of the site.

5.8 Building and amenity areas (Plate 12)

A residential property, Incline Cottage, with associated gardens was present along the eastern boundary of the site. Incline Cottage is a stone built listed building and although it falls within the proposed development site boundary it is not due to be affected by the proposed works, because of this, species were not recorded in these areas.

5.9 Semi-natural broadleaved woodland (Plate 13a,b)

A small area of semi-natural broadleaved woodland was present in the north-east corner of the site. This area of woodland is adjacent to Cegin Wood/Coed Cegin and is linked to the offsite woodland by a dry ditch and through barbed wire fencing. A mature ash tree containing a single feature with **Low** suitability to support roosting bats (TN1) was identified within this area. Species within this area also included holly, hawthorn, wood avens, wood speedwell, bracken and harts tongue fern.

5.10 Scattered trees (Plate 14)

Scattered trees were present along the eastern and western boundaries of the site. Species included oak sp, sycamore, elm, elder and ash.

5.11 Dry ditch (Plate 15)

A dry ditch was present towards the north-east corner of the site. The ditch was lined with dense scrub and continued through the area of broadleaved woodland on site and into Cegin Wood/Coed Cegin.

5.12 Hedgerows (Plates 16-20)

There were four hedgerows present within the site boundary.

Hedgerow 1 – An amenity planted hedge within the garden boundary of Incline Cottage, this hedge was a monoculture of garden privet and was approximately 5m in length with an overall height on 2m.

Hedgerow 2 – This hedgerow was present along the western boundary of the site. Approximately 350m in length with sections of hedge between 1m and 2.5m in height. The most southerly section of the hedgerow was bounded by a stone wall and had been regularly browsed at the base, the structure of this section was tall and leggy with a width of around 1m. The northern section of this hedgerow was bounded by barbed wire fencing and was shorter in height approximately 1.5m but much wider at the base approximately 2m. Species within hedgerow 2 included common hawthorn, sycamore, elm, elder, beech and dog-rose with basal vegetation including, wood avens, lord and ladies and ground ivy. This hedgerow had been managed from the site side.

Hedgerow 3 – Hedgerow 3 was located on the western boundary, in the north-west corner of the site and was approximately 10m in length. The hedgerow was approximately 1.5m tall and approximately 2m wide. Species included hawthorn, elm, beech and snowberry with basal vegetation including, wood avens, garlic mustard and ground ivy. This hedgerow had been managed from the site side.

Hedgerow 4 – Hedgerow 3 was located along the northern boundary of the site adjacent to boundary fencing and was approximately 30m in length. This hedgerow sat under the

canopy of mature trees offsite and had become overgrown and scrubby. Species present included blackthorn, hawthorn, holly, snowberry and dog-rose.

It is concluded that Hedgerows 2 and 3 could potentially be considered as ecologically important in accordance with the *Hedgerow Regulations, 1997*, due to its diversity of woody species and/or associated features. Therefore, a detailed hedgerow assessment will be required if this hedgerow is to be affected by the proposed development.

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.

Hedgerows 1 and 4 are unlikely to be considered as ecologically important in accordance with the *Hedgerow Regulations, 1997* because of its lack of woody species/associated features. 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 landscape interest. It is not the place of this ecological report to assess such other factors.

Furthermore, 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 (*Crataegus monogyna*), field maple (*Acer campestre*), alder (*Alnus glutinosa*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), field rose (*Rosa arvensis*) wild cherry (*Prunus avium*), holly (*Ilex aquifolium*) and guelder rose (*Viburnum opulus*).

Features of Ecological Interest

5.13 The following features of 'significant ecological interest' were identified during the survey:

- Native species hedgerows
- Dense scrub
- Broadleaved woodland / mature trees

5.14 Although not necessarily afforded legal protection, it is recommended that where practicable, the above features of ecological interest should be retained and sufficiently protected during development works.

5.15 Proposed development plans provided at the time of the survey indicated that the broadleaved woodland and hedgerows are to be retained as part of the development. If proposals change and these habitats will be affected by the proposed development then further survey work may be required.

5.16 The habitat composition of the site has potential to support legally protected/BAP 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
- Bats
- Birds
- Bluebell
- Brown Hare
- Great crested newt and amphibians
- Hedgehog
- Invasive Species
- Invertebrates
- Otter
- Red Squirrel
- Reptiles

Legislation relating to each species discussed in this report is presented in Appendix E – 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.

5.17 Badgers

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.

Cofnod provided details of badgers occurring within 500m of the proposed development site since 2000.

At the time of the survey no setts or field signs of badgers were recorded within or immediately adjacent to the site. Given the lack of field signs of badger and the lack of suitable sett building habitat within the site, it is considered unlikely that badgers would use the site to any significant degree.

No further survey effort is recommended. In the unlikely event that badger setts are subsequently discovered on site or within 30m, works should cease and CES be contacted for advice.

5.18 Bats

All British species of bat 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.

Bats are known to 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.

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.

Cofnod provided details of Brandt's bat, brown-long-eared bat, common pipistrelle and soprano pipistrelle bats occurring within around 1km of site since 2000.

The on-site listed building Incline Cottage was not assessed for its potential to support roosting bats as the proposed plans are not due to affect this property.

A mature ash tree with **Low** bat roost potential (TN1) was observed within the area of broadleaved woodland in the north-east corner of the site. The tree contained a single cavity measuring 40cm in length and 10cm in width down the main trunk approximately 1.5m from the ground. This cavity was inspected at close quarters with the use of a high powered torch and was deemed to only extend ~15cm above the cavity opening. No bats were observed to be using the cavity. If this tree is to be affected/lost as part of the development, it is recommended that the cavity be inspected with an endoscope by a licenced bat ecologist prior to the commencement of works, to confirm the status of the feature has not changed.

In accordance with the Planning Policy Wales Framework, development should seek to protect and enhance biodiversity, the recommendation is that bat boxes are incorporated within the proposed development to provide roosting opportunities for bats. Bat boxes could be mounted on selected retained trees. Boxes are most commonly made of untreated softwoods, but increasingly boxes made of "woodcrete" (a mixture of wood shavings and cement) are proving to be successful at attracting bats, having the advantages of better thermal insulation and resistance to rot and damage by woodpeckers and squirrels.

Correct siting of bat boxes is important to increase the chances of occupancy. Boxes should be at least 4m from the ground. As a general rule boxes should be sited with the front facing SW to SE, which will ensure that the box warms up during the day. Boxes facing other aspects may well be used and a common practice is to site three boxes on a single tree, all with different aspects, giving bats a choice of roost sites with different environmental conditions.

Bats use linear features such as tree lines, hedgerows, woodland edge and watercourses to navigate at night. Loss or damage to, and lighting of such features can negatively impact bats by fragmenting roost and feeding sites. Removal or lighting of areas as little as 5m across can create barriers that some species of bat will no longer cross. The dense scrub, scattered trees, boundaries adjacent to woodland edges and Hedgerow 2 on site are deemed likely to provide bats with highly suitable commuting and foraging opportunities.

It is recommended that a bat activity survey be conducted to adequately assess how bats utilise the site and how the proposed plans will impact on this species. Bats activity surveys can be conducted between late-spring and early autumn (typically May to

October). No potentially disturbing works should be conducted until the outcome of this survey is known.

