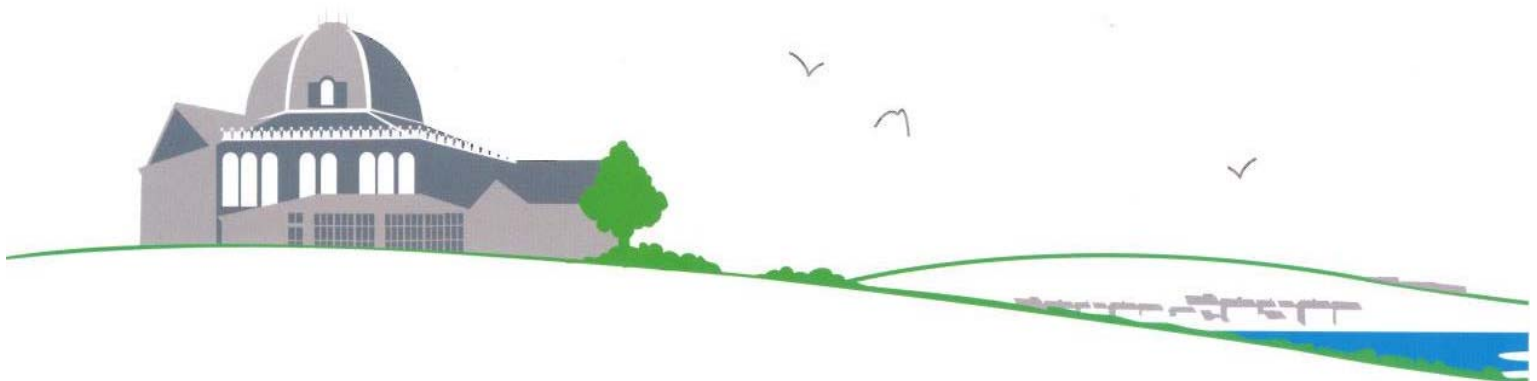




GROUNDWORK AND LEISURE SERVICES LTD

PENLEY MILL

PRELIMINARY ECOLOGICAL APPRAISAL REPORT



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Penny Anderson Associates Limited
'Park Lea'
60 Park Road
Buxton
Derbyshire
SK17 6SN

Project Manager
Sacha Rogers BSc (Hons), MCIEEM, CEnv (Managing Director)

Author
Beth Howes MZool (Hons), CIEEM (Assistant Ecologist)

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This project has been undertaken in accordance with PAA policies and procedures on quality assurance.

Signed: _____



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1	Phase 1 Habitat Survey
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1. INTRODUCTION

Introduction

- 1.1 Penny Anderson Associates Ltd (PAA) was commissioned by Groundwork and Leisure Services Ltd to undertake a Preliminary Ecological Appraisal (PEA) of Penley Mill, Lion Lane, Penley, Wrexham, LL13 0LY (hereafter referred to as the 'site') located at grid reference SJ40583966.
- 1.2 The PEA was undertaken in accordance with the best practice methodology detailed by the Joint Nature Conservation Committee (JNCC 2010) and the British Standard BS42020:2013 and comprised two elements:
- A desk study exercise; and
 - A Phase 1 habitat survey.
- 1.3 The purpose of the PEA was to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was also noted. Recommendations for any further ecological survey work and mitigation needed to ensure compliance with wildlife legislation and relevant planning policy are made. The results of the PEA will be used to inform development proposals for the site.
- 1.4 Unless stated otherwise in the recommendations section of this report, the survey findings are considered valid for a 12-month period from the date of the survey.

Brief Description of Proposed Development

- 1.5 The proposed development comprises the creation of a lake for nature conservation purposes.

Legislative Context

- 1.6 The text below provides a brief summary of the legislation in relation to the species or species group in England and Wales. The original Acts, Regulations and any amendments should be referred to for the precise wording.
- 1.7 A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2017 (amended); further details can be obtained from the Joint Nature Conservation Committee (JNCC) web site at www.jncc.defra.gov.uk.
- 1.8 Other international conventions include: the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA) (1981) (as amended) and Countryside and Rights of Way (CROW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).
- 1.9 At the national level, the UK Post-2010 Biodiversity Framework published in 2012 is the Government's response to the Convention on Biological Diversity (2010). It describes the UK's biological resources, commits a detailed plan for the protection of these resources within the UK's devolved framework across England, Wales, Scotland and Northern Ireland. The

document identifies future priorities for nature conservation and adopts a more strategic approach, including ecosystem services and sustainability alongside biodiversity. Despite administrative changes following devolution, there is still an underlying objective of protecting and enhancing a range of priority species and habitats, often still based on the objectives and classifications of the original UK Biodiversity Action Plan. *Biodiversity 2020* is England's national biodiversity strategy. Building on the *Natural Environment White Paper* published in 2011, this provides a means of delivering the international and EU commitments to biodiversity. Under Biodiversity 2020, Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

1.10 Finally, the National Planning Policy Framework (NPPF 2019) provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and
- minimising impacts on biodiversity and providing net gains for biodiversity including establishing coherent ecological networks that are more resilient to current and future pressures.

1.11 To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Protected Species

1.12 Details of the protected species legislation relevant to this site can be found in Appendix 1.

Invasive Species

1.13 Certain non-native species that have been introduced into the UK are regarded as being a threat to native biodiversity. Legislative measures have, therefore, been put in place to prevent the spread of these invasive species in the wild.

1.14 Under section 14 of the WCA 1981 (as amended), it is illegal to introduce plants listed under Part II of Schedule 9 of the WCA into the wild or sell these species. Offences include causing the spread of viable plant material or neglecting to contain or appropriately manage non-native species.

- 1.15 Commonly introduced Schedule 9 species include non-native cotoneaster species, specifically, small-leaved cotoneaster (*Cotoneaster microphylla*¹) and wall cotoneaster (*C. horizontalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Reynoutria japonica*).
- 1.16 Whilst every effort has been made to notify the client of any plant species listed on Schedule 9 of the WCA (1981, as amended) present on site, it should be noted that the PEA did not include a specific survey for these species.