5.19 Birds

All species of wild bird, their nest 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. In addition to the protection afforded to all wild birds under Section 1 of the Act, species listed on Schedule 1 receive special legal protection when breeding; making it an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 whilst it is at or near a nest containing eggs or young, or disturb the dependent young of such a bird. Legislation does not permit disturbance licences to be issued for nesting birds in relation to development of land.

Cofnod provided numerous records of priority and protected bird species occurring within the search area since 2000.

Cofnod provided numerous records of swift within and immediately adjacent to the site. Three swifts were also seen flying through the site on the day of the survey. Swifts roost in a number of places, including hollow trees, caves, chimneys, rocky ledges, sea cliffs, and large trees. Their hunting/foraging habitat is usually open areas, like meadows, above forests, open woodlands and grasslands. The site is not likely to provide a key foraging site for swifts; however, it is recommended that swift bricks be incorporated into the exterior walls of the new dwellings to enhance nesting opportunities for swift within the local area.

The swift bricks will be built into the gable walls at a height no lower than 5 metres above the ground and positioned on opposite sides of the gable wall and as close to the gable bargeboards as possible.

A single goldfinch (*Carduelis carduelis*) was seen within the area of scrub to the north-east of the site, calls from song thrush, blackbird (*Turdus merula*), robin (*Erithacus rubecula*) and great tit (*Parus major*) were also heard within this area. This area of dense scrub to the north of the site and adjoining woodland offers highly suitable nesting and foraging habitat for common garden and woodland birds, including but not limited to bullfinch, goldfinch, dunnock, song thrush and starling. It also offers potentially suitable habitat (albeit suboptimal) for small passerine species including the RSPB red listed grasshopper warbler.

Special Protection Area (SPA) bird species will regularly use habitats away from the SPA, for purposes such as daytime feeding and loafing. Given the sites proximity to the Lavan Sands/Traeth Lafan SSSI SPA and the Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy SAC it is considered that species including oystercatcher, curlew, lapwing, and common redshank could potentially utilise the site for roosting and foraging purposes only. The site offers very little habitat for nesting due to the regularly disturbed nature of the site and therefore the potential for indirect impacts upon the Lavan Sands/Traeth Lafan SSSI and SPA, and the Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy SAC are considered to be negligible, in respect of SPA birds.

All woody vegetation on site has potential to support nesting birds. The majority of the dense scrub along the eastern edge of the site will be lost during development. Retention of hedgerows and mature trees would help reduce the potential development impacts on breeding birds, however in order to protect and enhance biodiversity as a result of the development, the recommendation is made that bird nest boxes should be incorporated into the development. Nest boxes should be fitted on new dwellings or retained trees, at least 1.5m above the ground and not on south-facing aspects where they are susceptible to the midday sun.

It is recommended that all site preparation works, including vegetation removal and building demolition, be conducted between October and February (i.e. outside of the nesting bird season, which generally encompasses March to September). If this is not possible and works are required to be conducted during the bird nesting season, CES Ecology 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.

5.20 Bluebell

Cofnod provided details of native bluebell occurring within approximately 1km of the proposed development site since 2000. The native bluebell is protected from uprooting by the *Wildlife and Countryside Act 1981* (refer to Appendix E).

No bluebells were recorded during the survey; however, it is considered possible that this species would be present in the areas of ancient woodland habitat adjacent to the site, which should be protected from the proposed works. No further survey effort in respect of this species is considered necessary.

5.21 Brown hare

Brown hare is a Local and UK BAP Priority species, and is listed on Section 42 of the Natural Environment & Rural Communities Act, 2006. Cofnod provided details of brown hare occurring within around 1km of the proposed development site since 2000.

Brown hares are associated with farmland habitats, such as those found adjacent to the site, where they feed on grass shoots and utilise areas of tall vegetation for cover. However, access to adjacent habitat is restricted via tall stone boundary walls and no evidence of brown hare was found on site. It is therefore concluded that brown hare are likely absent from the site.

If, however brown hares or leverets are discovered during development works, CES Ecology should be contacted for advice. No further survey effort in respect of this species is considered necessary.

5.22 Great crested newt and other amphibians

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

Cofnod provided details of palmate newt and common toad occurring within 1km of the proposed development site.

OS mapping highlighted the presence of two ponds/waterbodies, Pond 1 and River Cegin/Afon Cegin located within 250m of the development site. No further ponds/waterbodies were identified within 250m to 500m of the proposed development site boundary (refer to Appendix A).

Pond 1 is located approximately 25m to the south-east of the site boundary and is separated from the site by a tall stone boundary wall.

The River Cegin/Afon Cegin is located approximately 30m to the north-west of the site at its closest point and was deemed to be unsuitable for GCN due to the fast flowing nature of the watercourse. Rivers, and other flowing watercourses, are typically unsuitable for amphibian breeding.

The site offers some suitable habitat for GCN and other amphibians, by way of hedgerows, dense scrub and refugia present on site. However, given the limited access to the site from Pond 1 and no records of GCN within 1km, it is considered highly unlikely that GCN would be associated with the site and as such no further survey effort in respect of GCN is considered necessary.

In the highly unlikely event that GCN are discovered at the site, work should cease and CES be contacted for advice.

5.23 Hedgehog

Hedgehog is a UK BAP Priority species and is listed on Section 42 of the Natural Environment & Rural Communities (NERC) Act, 2006. Cofnod provided details of hedgehog occurring within approximately 1km of the proposed development site since 2000.

The site was considered to offer hedgehog with suitable foraging and shelter habitat in the form of dense scrub and refugia present on site.

Development at the site does have 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. 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 10cm by 15cm, and incorporated in to each garden.

5.24 Invasive species

Cofnod provide details of American mink, Himalayan balsam, Japanese knotweed, montbretia, three-cornered garlic, rhododendron and cotoneaster species occurring within around 1km of the proposed development site.

No invasive species were recorded within the proposed development site at the time of the survey. No further survey effort in respect of invasive species is currently considered necessary. However, if any of these species are subsequently discovered on site, CES Ecology should be contacted immediately for advice on how to proceed.

5.25 Invertebrates

Cofnod provided details of the true fly (*Paraclusia tigrina*), the variable damselfly and, cinnabar, ghost, mullein wave and white ermine moths occurring within 1km of the site since 2000.

The true fly is a Local BAP species for Gwynedd and feeds on dead wood such as fallen trees. A record for true fly is located adjacent to the proposed development site boundary.

The variable damselfly has a patchy distribution across mainland Britain, it is a Local BAP species for Gwynedd and is most often found among plants on the banks of well-vegetated ditches, canals and ponds. They are rarely found by flowing water.

The cinnabar moth utilises a variety of habitats including gardens and waste ground, where its caterpillars feed on ragwort and groundsel. The ghost moth will utilise grassy and weedy places in woodland and open areas, it's caterpillars feeds on common nettle and dock species. The mullein wave is a predominantly coastal species and its caterpillars feeds on low growing yarrow. The white ermine moth is found in most rural and urban habitats including gardens, hedgerows, grassland, heathland, moorland, woodland and along the coast. Its caterpillars feed on a wide range of herbaceous plants including common nettle and docks.

The site is considered to offer suitable habitat and caterpillar food-plants for all of these species. The proposed development will result in the loss of foraging and potential egg-laying habitat at the site. The offsite ancient woodland and native hedgerows along the site boundary are to be protected during the works, which should limit potential negative impacts upon the local populations of these species.

It is recommended that any new planting should incorporate native and/or wildlife friendly species, and preferably include a diverse range of grasses, flowering plants and trees (refer to Appendix F: Wildlife Friendly Plants List).

5.26 Otter

Otters are protected under both European and British law, therefore surveys are required to check for their presence in areas where they, or their habitat, are likely to be disturbed for any reason. Otters inhabit a wide range of aquatic habitats including ditches, lakes, ponds, rivers and the coast. They shelter in areas of deep vegetation, beneath buildings and under exposed tree roosts that are close to/adjacent to aquatic

habitats. Otter field signs include footprints, spraints and entrance holes to holts and other shelter sites.

Cofnod provided records of otter within 150m of the proposed development site within the River Cegin/Afon Cegin.

It is considered unlikely that otters would be associated with the site due to the distance between the site and suitable habitat for otters.

No further survey effort in respect of otter is considered necessary. In the unlikely event that these otters and/or evidence of otters are subsequently recorded at the site, works should cease and CES be contacted for advice.

5.27 Red squirrel

The red squirrel is protected under Schedule 5 of the *Wildlife and Countryside Act*, 1981 and is listed on Environment (Wales) Act 2016 (Section 7). Red squirrel is a UK BAP and Local BAP species for Gwynedd.

Cofnod provided details of this species occurring within 1km of the proposed development site since 2000.

Red squirrels favour coniferous woodland where they feed on pine cones and other seeds, but also utilise broadleaved woodland. This usually solitary species typically builds large nests, a drey, in the fork of a tree. This species has suffered significant population decline due to the successful introduction of grey squirrels which feed more effectively in broadleaved woodland, and their susceptibility to disease (squirrel pox virus).

The site is considered to offer predominantly sub-optimal habitat for red squirrel and no evidence of red squirrel was recorded at the time of survey.

It is considered possible, although unlikely, that red squirrel would be resident on site due to the sub-optimal nature of the woodland habitat on site, however they have been recorded in the local area and so may utilise the site for foraging. It is recommended that where possible, the area of woodland be retained and incorporated into the proposed development. If this is not possible, further survey effort and/or mitigation for the loss of the woodland habitat will need to be undertaken.

5.28 Reptiles

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. 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.

Cofnod provided details of slow worm and common lizard occurring within around 1km of the proposed development site since 2000 within the confines of Bangor Mountain and a residential housing estate behind Llandegai Estate Wildlife Site.

The areas of woodland, dense scrub, refugia, hard-standing and stone built boundary walls on site have the potential to provide shelter, basking and hibernation sites for reptiles. These areas are considered to offer some suitable habitat for both slow worm and common lizard. Given that the majority of the site is covered by grazed grassland with a short sward it is considered likely that any reptiles would be confined to woodland and scrub within the north-eastern corner of the site.

The areas of suitable habitat for common reptile species on site are to be retained in the proposed developments plans. Therefore, no further surveys are considered to be required. However, it is recommended that the following Best Practice Measures be followed:

- a) Prior to commencing development at the site a suitably experienced ecologist should be appointed by the developer to ensure that the BPMs are successfully implemented.
- b) The grassland within the proposed development site should be maintained at a sward height less than 5cm as this will discourage any reptiles and other animals from sheltering in this area.
- c) Any stone refugia within the areas of woodland and scrub or log piles along the western boundary should be removed by hand. If any reptiles or other animals are found to be sheltering in these areas during these works, they will be moved to a place of refuge i.e. an area of the site with good vegetation cover that is not due to be impacted by the proposed works.
- d) Grass cuttings should be disposed of off-site, so as not to create compost heaps which may inadvertently attract slow worms.
- e) The development site, 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 reptiles/other animals from inadvertently straying on to the development site and seeking shelter or protection under/within them.
- f) All open excavations should ideally incorporate soil 'ramps' at either end to allow reptiles/other animals potentially falling into them to escape.
- g) The developer or contractor must report all encounters of reptiles on site to the appointed ecologist. In the unlikely event that the number of reptiles discovered

is greater than that anticipated, it may be necessary for the appointed ecologist to modify the mitigation strategy accordingly.

In the unlikely event that any reptiles are found within or adjacent to the site, work should stop and CES should be contacted immediately for advice.

6.0 SUMMARY RECOMMENDATIONS TABLE

	Species potentially associated with the site/s?	Further survey effort required?	Survey timing	Recommendations
Badger	No	No	-	Should any badger setts be subsequently discovered on site or within 30m, works should cease and CES Ecology be contacted for advice.
Bats	Yes	<p>Potentially: If the mature ash tree within the area of broadleaved woodland is to be affected/lost as part of the development, it is recommended that the cavity be inspected at close quarters with the use of an endoscope by a licensed bat ecologist prior to the commencement of works.</p> <p>Yes: Bat Activity Survey are required to assess how bats utilise the site.</p>	<p>Any time of year</p> <p>Optimal mid-May - early September but possible late April - early October</p>	<p>Bat boxes on any retained mature trees or Bat tubes within the external wall construction of the new dwellings should be provided to improve the biodiversity of the site post development.</p> <p>No potentially disturbing work should take place until a bat activity survey has been conducted in order to determine the usage of the site and adjacent habitats by bats.</p>
Birds	Yes	<p>Potentially: Nesting bird surveys will be required <u>if</u> vegetation removal works are to take place between March & September.</p>	<p>March - September</p>	<p>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.</p>

				Bird boxes should be provided to improve the biodiversity of the site post development.
Brown hare	No	No	-	In the highly unlikely event that brown hare/leverets are discovered at the site, work should cease and CES Ecology be contacted for advice.
Hedgehog	Yes	No	-	Where possible, all woody/scrub vegetation to be affected should be removed by hand prior to potentially disturbing works taking place.
Great crested newt	No	No	-	In the highly unlikely event GCN are discovered at the site, work should cease and CES Ecology be contacted for advice.
Invasive species	No	No	-	If any of invasive species are subsequently discovered on site, CES Ecology should be contacted immediately for advice on how to proceed.
Invertebrates	Yes	No	-	It is recommended that any new planting should incorporate native and/or wildlife friendly species, and preferably include a diverse range of grasses, flowering plants and trees
Red Squirrel	Potentially	Potentially: Further survey effort and/or mitigation will be required if the woodland habitat on site is to be lost.	-	It is recommended that where possible, the area of woodland be retained and incorporated into the proposed development.

Reptiles	Yes	No	-	<p>The areas of suitable habitat for common reptile species on site are to be retained in the proposed developments plans.</p> <p>A scheme of Best Practice Measures (BPM) should be implemented to ensure there are no impacts to reptiles.</p> <p>In the unlikely event that reptiles are discovered at the site, work should cease and CES be contacted for advice.</p>
Hedgerows	On site	<p>Potentially: Nesting bird surveys will be required if vegetation removal works are to take place between March & September.</p> <p>Hedgerows 2 and 3 should be subject to a detailed hedgerow assessment if they are to be lost/impacted by the proposed development.</p>	<p>March – September</p> <p>April - October</p>	<p>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. Hedgerows to be retained should be adequately protected during the works.</p> <p>No potentially disturbing works should take place until the results of the hedgerow assessment are known.</p>