¹ Plant names follow Stace 2019

2. METHODS

Desk Study

- 2.1 A desk study exercise was undertaken in October 2020 in order to collect ecological baseline data relating to the site and its surrounds. Ecological data was requested from the following consultees:
- Natural England (via Multi Agency Geographic Information for the Countryside (MAGIC) website);
 - Natural Resources Wales;
 - Local Biological Record Centres (in this case Cofnod - North Wales Information Service and Telford and Wrekin Council Ecological Data Services); and
 - Local Species Interest Groups (as required).
- 2.2 The desk study comprised a search for European statutory nature conservation sites within a 5km search area (extended to 10km for European bat sites), UK statutory sites within a 2km search area and non-statutory sites and protected/notable species records within a 2km search area. The search area was based on a central grid reference.
- 2.3 The results of this desk study have been used in conjunction with the results of the Phase 1 habitat survey to inform a preliminary assessment of the likely ecological impacts of the proposed development and the need, or otherwise, for further detailed ecological surveys.

Phase 1 Habitat Survey

- 2.4 A Phase 1 habitat survey of the site was undertaken by Ecologist Victoria Burton (ACIEEM²) on 8th October 2020.
- 2.5 All methods, equipment and assessment criteria were consistent with current good practice guidelines for each survey type and the surveyor was competent for the assigned tasks based on the CIEEM competency framework (CIEEM 2017).
- 2.6 The Phase 1 habitat survey was conducted following the Phase 1 Habitat Survey methodology of the JNCC (JNCC 2010) and the Institute of Environmental Assessment (IEA 1995). Phase 1 habitat survey is a standard technique for classifying and mapping British habitats. The aim was to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was also noted.
- 2.7 The surveyor also prepared a list of individual plant species for the site recording common and scientific names according to Stace (2019). Common names only are referred to in the text. The relative abundance of each plant species is described using the 'DAFOR' scale (where D = dominant; A = abundant; F = frequent; O = occasional; R = rare).
- 2.8 The extent of each habitat type was mapped in the field, with target notes (TN) to highlight any features of particular ecological interest.
- 2.9 The habitat survey was 'extended' (IEA 1995, CIEEM 2017) to include a general assessment of the suitability of the site for supporting protected or notable species. Features with suitability for

² Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM)

any individual species were noted, together with any incidental field signs found, such as footprints, feeding remains or sightings of animals themselves.

- 2.10 Invasive species were recorded, where found.
- 2.11 The survey area comprised all land within the site boundary.

Limitations

- 2.12 The site was fully accessible on the day of survey and the survey was carried out within the optimal survey season when most plant species were identifiable. There were, therefore, no constraints and the results are considered sufficiently robust to support a planning application for the proposed development.

3. RESULTS

Desk Study

Statutory Protected Sites

European Sites

- 3.1 European protected sites include Special Areas of Conservation (SAC), Special Protection Areas (SPA), RAMSAR wetland sites, possible SAC, potential SPA and proposed RAMSAR sites.
- 3.2 No SAC designated for bats were identified within 10km of the central grid reference. However, the River Dee and Bala Lake SAC site does fall within 5km of the centre of the site. This site is approximately 4.5km to the north-west of the survey site and has received designation due to the presence of *Ranunculus fluitantis* and *Callitriche-Batrachion* plant communities, as well as the presence of Atlantic salmon (*Salmo salar*) and floating water-plantain (*Luronium natans*).
- 3.3 The Ramsar site Midland Meres and Mosses Phase 2 was identified within the 5km search area. This site is approximately 4.47km east of the centre of the site.

Sites of Special Scientific Interest

- 3.4 SSSI represent a selection of this country's best wildlife and geological sites, and cover approximately 7% of the terrestrial area of the country (with over 4,000 separate sites in England).
- 3.5 During consultation with the search engine MAGIC, no SSSI falls directly within the 2km search area. Furthermore, the site does not fall within any SSSI Impact Risk Zones.

National and Local Nature Reserves

- 3.6 No National Nature Reserves or Local Nature Reserves were identified within the 2km search area.

Priority Habitats

- 3.7 Several priority habitat deciduous woodlands were identified within a 2km search area. The nearest of these to the central grid reference is approximately 550m to the west.
- 3.8 Nine areas of priority habitat ancient woodland were identified within a 2km search area. The nearest of these to the central grid reference is approximately 700m to the south-west.

Non-Statutory Protected Sites

Local Wildlife Sites

- 3.9 Thirty-five Local Wildlife Sites (LWS) were identified within a 2km search radius of the site's central grid reference. Table 1 presents these sites, along with their distance from the site boundary and the reason for their designation. None of these priority habitats fall within the site boundary, however, the restored ancient woodland site 34822 is adjacent to the southern edge of the site boundary.