7.0 REFERENCES

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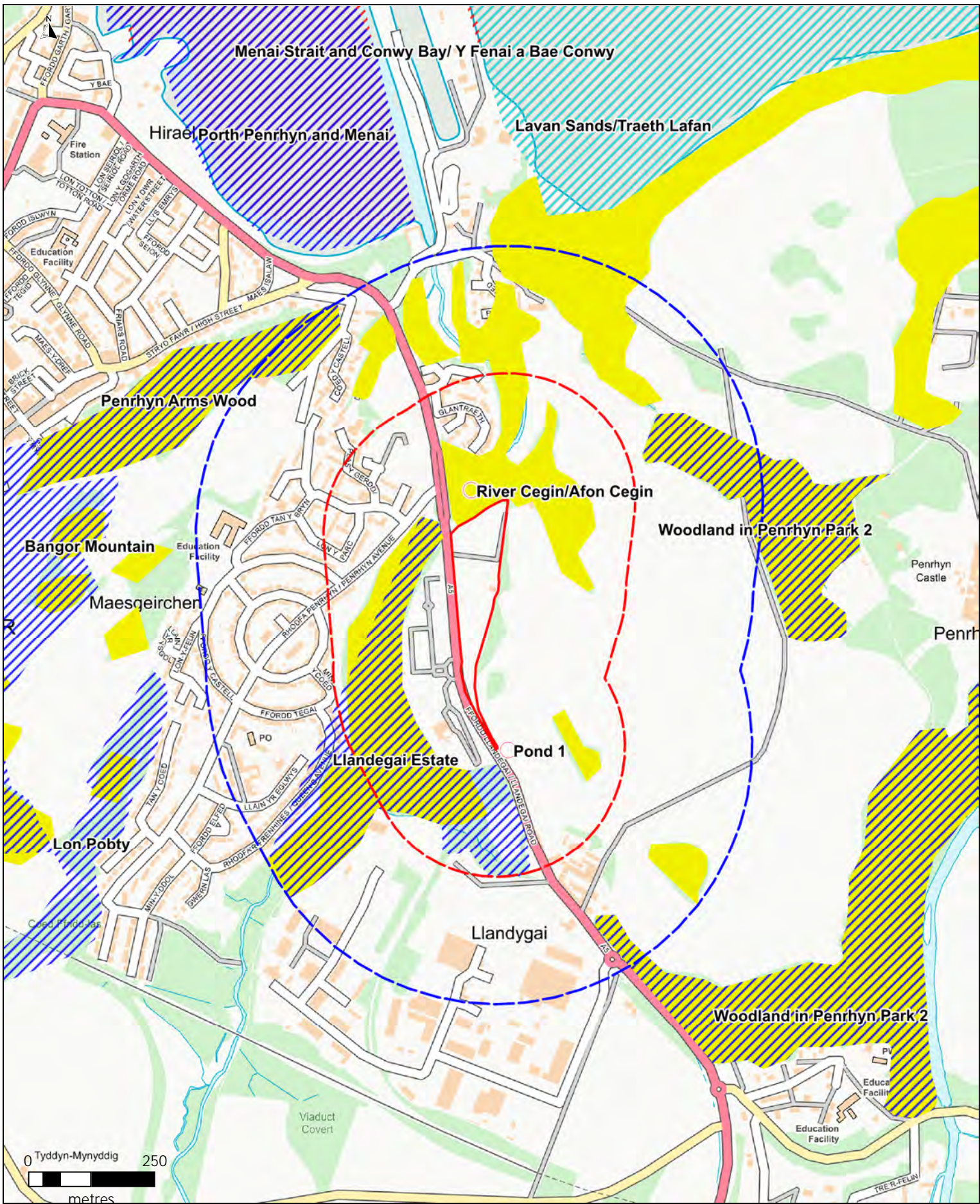
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Appendices

Appendix A: Site Location Plan



CES Ecology
 Bickley Hall Farm
 Bickley
 Malpas
 Cheshire
 SY14 8EF



Project: Land off Llandegai Road, Bangor

Map: Site Location Plan

CES Ref: CES/1517/06-20/LP

Scale: Not to scale / indicative

Date: June 2020

Legend

- Proposed development site boundary
- - - 250m radius
- - - 500m radius
- Ponds/waterbodies

- Lavan Sands/Traeth Lafan SSSI SPA
- Menai Strait and Conwy Bay/ Y Fenai a Bae Conwy SAC
- Wildlife Sites
- Ancient woodland priority habitat

Appendix B: Phase 1 Habitat Survey Map & Key



0 150 metres

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CES Ecology
 Bickley Hall Farm
 Bickley
 Malpas
 Cheshire
 SY14 8EF



Project:	Land off Llandegai Road, Bangor
Map:	Phase 1 Habitats Map
CES Ref:	CES/1517/06-20/LP
Scale:	Not to scale / indicative
Date:	June 2020

Legend	
	Proposed development site boundary
	A1.1 Broadleaved semi-natural woodland
	A2.1 Dense/continuous scrub
	A2.2 Scattered scrub
	A3.1 Scattered trees
	B2.2 Semi-improved neutral grassland
	J1.2 Amenity grassland
	J1.3 Pioneer/ephemeral vegetation
	J2.1.1 Intact native species hedgerow
	J2.1.2 Intact species poor hedgerow
	J2.4 Fence
	J2.5 Wall
	J2.6 Dry ditch
	J3.6 Building
	J4 Hard standing
	Target notes

Appendix C: Species Lists

Species present in the semi-improved neutral grassland*

Scientific name	Common name	DAFOR
<i>Achillea millefolium</i>	Yarrow	R
<i>Agrostis stolonifera</i>	Creeping bent	A
<i>Alopecurus pratensis</i>	Meadow foxtail	A
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass	L-A
<i>Arum maculatum</i>	Lords & ladies	R
<i>Calystegia sepium</i>	Hedge bindweed	R
<i>Centaurea nigra</i>	Common knapweed	L-A
<i>Cerastium fontanum</i>	Common mouse-ear	F
<i>Cirsium arvense</i>	Creeping thistle	F
<i>Cirsium vulgare</i>	Spear thistle	O
<i>Cynosurus cristatus</i>	Crested dog's-tail	L-A
<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Equisetum spp.</i>	Horsetail sp.	O
<i>Festuca rubra</i>	Red fescue	A
<i>Galium aparine</i>	Cleavers	F
<i>Geranium robertianum</i>	Herb-robert	O
<i>Geum urbanum</i>	Wood avens	O
<i>Glechoma hederacea</i>	Ground ivy	L-A
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Holcus lanatus</i>	Yorkshire-fog	D
<i>Hypochaeris radicata</i>	Cat's-ear	F
<i>Juncus effuses</i>	Soft rush	L-F
<i>Lolium perenne</i>	Perennial rye-grass	A
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil	L-A
<i>Plantago lanceolata</i>	Ribwort plantain	F
<i>Potentilla anserine</i>	Silverweed	F
<i>Potentilla reptans</i>	Creeping cinquefoil	F
<i>Pteridium aquilinum</i>	Bracken	O
<i>Ranunculus acris</i>	Meadow buttercup	A
<i>Ranunculus repens</i>	Creeping buttercup	A
<i>Rubus fruticosus</i>	Bramble	O
<i>Rumex acetosa</i>	Common sorrel	F
<i>Rumex crispus</i>	Curled dock	F
<i>Rumex obtusifolius</i>	Broad-leaved dock	O
<i>Senecio jacobaea</i>	Common ragwort	R
<i>Silene dioica</i>	Red campion	R
<i>Stachys sylvatica</i>	Hedge woundwort	R
<i>Taxacarium officinale agg.</i>	Dandelion	F
<i>Trifolium pratense</i>	Red clover	O
<i>Trifolium repens</i>	White clover	F
<i>Urtica dioica</i>	Common nettle	O