Table 1 Local Wildlife Sites

Site Name	Distance from Central Grid Reference	Reason for Interest
W353: Red Hall Grassland	225m W	Wildlife Sites
34822: Restored Ancient Woodland Site	236m S	Ancient Woodland Sites
W420: Llanerch-Panna and Penley Bank	505m	Wildlife Sites
31830: Ancient Semi Natural Woodland	570m	Ancient Woodland Sites
31831: Ancient Semi Natural Woodland	733m	Ancient Woodland Sites
W411: Black Wood	831m	Wildlife Sites
45753: Plantation on Ancient Woodland Site	963m	Ancient Woodland Sites
31841: Ancient Semi Natural Woodland	967m	Ancient Woodland Sites
W408: Penley Wood and Lees Wood	1003m	Wildlife Sites
44690: Plantation on Ancient Woodland Site	1005m	Ancient Woodland Sites
28386: Ancient Semi Natural Woodland	1007m	Ancient Woodland Sites
31838: Ancient Semi Natural Woodland	1024m	Ancient Woodland Sites
28389: Ancient Semi Natural Woodland	1026m	Ancient Woodland Sites
34821: Restored Ancient Woodland Site	1050m	Ancient Woodland Sites
49704: Ancient Woodland Site of Unknown Category	1143m	Ancient Woodland Sites
W352: Nantclimbers Grassland and The Dukes	1246m	Wildlife Sites
W409: Cross Mill Wood	1253m	Wildlife Sites
W410: Coed Cae Howell	1365m	Wildlife Sites
28388: Ancient Semi Natural Woodland	1367m	Ancient Woodland Sites
34820: Restored Ancient Woodland Site	1379m	Ancient Woodland Sites
W421: Brook Mill Grassland	1387m	Wildlife Sites
31848: Ancient Semi Natural Woodland	1411m	Ancient Woodland Sites
45755: Plantation on Ancient Woodland Site	1504m	Ancient Woodland Sites
31836: Ancient Semi Natural Woodland	1511m	Ancient Woodland Sites
28383: Ancient Semi Natural Woodland	1520m	Ancient Woodland Sites
45756: Plantation on Ancient Woodland Site	1565m	Ancient Woodland Sites
44691: Plantation on Ancient Woodland Site	1660m	Ancient Woodland Sites
31843: Ancient Semi Natural Woodland	1706m	Ancient Woodland Sites
45754: Plantation on Ancient Woodland Site	1746m	Ancient Woodland Sites
45757: Plantation on Ancient Woodland Site	1754m	Ancient Woodland Sites
45758: Plantation on Ancient Woodland Site	1852m	Ancient Woodland Sites
31828: Ancient Semi Natural Woodland	1864m	Ancient Woodland Sites
W412: New Gorse Covert	1884m	Wildlife Sites

Site Name	Distance from Central Grid Reference	Reason for Interest
28393: Ancient Semi Natural Woodland	1886m	Ancient Woodland Sites
31840: Ancient Semi Natural Woodland	1905m	Ancient Woodland Sites
31847: Ancient Semi Natural Woodland	1941m	Ancient Woodland Sites
Nantclimbers Wood	1360m SW	Partially replanted ancient woodland.
Meadows Near Old Coppice	1990m SE	Marsh and unmanaged grassland.
31832: Ancient Semi Natural Woodland	1966m	Ancient Woodland Sites

Protected and Notable Species

Granted European Protected Species Application

- 3.10 No granted European Protected Species applications were returned within 2km search area.

Badger

- 3.11 Seventeen records of badger (*Meles meles*) were returned within a 2km search area. The dates for these records range between 1988 and 2012. The closest record is within 200m of the central grid reference. Due to the sensitive nature of this data the precise location of these records is not included in this report.

Otter

- 3.12 Twelve records of otter (*Lutra lutra*) were returned within a 2km search area. The dates for these records range between 1996 and 2014. The closest record to the centre of the site is approximately 555m to the north. The majority of records are associated with Shell Brook, part of which borders the southern and western edges of the site boundary.

Water Vole

- 3.13 A single record for water vole (*Arvicola amphibius*) was returned within a 2km search area. This record dates from 2002 and is located approximately 1.3km to the north-west of the central grid reference.

Bats

- 3.14 Table 2 shows the number of records of each bat species recorded in the 2km search zone and the proximity to the site of the closest record for each species. The dates for these records range between 1998 and 2012.

Table 2 Bat Records

Common Name	Scientific Name	No. of Records	Closest Record (approximate distance and direction from site boundary)
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	5	1394m NE
Noctule bat	<i>Nyctalus noctula</i>	1	1640m SW
Pipistrelle species	<i>Pipistrellus sp.</i>	2	1010m E
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	1	1640m SW
Unidentified bat species	<i>Chiroptera</i>	6	81m W

Other Mammals

- 3.15 Five records for brown hare (*Lepus europaeus*) were returned within a 2km search area. The dates for these records range between 2005 and 2007 and the nearest record to the central grid reference is approximately 1522m to the north.
- 3.16 A single record for hedgehog (*Erinaceus europaeus*) was returned within a 2km search area. This record dates from 2020 and is located approximately 2018m to the north of the centre of the site.
- 3.17 A single record for weasel (*Mustela nivalis*) was returned within a 2km search area. This record dates from 1978 and is located approximately 1644m to the north of the centre of the site.
- 3.18 Three records for the non-native American mink (*Neovison vison*) were identified within the 2km search area. These records are dated between 2005 and 2015. The closest record to the centre of the site is located approximately 1097m to the west.

Birds

- 3.19 The Red and Amber conservation status assessment (Eaton *et al.* 2015) is based on a number of criteria including historical decline, trends in population and range, rarity, localised distribution and international importance. Red listed species are the most critical group, followed by Amber. Green listed species are of least concern.
- 3.20 In addition, Schedule 1 species are protected under the WCA (1981 as amended) by the Environmental Protection Act 1990. It is an offence to intentionally disturb any of these species during the breeding season without a valid licence.
- 3.21 All Schedule 1 and Section 41 bird species recorded within the 2km search area are listed in Table 3, along with their conservation status.

Table 3 Bird Species of Principal Importance

Common Name	Scientific Name	Number of Records	Amber	Red	Section 41	Schedule 1
Barn owl	<i>Tyto alba</i>	8				x
Black-headed gull	<i>Chroicocephalus ridibundus</i>	9	x			
Brambling	<i>Fringilla montifringilla</i>	2				x
Bullfinch	<i>Pyrrhula pyrrhula</i>	3	x		x	
Crossbill	<i>Loxia curvirostra</i>	1	x			x
Curlew	<i>Numenius arquata</i>	12		x	x	
Dunnock	<i>Prunella modularis</i>	60	x		x	
Fieldfare	<i>Turdus pilaris</i>	19		x		x
Greylag goose	<i>Anser anser</i>	1	x			
Herring gull	<i>Larus argentatus</i>	2		x	x	
Hobby	<i>Falco subbuteo</i>	1				x
House sparrow	<i>Passer domesticus</i>	27		x	x	
Kestrel	<i>Falco tinnunculus</i>	13	x			
Lapwing	<i>Vanellus vanellus</i>	5		x	x	
Mallard	<i>Anas platyrhynchos</i>	16	x			
Marsh tit	<i>Poecile palustris</i>	7		x	x	
Mistle thrush	<i>Turdus viscivorus</i>	1		x		
Mute swan	<i>Cygnus olor</i>	1	x			
Redwing	<i>Turdus iliacus</i>	12		x		x
Reed bunting	<i>Emberiza schoeniclus</i>	2	x		x	
Snipe	<i>Gallinago gallinago</i>	1	x			
Song thrush	<i>Turdus philomelos</i>	4		x	x	
Spotted flycatcher	<i>Muscicapa striata</i>	1		x	x	
Starling	<i>Sturnus vulgaris</i>	42		x	x	
Stock dove	<i>Columba oenas</i>	1	x			
Swift	<i>Apus apus</i>	2	x			
Tree sparrow	<i>Passer montanus</i>	57		x	x	
Woodcock	<i>Scolopax rusticola</i>	4		x		

Amphibians

- 3.22 A total of 87 great crested newt (*Triturus cristatus*, GCN) records were returned within a 2km search area. These records date from between 1993 and 2018 and the nearest record to the centre of the site is approximately 655m to the north-east. Consultation with Natural England's GCN Geoportal revealed a single known location with confirmed presence of GCN within 2km of the central grid reference. GCN presence was recorded in 2013 and the location is approximately 1.35km to the south-east of the central grid reference.

- 3.23 An ordnance survey map search revealed that there are four ponds within approximately 500m of the site boundary. The nearest are located c.400m from the north-east tip of the site. The other two ponds are c.500m to the west but separated from the site by a minor road and Shell Brook which are likely to be a barrier to GCN dispersal to the west.
- 3.24 Forty-five records for smooth newt (*Lissotriton vulgaris*) were returned within a 2km search area. The dates for these records range between 2005 and 2018 and the nearest record to the centre of the site is approximately 655m to the south-east.
- 3.25 A single record for palmate newt (*Lissotriton helveticus*) was returned within the 2km search area. This record dates from 2005 and is located approximately 1747m to the north-east of the central grid reference.
- 3.26 Three records for common toad (*Bufo bufo*) were returned within a 2km search area. The dates for these records range between 1977 and 2018 and the nearest record to centre of the site is approximately 607m to the north.
- 3.27 Four records for common frog (*Rana temporaria*) were returned within a 2km search area. The dates for these records range between 2008 and 2018 and the nearest record to the centre of the site is approximately 1226m to the east.

Reptiles

- 3.28 No reptile records were returned from the 2km search area.

Invertebrates

- 3.29 Four notable invertebrate species were returned from the 2km data search and are presented in Table 4, the closest of which is approximately 512m north of the central grid reference.

Table 4 Notable Invertebrate Species Records

Common Name	Scientific Name
Emerald damselfly	<i>Lestes sponsa</i>
Harlequin ladybird	<i>Harmonia axyridis</i>
Lesser silver water beetle	<i>Hydrochara caraboides</i>
Ruddy darter	<i>Sympetrum sanguineum</i>

White-clawed Crayfish

- 3.30 No records of white-clawed crayfish (*Austropotamobius pallipes*) were returned from the 2km search area.

Notable Fish

- 3.31 No records of fish were returned from the 2km search area.

Notable and Invasive Non-Native Plants

- 3.32 Nine non-native plant species were returned within the 2km search area as well as twenty-three notable plant species, these are represented in Table 5, The closest record to the centre of the site is for hybrid sweet grass (*Glyceria fluitans* x *notata* = *G. x pedicellata*) which is approximately 186m to the south. No plant species records fall within the site boundary.

Table 5 Notable/Invasive Non-native Plant Species Records

Common Name	Scientific Name
Black poplar	<i>Populus nigra</i> agg.
Rhododendron	<i>Rhododendron ponticum</i> *
Bladder-sedge	<i>Carex vesicaria</i>
Blue water-speedwell	<i>Veronica anagallis-aquatica</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Broad-leaved osier	<i>Salix viminalis</i> x <i>caprea</i> = <i>S. x smithiana</i>
Canadian waterweed	<i>Elodea canadensis</i> *
Common club-rush	<i>Schoenoplectus lacustris</i>
Cowbane	<i>Cicuta virosa</i>
Elecampane	<i>Inula helenium</i>
Fat duckweed	<i>Lemna gibba</i>
Fig-leaved goosefoot	<i>Chenopodium ficifolium</i>
Grey club-rush	<i>Schoenoplectus tabernaemontani</i>
Himalayan cotoneaster	<i>Cotoneaster simonsii</i> *
Himalayan honeysuckle	<i>Leycesteria formosa</i> *
Hybrid sweet-grass	<i>Glyceria fluitans</i> x <i>notata</i> = <i>G. x pedicellata</i>
Japanese knotweed	<i>Fallopia japonica</i> *
Least duckweed	<i>Lemna minuta</i>
Lesser pondweed	<i>Potamogeton pusillus</i>
Many-seeded goosefoot	<i>Chenopodium polyspermum</i>
Montbretia	<i>Crocsmia pottsii</i> x <i>aurea</i> = <i>C. x crocosmiiflora</i> *
New Zealand pigmyweed	<i>Crassula helmsii</i> *
Pepper-saxifrage	<i>Silaum silaus</i>
Pill Bryum	<i>Bryum violaceum</i>
Red pondweed	<i>Potamogeton alpinus</i>
Shiny-leaved willow	<i>Salix pentandra</i> x <i>euxina</i> x <i>alba</i> = <i>S. x meyeriana</i>
Shore Horsetail	<i>Equisetum fluviatile</i> x <i>arvense</i> = <i>E. x litorale</i>
Sweet-briar	<i>Rosa rubiginosa</i>
Tasteless water-pepper	<i>Persicaria mitis</i>
Thread-leaved water-crowfoot	<i>Ranunculus trichophyllus</i>
Variegated yellow archangel	<i>Lamiastrum galeobdolon</i> subsp. <i>argentatum</i> *
Water dock	<i>Rumex hydrolapathum</i>
Welsh poppy	<i>Meconopsis cambrica</i> *