Species present in areas of scattered and dense/continuous scrub

Scientific name	Common name
<i>Cirsium arvense</i>	Creeping thistle
<i>Crataegus monogyna</i>	Common hawthorn
<i>Dactylis glomerata</i>	Cock's-foot
<i>Galium aparine</i>	Cleavers

<i>Ilex aquifolium</i>	Holly
<i>Prunus spinosa</i>	Blackthorn
<i>Pteridium aquilinum</i>	Bracken
<i>Rosa arvensis</i>	Field rose
<i>Rosa canina</i>	Dog-rose
<i>Rubus fruticosus</i>	Bramble
<i>Salix sp.</i>	Willow sp.
<i>Sambucus nigra</i>	Elder
<i>Silene dioica</i>	Red campion
<i>Symphoricarpos albus</i>	Snowberry
<i>Urtica dioica</i>	Common nettle

Species present in areas of ephemeral/pioneer vegetation

Scientific name	Common name
<i>Agrostis stolonifera</i>	Creeping bent
<i>Dactylis glomerata</i>	Cock's-foot
<i>Festuca rubra</i>	Red fescue
<i>Galium aparine</i>	Cleavers
<i>Geranium robertianum</i>	Herb-robert
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Ranunculus acris</i>	Meadow buttercup
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rumex crispus</i>	Curled dock
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Trifolium repens</i>	White clover

Species present in the scattered trees

Scientific name	Common name
<i>Acer pseudoplatanus</i>	Sycamore
<i>Fraxinus excelsior</i>	Ash
<i>Quercus sp.</i>	Oak sp.
<i>Salix sp.</i>	Willow sp.
<i>Sambucus nigra</i>	Elder
<i>Ulmus minor var. vulgaris</i>	English elm

Species present in area of broad-leaved woodland

Scientific name	Common name
<i>Asplenium scolopendrium</i>	Hart's-tongue fern
<i>Crataegus monogyna</i>	Common hawthorn
<i>Fraxinus excelsior</i>	Ash
<i>Geum urbanum</i>	Wood avens
<i>Hedera helix</i>	Ivy
<i>Ilex aquifolium</i>	Holly
<i>Pteridium aquilinum</i>	Bracken
<i>Rosa canina</i>	Dog-rose

<i>Rubus fruticosus</i>	Bramble
<i>Salix sp.</i>	Willow sp.
<i>Urtica dioica</i>	Common nettle
<i>Veronica montana</i>	Wood speedwell

Species present in Hedge 1

Scientific name	Common name
<i>Ligustrum ovalifolium</i>	Garden privet

Species present in Hedgerow 2*

Scientific name	Common name	DAFOR
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Alliaria petiolata</i>	Garlic mustard	A
<i>Arum maculatum</i>	Lords & ladies	R
<i>Buddleja sp.</i>	Buddleia sp.	R
<i>Crataegus monogyna</i>	Common hawthorn	A
<i>Equisetum spp.</i>	Horsetail sp.	F
<i>Fagus sylvatica</i>	Beech	O
<i>Geum urbanum</i>	Wood avens	F
<i>Glechoma hederacea</i>	Ground ivy	F
<i>Hedera helix</i>	Ivy	F
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil	A
<i>Rosa canina</i>	Dog-rose	O
<i>Rubus fruticosus</i>	Bramble	A
<i>Sambucus nigra</i>	Elder	O
<i>Silene dioica</i>	Red campion	O
<i>Ulmus minor var. vulgaris</i>	English elm	A
<i>Urtica dioica</i>	Common nettle	A

Species present in Hedgerow 3*

Scientific name	Common name	DAFOR
<i>Alliaria petiolata</i>	Garlic mustard	A
<i>Crataegus monogyna</i>	Common hawthorn	A
<i>Hedera helix</i>	Ivy	F
<i>Ilex aquifolium</i>	Holly	O
<i>Rubus fruticosus</i>	Bramble	A
<i>Symphoricarpos albus</i>	Snowberry	A
<i>Ulmus minor var. vulgaris</i>	English elm	F
<i>Urtica dioica</i>	Common nettle	F
<i>Fagus sylvatica</i>	Beech	R

Species present in Hedgerow 4*

Scientific name	Common name	DAFOR
<i>Crataegus monogyna</i>	Common hawthorn	O
<i>Ilex aquifolium</i>	Holly	D

<i>Prunus spinosa</i>	Blackthorn	O
<i>Rosa canina</i>	Dog-rose	O
<i>Rubus fruticosus</i>	Bramble	O
<i>Symphoricarpos albus</i>	Snowberry	F

* The abundance of all recorded botanical species identified in potential Biodiversity Action Plan Priority habitats was assessed using the DAFOR scale. The DAFOR scale is a broad interpretive assessment whereby the surveyor assigns one of the following categories to the abundance of the species; Dominant, Locally-Dominant, Abundant, Locally-Abundant, Frequent, Occasional or Rare.

N.B. These species lists represent those species identified during the survey. Those species which were not in growth or could not be identified due to the growth stage are not included. Exotic species (such as garden escapes) may also have been omitted from the above lists. However, it is considered that the information gathered during the survey was sufficient to provide an accurate assessment of the site.

Appendix D: Photographic Plates



Plate 1: View looking at the tree with Low bat roost potential (TN1)



Plate 2: View looking rubble refugia within an area of scattered trees on the eastern boundary (TN2)



Plate 3: View looking at log piles on eastern boundary (TN2)



Plate 4: View looking at rubble refugia within dense scrub on eastern boundary (TN2)



Plate 5a: View looking at the area of species rich semi-improved neutral grassland (TN3)



Plate 5b: View looking at the area of species rich semi-improved neutral grassland (TN3)