* denotes Invasive Non-Native Species

Phase 1 Habitat Survey

General Site Description

- 3.33 Located to the east of the village of Penley, the site is surrounded by arable land. Generally the site is flat and damp, with the eastern and northern edges sloped. The majority of the site is semi-improved grassland interspersed with smaller patches of marshy grassland. Both of these habitats are quite species-poor and uniform. The site is quite wet as the vegetation would suggest, particularly towards the west. Shell Brook runs along the western boundary within a narrow wooded corridor and a smaller stream flows along and inside of the north-west boundary. There is also a small spring located within the field (see TN1). Adjacent to the north-west boundary is a wet area supporting swamp-like vegetation which is possibly a former pond. Mature trees and a hedgerow occur along the boundaries of the site, with some mature trees within the site boundary.

Habitats

- 3.34 The field survey recorded the following habitats on site, as illustrated in Figure 1.
- Semi-improved neutral grassland;
 - Marsh/marshy grassland;
 - Tall ruderal;
 - Swamp;
 - Running water;
 - Broadleaved semi-natural woodland;
 - Scattered Trees; and
 - Hedgerow.
- 3.35 Each habitat is described in more detail below and a complete botanical species list is included in Appendix 2. Illustrative photographs are presented in Appendix 3.

Semi-Improved Neutral Grassland

- 3.36 The main habitat within the field is a large area of semi-improved neutral grassland. It was evident from the presence of cow dung that the field is occasionally grazed. Common bent, cock's-foot, timothy and Yorkshire fog were the most commonly occurring species in the sward, with docks and dandelion occasional and creeping buttercup occasional to locally frequent.

Marshy Grassland

- 3.37 Interspersed throughout the semi-improved neutral grassland were patches of species-poor marshy grassland, particularly to the west where the ground is noticeably wet. Species include pendulous sedge, soft-rush and reed sweet-grass. A small patch of marshy grassland also occurs at the southern end of the site.

Tall Ruderal

- 3.38 A narrow belt of tall ruderal vegetation was present along the northern and eastern field boundaries associated with the boundary hedgerows/treelines. Species included creeping thistle, common nettle and creeping buttercup.

Swamp

- 3.39 There is a small, discrete area of wetland within a depression in the north-west corner of the field. Commonly occurring species included soft-rush, bulrush, water mint, reed sweet-grass, wild angelica and pendulous sedge. Less frequently species such as jointed rush and yellow iris were seen. This area is quite possibly a former pond (there is a small area of open water adjacent but outside the site to the north-west).

Running Water

- 3.40 Along the western boundary the site is bordered by Shell Brook, a shallow stream judged to be less than 30cm deep and approximately 1-2m wide in places. Deposits at the edges of the stream were comprised of clay and silt, however, the main substrate could not be seen due to the turbidity of the water. The bank is largely vegetated with grassland and semi-natural broadleaved woodland, predominantly alder, on both sides. The banks are mostly vertical and of variable height up to approximately 1m.
- 3.41 A small spring running along the north-west boundary was also audible but could not be seen due to grass cover. The spring fed into a small pond outside of the site boundary which is less than 15cm deep.

Broadleaved Semi-Natural Woodland

- 3.42 A narrow belt of woodland was present along the eastern bank of Shell Brook. The tree canopy was dominated by alder with a scrubby understorey and ground flora including wood avens, hedge garlic, red campion and foxglove.

Scattered Trees

- 3.43 Scattered trees were found along the entire site boundary with species including pedunculate oak, ash, alder and willow species, many of which are mature trees. Several trees had decaying or dead trunks (see below for assessment of bat roost potential).

Hedgerows

- 3.44 Mature defunct hedgerows border the northern and eastern boundaries of the site and are dominated by hawthorn.

Protected and Notable Species

Badger

- 3.45 A main sett (TN6) was identified within the north-west corner of the site boundary. The sett lies on both sides of the north-west boundary line and signs of recent activity were seen. There are at least seven sett entrances, all of which had fresh spoil outside, two of which contained bedding. Fresh badger prints were also seen here (TN4) as well as pathways leading into the surrounding fields. A badger hair was found on the boundary fence (TN5).
- 3.46 A single outlier sett (TN3) was also found on the northern boundary of the site. The hole was identified as most likely having been dug by a badger given the shape of the entrance, however, a fox (*Vulpes vulpes*) print could be seen in the spoil heap and no further signs of badger activity.
- 3.47 Despite the presence of a main sett within the site, there were very few signs of badger activity throughout the rest of the site. A single mammal pathway (TN7) leading off-site sett suggests that the badgers are foraging in the surrounding area outside of the site, potentially because the damp ground within the site is less suitable for foraging.

Otter

- 3.48 The stream running along the western boundary is shallow and lacks dense vegetation cover making it less suitable for creation of otter holts and lying up sites but it is likely to provide a corridor for feeding and commuting/dispersal (there are desk study records for otter on Shell Brook). Its location at the top of the river catchment suggests activity is likely to be sporadic. No evidence of use of the stream by otter was recorded during the survey.

Water Vole

- 3.49 The stream running along the western boundary is quite shaded and lacks in-channel vegetation making it unlikely to be suitable for water vole and no evidence of this species was observed during the survey.

Bats

- 3.50 This site supports high value habitat for foraging and, potentially, roosting bats. Over twenty trees within the site boundary were identified as having bat roosting potential, these are described in Table 6. As well as providing potential roosting opportunities, the mature trees and hedgerows provide foraging and commuting corridors. Furthermore, the marshy grassland is likely to be good habitat for terrestrial invertebrates and, therefore, provide foraging opportunities for bats.