Plate 6: View of north section of semi-improved neutral grassland



Plate 7: View of southern section of semi-improved neutral grassland



Plate 8: View of hard standing track



Plate 9: View of ephemeral vegetation on hard standing at site entrance



Plate 10: View of dense scrub in north-east corner of the site



Plate 11: View of dense scrub along the dry ditch



Plate 12: View of Incline Cottage and surrounding amenity areas



Plate 13a: View of semi-natural broadleaved woodland



Plate 13b: View of semi-natural broadleaved woodland



Plate 14: View of scattered trees along eastern boundary



Plate 15: View of dry ditch and scrub in north-east corner of the site



Plate 16: View of Hedge 1



Plate 17: View of southern section Hedgerow 2



Plate 18: View of northern section of Hedgerow 2



Plate 19: View of Hedgerow 3



Plate 20: View of Hedgerow 4



Plate 21: View of offsite footpath within Cegin Wood/Coed Cegin

Appendix E: Legislation

Species/Habitat	Protected by:	UK BAP	Local BAP
Badger	<i>Protection of Badgers Act, 1992</i>	No	Yes
Bats	Regulation 42 of <i>The Conservation of Habitats and Species Regulations, 2017</i> Section 9 of the <i>Wildlife and Countryside Act, 1981</i> (as amended) Section 7 of the <i>Environment (Wales) Act 2016</i>	Dependent on species	Dependent on species
Bluebell	Schedule 8 of the <i>Wildlife and Countryside Act, 1981</i> (as amended)	No	Yes
Brown hare	Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	Yes
Butterflies & Moths	Section 7 of the <i>Environment (Wales) Act 2016</i>	Dependent on species	Dependent on species
Common toad	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act, 1981</i> (as amended) Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	
Cotoneaster	Section 14 of the <i>Wildlife and Countryside Act, 1981</i> (as amended)	No	No
Great crested newt	Regulation 42 of <i>The Conservation of Habitats and Species (Amendment) Regulations, 2017</i> Section 9 of the <i>Wildlife and Countryside Act, 1981</i> (as amended) Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	Yes
Hedgehogs	Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	No
Hedgerows	<i>The Hedgerows Regulations, 1997</i>	Yes	Yes
Invasive species	Section 9 of the <i>Wildlife and Countryside Act, 1981</i> (as amended)		
Nesting birds	Section 1 of the <i>Wildlife and Countryside Act, 1981</i>	Dependent on species	Dependent on species
Otters	Regulation 41 of <i>The Conservation of Habitats and Species Regulations, 2017</i> Section 5 of the <i>Wildlife and Countryside Act, 1981</i>	Yes	Yes
Red Squirrel	Section 5 of the <i>Wildlife and Countryside Act, 1981</i> Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	Yes
'Widespread' reptiles	Provisions 1 and 5 of Section 9 of the <i>Wildlife and Countryside Act, 1981</i> (as amended) Section 7 of the <i>Environment (Wales) Act 2016</i>	Yes	Dependent on species

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:
 - 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.

The Environment (Wales) Act, 2016

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:
 - 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.

Appendix F: List of Wildlife Friendly Plants

LIST OF NATIVE WILDLIFE FRIENDLY PLANTS

Important note: It is entirely the responsibility of the client to ensure that any species chosen from the list provided is suitable for the specific attributes of the location.

Species	Height/Spread	Colours	Flowers/Berries	Wildlife benefits	Plant conditions and notes	Deciduous or Evergreen
Native Trees						
Field Maple <i>Acer campestre</i>	to 25m	Leaves: Green then amber in Autumn. Flowers: Yellow/green. Seeds: Green then brown with wings	Flowers May to June	51 species of insects/mites and 24 species of lepidoptera. Fruits eaten by small mammals	Calcareous or clay soils preferably in full sun	Deciduous
Alder <i>Alnus glutinosa</i>	6 - 15m	Leaves: Green, Catkins: Yellow/brown, Fruits: Cone-like, small and brown	Catkins in March to April	141 species of insects/mites and 71 species of lepidoptera. Seeds are good for birds such as siskins	Damp soil. Plant hardwood cuttings in the open in late autumn	Deciduous
Silver Birch <i>Betula pendula</i>	to 18m	Leaves: Green turning yellow in Autumn, Catkins: Yellow/brown then seeding, Bark: White	Catkins open in April and break up in winter releasing it's seeds	Excellent for insects and to attract inset eating birds. Best tree for moth larvae. Catkins good food source for birds such as redpolls and tits	Dry acid best.	Deciduous
Downy Birch <i>Betula pubescens</i>	to 24m	Leaves: Green turning yellow in Autumn, Catkins: Yellow/brown then seeding, Bark: White	Catkins open in April and break up in winter releasing it's seeds	Excellent for insects and to attract inset eating birds. Catkins good food source for birds	Favours wetter more peaty soil	Deciduous

Hornbeam <i>Carpinus betulus</i>	to 24m	Leaves: Green, Catkins: Green/crimson then seeding	Flowers in May	51 species of insects/mites and 32 species of lepidoptera. Seeds for birds. Can provide dense nesting cover	Woods and copses on clay soils, will tolerate shade. Sow seeds or fruits in spring	Deciduous
Hazel <i>Corylus avellana</i>	to 10m	Leaves: Green, Flowers: Long Yellow/Crimson tassels. Seeds: Brown nuts	Flowers in February	106 species of insects/mites and 68 species of lepidoptera. Nuts eaten by birds and mammals i.e. squirrels, mice and jays	Hedgerows, scrub and woodland in well-drained soil. Full sun or light shade preferable. Remove and plant rooted suckers or offsets in autumn	Deciduous
Beech <i>Fagus sylvatica</i>	to 46m	Leaves: Green then orange to red/brown in Autumn, Flowers: Green/white. Seeds: Brown nuts encased in a brown husk	Flowers March to April	98 species of insects/mites and 51 species of lepidoptera. The masts are eaten by birds and mammals including wood mice and jays	Well-drained soils. Can survive in shallow soil. Sow seeds or fruits in autumn	Deciduous. Can hold dead leaves through the winter
Juniper <i>Juniperus communis</i>	Shrub or tree to 7m	Leaves: Spiky Green needles, Flowers: Small green to yellow flowers, Berries: Green ripening to purple in the second year	Flowers May to June. Berries take two years to ripen	32 species of insects/mites and 14 species of lepidoptera	Well-drained limestone and acid sandstone	Evergreen
Crab Apple <i>Malus sylvestris</i>	to 10m	Leaves: Green, Flowers: White and pink. Fruits: Green/yellow/red apples	Flowers: April to May. Fruits ripen in Autumn	118 species of insects/mites and 76 species of lepidoptera. Fruits are eagerly consumed by birds and mammals despite its bitter taste	Well-drained soil in full sun	Deciduous

Scots Pine <i>Pinus sylvestris</i>	to 36m	Leaves: Green needles, Flowers: Yellow and crimson, Cones: Short and brown		172 species of insects/mites and 36 species of lepidoptera. Cones are a valuable food source for birds and other mammals	Prefers sandy well-drained soil in full sun	Evergreen
Black Poplar <i>Populus nigra</i>	33m	Leaves: Green turning yellow in Autumn, Flowers: Green and crimson catkins, turning fluffy when fruiting	Catkins produced in March	153 species of insects/mites and 69 species of lepidoptera found within all the poplar species. Good for larger moth species i.e. Hawk moths	Fertile soil near water. Remove and plant rooted suckers or offsets in autumn. Reduced in numbers due to easy hybridisation with other poplars	Deciduous
Aspen <i>Populus tremula</i>	to 24m	Leaves: Green turning yellow in Autumn, Flowers: Green and brown catkins, turning fluffy when fruiting	Catkins arrive in March and set seed in May	Good for invertebrates and birds. Food plant of the hairstreak butterfly	Will survive on most soils with full sun or partial shade	Deciduous
Wild Cherry <i>Prunus avium</i>	9 - 12m	Leaves: Green turning crimson in Autumn, Flowers: White, Berries: Bright red	Flowers: April, Berries: July	Birds feed on the cherries	Prefers fertile soil, will tolerate some shade	Deciduous
Bird Cherry <i>Prunus padus</i>	Shrub or tree to 19m	Leaves: Green, Flowers: White, Berries: Black cherries	Flowers in May	9 species of lepidoptera. Berries eaten by birds	Woods and scrub. Well-drained soil with full sun or light shading	Deciduous
Oaks (native) <i>Quercus spp.</i>	to 42m	Leaves: Green, Flowers: Slim yellow catkins, Seeds: Green acorns turning brown when ready to fall	Flowers in May. Acorns produced in Autumn.	423 species of insects/mites and 193 species of lepidoptera. Acorns eaten by a variety of birds and mammals. Very important for insect eating birds	Variety of soils with reasonable depth and preferably in full sun, below 300m altitude. Sow seeds or fruits in autumn	Deciduous