Other Mammals

- 3.51 Evidence of rabbit (*Oryctolagus cuniculus*) activity was recorded within tall ruderal vegetation on the eastern site boundary at TN2. A small number of mole (*Talpa europaea*) hills were present within the grassland, confirming the presence of this species. The mature trees and hedgerow may provide habitat suitable for sheltering hedgehog and the grassland provides suitable foraging habitat.

Birds

- 3.52 The hedgerows and scattered trees provides suitable nesting and foraging opportunities for breeding birds. The grassland provides suitable foraging habitat for breeding birds, particularly species that probe the ground for invertebrates, such as starling (*Sturnus vulgaris*³). Adjacent habitats such as the surrounding fields and the woodland to the south also provide suitable foraging and nesting opportunities for breeding birds.
- 3.53 Buzzard (*Buteo buteo*) and western jackdaw (*Coloeus monedula*) were observed flying over the site during the survey.

Amphibians

- 3.54 There are no habitats suitable for breeding amphibians on site due to a lack of open water, however, the grassland, hedgerows and boundary trees provide optimal conditions for amphibian foraging, dispersal and hibernation. There is a small area of open water immediately adjacent to the north-west boundary. There are also two ponds some 400m to the east which have habitat connectivity with the site via boundary hedgerows and there is a record of GCN located c.650m to the north-east of the site, possibly associated with a cluster of ponds at this location. It is, therefore, possible that the site may provide terrestrial habitat opportunities for amphibians including GCN.

³ The names of bird species noted during survey follow British Ornithologists' Union (2017)

Reptiles

- 3.55 The site has potential to support grass snake (*Natrix helvetica*) which favours damp grassland and swamp habitat and the site provides ample foraging opportunities for this species. If present, this species is most likely to be confined to the swamp area and stream corridor in the north/west of the site.

White-Clawed Crayfish

- 3.56 Shell Brook is considered unsuitable for white-clawed crayfish due to the presence of a clay/silty substrate and lack of features such as underwater tree roots, cobbles and boulders to provide cover and shelter.

Invertebrates

- 3.57 The grassland habitats within the field interior are generally lacking in sufficient botanical and structural diversity to be likely to support a notable invertebrate assemblage. Shell Brook is also unlikely to support a diverse assemblage of aquatic invertebrates due to the lack of aquatic vegetation and high level of shading resulting in low structural diversity.

Notable and Invasive Non-Native Plants

- 3.58 No notable or invasive non-native plant species were identified during the survey.

Table 6 Summary of Trees with Bat Roost Potential

No.	Species ¹	Description	Bat Roost Potential
T1	Alder	Woodpecker hole in main stem	-
T2	Alder	Numerous small holes, dead wood at the top	-
T3	White willow	Couple of broken branches creating small cavities	Mod
T4	Alder	Woodpecker hole, knot holes and decaying top	-
T5	White willow	Mostly deadwood with hollow trunk	Low
T6	Ash	Several knot holes, largest pointing downwards	Mod
T7	Alder	Low dead branches and knot holes	Mod
T8	Alder	Dying tree with dead branches and knot holes	High
T9	Pedunculate oak	Mature tree with multiple dead branches and knot holes	High
T10	Pedunculate oak	Mature tree, no obvious features	Low
T11	Pedunculate oak	Couple of dead branches	Mod
T12	Pedunculate oak	Couple of knot holes and dead branches - Features potentially obscured by dense canopy	Mod
T13	Pedunculate oak	In poor health - broken branches and knot holes	Mod
T14	Pedunculate oak	Mature tree - no obvious features but branches decaying	Mod
T15	Alder	Decaying trunk	Mod
T16	Alder	Decaying trunk, knot hole in trunk	Mod
T17	Alder	Woodpecker hole	-
T18	Pedunculate oak	Decaying branches	Mod
T19	Ash	Decaying branches	Mod
T20	Alder	Decaying branches, many holes in trunk	High

4. DISCUSSION

Designated Sites

- 4.1 The River Dee and Bala Lake SAC is located within 5km of the site. In terms of habitat connectivity, Shell Brook which forms the western boundary of the proposed development site, flows into Emral Brook and subsequently into the Worthenbury Brook before joining the River Dee some 8km downstream. Due to the distance of the proposed development site from the River Dee, it is considered extremely unlikely that there would be any likely significant effect on the European Site. In any case, best practice measures would be adopted during works to ensure that there are no indirect effects on the SAC, e.g. measures to contain sediment run-off etc. from entering Shell Brook. Further details are outlined below (see Outline Mitigation Measures).
- 4.2 There is no connectivity between the proposed development site and the Midlands Meres and Mosses Ramsar site located c.4km to the east. No likely significant effects are anticipated and no measures are considered necessary in respect of this European Site.
- 4.3 There are two LWS, namely Red Hall Grassland (site ref: W353) and restored Ancient Woodland (site ref: 34822) in close proximity to the proposed development site (the grassland to the west of Lion Lane and the woodland adjacent to the south of the site). Mitigation measures are recommended (see Outline Mitigation Measures) to avoid any indirect effect on these LWS.

Habitats

- 4.4 The proposed lake would be contained entirely within the semi-improved neutral grassland and marshy grassland habitats which are of low botanical and structural diversity. These habitats are of relatively limited ecological interest in their own right, although they have the potential to provide a habitat for a range of protected species (see below). Overall, the grasslands are considered to be of value at no more than a site level only and no particular mitigation measures are considered necessary.
- 4.5 All boundary trees and the Shell Brook corridor will be retained.
- 4.6 In addition, the proposed development is intended to increase habitat and botanical diversity by providing:
- a large lake with open water and extensive areas of marginal planting;
 - new native species woodland will also be introduced along the boundaries of the site connecting the adjacent ancient woodland, hedgerows and wooded areas around Penley Mill; and
 - a large new wetland wildflower meadow which will be created on excavated soil to the south of the lake.