Willows <i>Salix spp.</i>	to 25m (species dependent)		Flowers February to March	450 species of insects/mites and 166 species of lepidoptera	Damp areas. Plant hardwood cuttings in the open in late autumn	Deciduous
Goat Willow aka 'pussy willow' <i>Salix caprea</i>	Shrubby tree to 10m	Leaves: Oval, dark grey/green on top with a hairy underside, Flowers; Green and yellow short catkins turning fluffy when seeding	Flowers March to April	Early provider of pollen and nectar for insects	Most soils as long as they are at least slightly damp	Deciduous
Grey Willow <i>Salix cinerea</i>	Shrubby tree to 6m	Leaves: Grey/green on top with a lighter hairy underside, Flowers; Yellow catkins turning fluffy when seeding	Flowers March to April	Good for insects and birds	Most soils as long as they are at least slightly damp	Deciduous
Crack Willow <i>Salix fragilis</i>	Can reach 25m	Leaves: Long, shiny green on top with a grey/green underside, Flowers; Green and yellow catkins turning fluffy when seeding	Flowers in April with the catkins appearing in May and ripening in the summer	Good for insects and birds	Most soils as long as they are at least slightly damp	Deciduous
Bay Willow <i>Salix pentandra</i>	to 10m	Leaves: Long, shiny green on top with a grey/green underside, Flowers: Yellowish catkins turning fluffy when seeding	Flowers May to June	Good for insects and birds	Wet ground by water	Deciduous
Elderberry <i>Sambucus nigra</i>	to 10m	Leaves: Green, Flowers: Small creamy white flowers in large numbers. Berries: Dark purple/black in bunches	Flowers May to June	Berries for birds and nectar for insects	Sun or partial shade	Deciduous

Whitebeam <i>Sorbus aria</i>	10 to 24m	Leaves: Green with white hairy underside turning yellow/crimson in Autumn, Flowers: White, Berries: Green ripening to bright red	Flowers: May	Flowers attract insects and the fruits are eaten by birds	Prefers calcareous soil	Deciduous
Rowan <i>Sorbus aucuparia</i>	18m	Leaves: Pinnate green leaves turning crimson in Autumn, Flowers: Small white flowers in clusters, Berries: Bright red	Flowers in May. Produces berries in autumn	58 species of insects/mites and 28 species of lepidoptera. The ripe berries attract birds such as redwings and fieldfares	Will tolerate most soils apart from very heavy soils	Deciduous
Wild Service Tree <i>Sorbus torminalis</i>	to 20m	Leaves: Shiny green leaves with a lighter coloured underside, turning purple/red in Autumn, Flowers: Creamy white in clusters, Seeds: Brown speckled seeds in clusters	Flowers: May or June Fruit: September	Good for insects. Fruits eaten by birds	Withstands shade. Prefers clay and limestone soil	Deciduous
Lime <i>Tilia europaea</i>	to 46m	Leaves: Green heart-shaped leaves with slightly hairy underside, Flowers: Greenish/yellow flowers, Seeds: Small round and hairy with a grey-brown colour	Flowers June to July	57 species of insects/mites and 31 species of lepidoptera. The nectar is highly sought by bees	Needs well-drained soil with full or partial sun	Deciduous

Wych Elm <i>Ulmus glabra</i>	to 37m	Leaves: Green turning yellow in autumn , Flowers: very small purplish flowers, Seeds: Circular winged fruits with the seed in the centre	Flowers produced in spring prior to the leaves, with winged fruits produced in July	Good tree for insects and birds	Full sun or light shade on most soils especially limestone. This species is less susceptible to Dutch elm disease	Deciduous
Dutch Elm <i>Ulmus hollandica</i>	to 32m	Leaves: Green, Seeds: Circular winged fruits with the seed in the centre	Winged fruits produced in July	Good tree for insects and birds	A native tree which has occurred naturally as a hybridisation between two other elms. Full sun or light shade. This species is less susceptible to Dutch elm disease	Deciduous
English Elm <i>Ulmus procera</i>	to 33m	Leaves: Green, Flowers: Small crimson flowers, Seeds: Circular winged fruits with the seed in the centre	Crimson flowers produced in spring with winged fruits produced in July	124 species of insects/mites and 24 species of lepidoptera are associated with elm trees	Full sun or light shade. 1 in 5 trees have caught Dutch elm disease to which English elms are susceptible	Deciduous
Species	Height/Spread	Colours	Flowers/Berries	Wildlife benefits	Plant conditions and notes	Deciduous or Evergreen
Native Shrubs						
Box <i>Buxus sempervirens</i>	to 3m	Leaves: Small, dark green and glossy, Flowers: Small green/yellow, Seeds: Black encased in blue green capsules turning brown in September	Flowers April to May	Provides good nesting cover and winter roosting cover for birds	Calcareous soils in full sun or partial shade	Evergreen

Heather <i>Calluna vulgaris</i>	50-100cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers	Flowers in July to November	Good for invertebrates with a late supply of nectar	Well-drained acid soil in full sun	Evergreen
Dogwood <i>Cornus sanguinea</i>	to 4m	Leaves: Green and hairy turning crimson an Autumn, Flowers: Greenish white in groups, Berries: Black in clusters	Flowers in June. Produces bitter black berries in August-September	17 species of lepidoptera. Larval food plant of the green hairstreak butterfly. Flowers produce an unpleasant smell which is attractive to insects. Some birds manage to eat the berries	Woods and scrub on limestone or base rich clays	Deciduous
Hawthorn <i>Crataegus monogyna</i>	6m	Leaves: Small and green, Flowers: Bright yellow, Seeds: In green pods	Flowers: White – mid May. Berries: Red/orange in Autumn	Nectar. Berries good food source for thrushes, redwings and fieldfares. Good nesting if dense. Excellent for moth larvae	Any soil	Deciduous
Broom <i>Cytisus scoparius</i>	2.5m	Leaves: Small green and deeply lobed, Flowers: White, Berries: Red	Yellow flowers April-June	Good for 39 species of lepidoptera. Food plant of the hairstreak butterfly	Calcifuge, heathland, sandy banks, open woodland and rough ground. Well drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer	Semi-evergreen
Mezereon <i>Daphne mezereum</i>	1m	Leaves: Light green with cream tinged edges, Flowers: Bright pink, Berries: Red	Flowers in February to April	Early source of nectar for insects	Well-drained humus-rich soil in full sun or light shade	Deciduous
Heath 'Bell' <i>Erica cinerea</i>	to 50cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers	Flowers July to August	Provides nectar for invertebrates	Well-drained acid soil in full sun	Evergreen

Heath 'Cross-leaved' <i>Erica tetralix</i>	to 50cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers	Flowers July to August	Provides nectar for invertebrates	Damp acid soil in full sun	Evergreen
Spindle <i>Euonymus europaeus</i>	5m (8m max)	Leaves: Light green turning to crimson in Autumn, Flowers: Greenish yellow, Seeds: encased in a four lobed pink capsule	Fruit October to December	10 species of lepidoptera. Nectar is good for insects. Berries are good for birds but induce vomiting in people	Woods, hedgerows and scrub on calcareous or base rich clays. Plant semi-ripe cuttings in a cold frame in summer	Deciduous
Alder Buckthorn <i>Frangula alnus</i>	2.5m	Leaves: Shiny green, Flowers: very small greenish flowers, Berries: Green berries turning red then purple	Flowers: Early summer. Berries: Autumn	Berries for birds. Important food plant for brimstone butterfly larvae	Damp acidic soil/peat	Deciduous
Tutsan <i>Hypericum androsaemum</i>	80cm	Leaves: Green turning red in autumn, Flowers: Yellow, Berries: Black	Flowers June to October followed by berries	Flowers attract insects especially bees. Berries are eaten by birds and small mammals	Full sun or light shade in damp soil. Plant semi-ripe cuttings in a cold frame in summer	Deciduous
Holly <i>Ilex aquifolium</i>	300 x 150+ cm	Leaves: spiky glossy green, Flowers: Small pink/white, Berries: Bright red	Flowers: May. Berries: (only on female trees) October to December	Berries good for birds and small mammals. Caterpillars of the holly blue butterfly feed on the leaves. Holly leaf miner provides winter food for birds	Not wet. Layer stems in spring. Need male and female plants near each other to produce berries	Evergreen
Privet <i>Ligustrum vulgare</i>	3m	Leaves: Green, Flowers: White, Berries: Small black berries	Flowers: July	24 species of insects/mites, nectar for the butterflies. Berries eaten by birds	Hedgerows and scrub, especially on base rich soil. Plant hardwood cuttings in the open in late autumn	Deciduous or semi-evergreen in mild areas

Shrubby Cinquefoil <i>Potentilla fruticosa</i>	1m	Leaves: Green, Flowers: Yellow	Flowers May to September	Nectar source for bees and butterflies	Well-drained soil in full sun or light shade. Semi-ripe cuttings in a cold frame in summer	Deciduous
Blackthorn <i>Prunus spinosa</i>	4m	Leaves: Green, Flowers: White, Berries: Blue/black	Flowers: spring	Good for nesting birds if grown as thicket or in hedge. Rich in insects. Fruit for birds. Black hairstreak butterfly lays its eggs mainly on blackthorn	Well-drained soil preferably in a sunny location	Deciduous
Buckthorn <i>Rhamnus catharticus</i>	5m	Leaves: Yellow green, Flowers: Yellow/green, Berries: Black. Stems with spines	Flowers: May to June	Larval food plant for brimstone butterfly	Damp, peat or base-rich soils	Deciduous
Dog Rose <i>Rosa canina</i>	3 - 4m	Leaves: Green , Flowers: Pink/white, Hips: Red	Flowers: June to July. Hips: autumn	Provides nectar for bees and butterflies. Hips good for small birds and mammals	Dislikes wet or exposed sites Can tolerate poor fertility	Deciduous
Sweet Briar <i>Rosa rubiginosa</i>	240 x 240cm	Leaves: Green , Flowers: Pink, Hips: Red/orange	Flowers: mid summer. Berries: autumn	Hips food source for small mammals and birds. Good nesting cover	Prefers sun and well drained soil	Deciduous
Raspberry <i>Rubus idaeus</i>	1.5 - 2.5m	Leaves: Green with thorns on underside, Flowers White, Berries: Red, Stems also have thorns	Flowers May to August with berries following	Nectar source for bees and butterflies. Berries for birds and mammals	Any reasonable soil in full sun or partial shade	Deciduous shrub
Gorse <i>Ulex europaeus</i>	2 - 2.5m	Leaves: Thin and spiky, green in colour, Flowers: Yellow	Autumn flowers, can flower throughout the year	29 species of insect. Provides good protection for birds nests frequently used by linnets, whinchats and stonechats.	Sandy or peaty well-drained soil in full sun. Grassland, heathland and open woods. Plant semi-ripe cuttings in a cold frame in summer	Evergreen

Wayfaring Tree <i>Viburnum lantana</i>	3m	Leaves: Green, Flowers: Whitish yellow, Berries: Red then becoming black	Flowers in June to July	Berries for birds and nectar for insects	Most soils especially base rich	Deciduous
Guelder Rose <i>Viburnum opulus</i>	300 x 250cm	Leaves: Green, Flowers: White, Berries: Bright red	Flowers: May to June. Berries: autumn	Nectar for insects, particularly hoverflies. Fruits for birds and small mammals, especially liked by woodmouse. Note: leaves, bark and berries are all poisonous	Plant semi-ripe cuttings in a cold frame in summer	Deciduous
Native Herbaceous						
Teasel <i>Dipsacus fullonum</i>	2m	Leaves: Green, Flowers: Light purple	Flowers: July to August	A food source of the Brimstone butterfly. Attracts other insects for its nectar and birds for its seeds	Well-drained soil in full sun or light shade	Biennial
Purple Loosestrife <i>Lythrum salicaria</i>	to 1.8m	Leaves: Green, Flowers: Purple	Flowers in June to September	Provides nectar for bees and butterflies	Humus-rich soil in full sun or light shade with plenty of water, preferably boggy	Border perennial
Musk Mallow <i>Malva moschata</i>	60cm	Leaves: Green Flowers: Pink	Flowers between July and August	Provides nectar for bees and butterflies	Well-drained soil in full sun	Border perennial
Cat-mint <i>Nepeta cataria</i>	60 - 90cm	Leaves: Green above, white below. Flowers: White	Flowers July to September	Berries for birds and nectar for insects	Well-drained soil in full sun	Perennial
Wild Marjoram <i>Origanum vulgare</i>	50 - 70cm	Leaves: Green Flowers: Pale pink	Flowers July to September	Good plant for butterflies and bees	Dry soil preferably on calcareous soil	Perennial
Tormentil <i>Potentilla erecta</i>	30 - 45cm	Leaves: Green, Flowers: Yellow	Flowers June to September	Good plant for butterflies and bees	Well drained soil preferably acidic	Perennial

Goldenrod <i>Solidago virgaurea</i>	70 - 100cm	Leaves: Green. Flowers: Yellow	Flowers July to September	27 species of lepidoptera.	Open woodland, grassland and hedgerows. Well- drained soil. Full sun or light shade	Perennial
Betony <i>Stachys officinalis</i>	to 60cm	Leaves: Green. Flowers: Pink/purple	Flowers June to September	Nectar source for bees and butterflies	Well-drained soil in full sun or partial shade	Border perennial
Common Valerian <i>Valeriana officinalis</i>	Stems to 1m	Leaves: Green. Flowers: Pink/white	Flowers June to September	Provides nectar for bees and butterflies	Dry or damp grassy or rough ground	Perennial
Native Climbers						
Clematis 'Old Mans Beard' <i>Clematis vitalba</i>	Climber to 30m	Leaves: Green. Flowers: White/green	Flowers in July	Provides nectar for bees and butterflies	Prefers calcareous and alluvial soils	Deciduous
Ivy <i>Hedera helix</i>	Climber	Leaves: Dark green, shiny. Flowers: Green/yellow. Berries: Black	Flowers October to November	Provides late nectar source and cover/hibernating sites for invertebrates. Food source for the Holly Blue butterfly larva	Trees, banks, rocks and crawling over the floor. Thrives in shade. Remove and plant rooted runners in spring	Evergreen
Hop <i>Humulus lupulus</i>	Climber to 8m	Leaves: Yellowish- green, Flowers: Small yellowish brown	Flowers July to August	Provides nectar for bees and butterflies	Well-drained soil in full sun or light shade	Perennial
Honeysuckle <i>Lonicera periclymenum</i>	Climber to 6m	Leaves: Dark green on top and bluish underneath. Flowers: red outside cream within Berries: Bright red	Flowers July to August	Excellent food source for invertebrates including the Speckled Wood butterfly. Berries eaten by birds	Woods, scrub and hedges. Sun or light shade. Plant semi-ripe cuttings in a cold frame in summer or Layer stems in spring	Deciduous



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