Protected and Notable Species

- 4.7 The key species constraints are:
- An active main badger sett and associated outlier sett on the northern site boundary;
 - Numerous mature trees with bat roost potential;
 - High quality bat foraging habitats particularly associated with the linear habitat features along the site boundaries comprising wooded stream corridor, mature trees and hedgerows;

- Potential for nesting birds in the boundary trees and hedgerows;
- Potential for amphibians, including GCN (if present in nearby ponds) and grass snake;
- Otter, which are likely to use Shell Brook corridor for foraging/dispersal on an infrequent basis.

4.8 The proposed lake design will incorporate a 30m undisturbed buffer around the active badger setts on the northern site boundary. The retention of all boundary hedgerows and mature trees and the Shell Brook corridor will ensure that continuity of these habitat corridors is maintained with no impact on nesting birds, foraging and roosting bats, otter and grass snake (if present).

4.9 Additional mitigation measures are recommended (see Outline Mitigation Measures) in respect of amphibians, including GCN which may be present within grassland habitats in the interior of the site.

5. RECOMMENDATIONS

Further Survey Requirements

- 5.1 Due to the presence, or potential presence, of the following ecological constraints, further surveys are recommended with the scope and timing of surveys as set out below:
- An eDNA survey is recommended for the small open waterbody adjacent to the north west boundary and the two ponds located approximately 400m to the north east to determine presence/absence of GCN. This survey may only be conducted between mid-April and the end of June. A Habitat Suitability Index (HSI) assessment of the suitability of these waterbodies should be conducted at the same time; and
 - Depending on the results of the above surveys it may be necessary to conduct further population size class surveys to ascertain the size of any GCN population to inform an appropriate mitigation strategy. Population size class surveys must be conducted between mid-April and mid-June.

Outline Mitigation Measures

Designated Sites

- 5.2 Standard best practice pollution control measures should be adopted during construction to avoid any sediment run-off or pollution entering Shell Brook. The detail of any such measures would be determined by the contractor.
- 5.3 All works will be contained within the interior of the site and an undisturbed buffer zone will be retained adjacent to all site boundaries to ensure no indirect disturbance to the nearby LWS and ancient woodland.

Habitats

- 5.4 No specific mitigation measures are required in respect of habitats, other than the retention of an undisturbed buffer zone adjacent to all boundary habitats.

Protected and Notable Species

- 5.5 The need for protected species mitigation should be reviewed and updated as necessary following the completion of the further ecological surveys outlined above. If GCN are found to be present in the off-site ponds, then mitigation is likely to be required. If GCN are present in the small waterbody located immediately adjacent to the north-west boundary then a licence may be required to allow for GCN to be translocated from the proposed works footprint.
- 5.6 If GCN are absent from this waterbody but found to be present in the ponds located c.400m to the east then mitigation would be required but, due to the distance of the ponds from the site this is likely to comprise precautionary measures of working. Measures are likely to comprise avoiding works during the GCN hibernation season (Nov to Feb inclusive) and strimming of the grassland to 150mm followed by a fingertip search of the proposed works area prior to commencement.

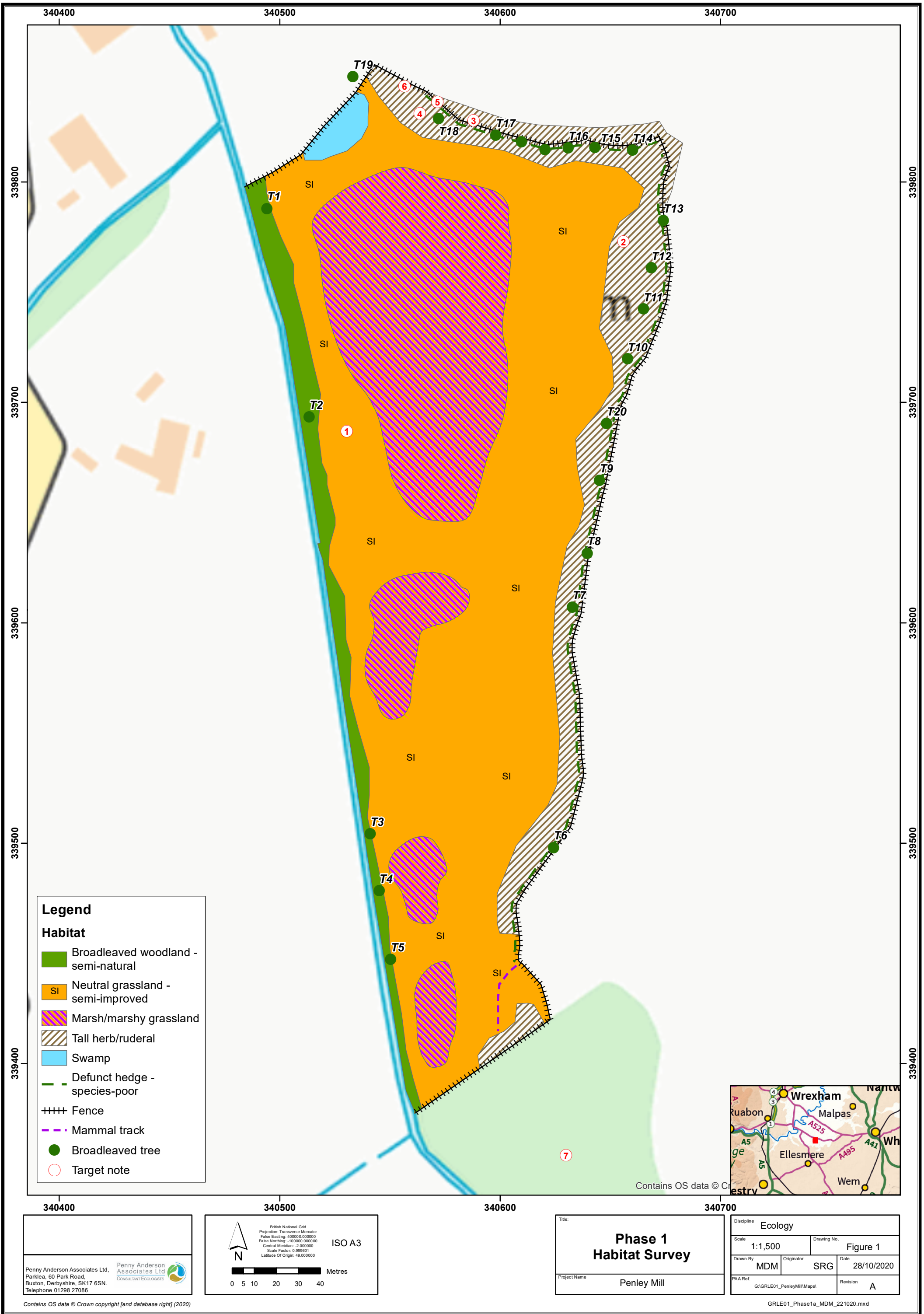
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7. ABBREVIATIONS

CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way
EU	European Union
GCN	Great Crested Newt(s)
HSI	Habitat Suitability Index
IEA	Institute of Environmental Assessment
JNCC	Joint Nature Conservation Committee
LWS	Local Wildlife Site(s)
MAGIC	Multi Agency Geographic Information for the Countryside
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
PEA	Preliminary Ecological Appraisal
SAC	Special Area(s) of Conservation
SPA	Special Protection Area(s)
SSSI	Site(s) of Special Scientific Interest
TN	Target Note(s)
WCA	Wildlife and Countryside Act

FIGURE



APPENDICES

APPENDIX 1

Relevant Species Legislation

SUMMARY OF THE LEGISLATION RELATING TO BADGERS AND THEIR SETTS

Badgers (*Meles meles*) are not an endangered species but have a long history of persecution and cruelty. As such, badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended), which makes it illegal for any person to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a badger sett, or to disturb a badger whilst it is within a sett. There are also additional offences relating to possession of, buying and selling a dead badger, or anything derived from a badger, and causing a dog to enter a sett.

The Act defines a sett as 'any structure or place which displays signs of current use by a badger'. Setts are defined by English Nature (1995) as 'usually underground tunnel systems providing shelter for badgers, but may include other structures used by badgers such as hay bales, drainage culverts, or cellars'. 'Current use' is more difficult to define but is usually interpreted by the presence/absence of badger field signs over several observations of the sett (Natural England 2006).

In addition, the National Planning Policy Framework (NPPF 2019) has an overall focus on sustainable development, and states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Local authorities in England are required to consider the likelihood of any proposed development adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations. The planning guidance for Wales, Technical Advice Note (Wales) 5, identifies the need to comply with the Protection of Badgers Act 1992.

English Nature, 1995. *Species Conservation Handbook*. English Nature, Peterborough.

Natural England, 2006. *Guidance on 'Current Use' in the definition of a badger sett*. Natural England, Peterborough.

Please note: the above text provides a brief summary of the legislation in relation to badgers for England and Wales and the original Act and amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BATS

All wild species of bat are protected under the Wildlife and Countryside Act (WCA) 1981, which has also been amended by later legislation, including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017 (amended), and this legislation is applicable to England and Wales. Bats are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Bat species are also listed under Annexes IIa and IVa of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (amended).

The Conservation of Habitats and Species Regulations 2017 (amended) state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead bat or part of such an animal.

In addition, seven native British bat species, including the soprano pipistrelle (*Pipistrellus pygmaeus*) and the brown long-eared bat (*Plecotus auritus*), that are frequently found in buildings, are listed as a 'Priority Species' under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

In addition, the National Planning Policy Framework (NPPF 2019) has an overall focus on sustainable development, and states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to bats in England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BREEDING BIRDS

All wild species of breeding birds and their nests are protected under Part 1 of the Wildlife and Countryside Act (WCA) 1981, as amended by later legislation including the Countryside and Rights of Way (CROW) Act 2000. This legislation applies in England and Wales.

Part 1 (Section 1:1) of the WCA states that:

'If any person intentionally,

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.'

Part 1 (Section 1:5) of the WCA (amended by the CROW Act 2000) refers to specific birds listed on Schedule 1 of the WCA, and states that:

'If any person intentionally or recklessly,

- (a) 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
- (b) disturbs dependent young of such a bird,

he shall be guilty of an offence and liable to a special penalty.'

Schedule 1 includes birds such as Western barn owl (*Tyto alba*), black redstart (*Phoenicurus ochrurus*), woodlark (*Lullula arborea*) and Cetti's warbler (*Cettia cetti*). Please refer to the WCA for a complete list of Schedule 1 species.

Some provisions are made to allow the killing and taking of certain species under certain circumstances, as follows:

- Birds listed on Schedule 2 (Part 1) of the Act may be taken or killed outside of the 'close season' for each individual species (the 'close season' is defined by the Act). This includes various wild duck and geese species.
- Birds listed on Schedule 2 (Part 2) of the Act may be killed or taken by authorised persons at all times. This includes species such as carrion crow (*Corvus corone*), Eurasian magpie (*Pica pica*), feral pigeon¹ (*Columba livia*) and greater Canada goose (*Branta canadensis*). An 'authorised person' is defined as a person who has written authorisation to undertake the act from the relevant statutory authority. The written authority is in the form of a licence, either a general licence which covers a number of the more typical 'pest' species, or an individual licence for other individual species. In England these licences are issued by Natural England and in Wales by the Welsh Assembly Government.

Please note: the above text provides a brief summary of the legislation in relation to breeding birds in England and Wales and the original Act and any amendments should be referred to for the precise wording.

¹ Also known as rock dove

SUMMARY OF THE LEGISLATION RELATING TO GREAT CRESTED NEWTS (GCN)

Great crested (or warty) newts (*Triturus cristatus*) (GCN) are protected under the Wildlife and Countryside Act (WCA) 1981 (amended), which has been also amended by various legislation including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017 (amended), and this legislation is applicable to England and Wales. Great crested newts are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a GCN while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a GCN (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Great crested newts are also listed under Annexes IIa and IVa of EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (amended).

The Conservation of Habitats and Species Regulations 2017 (amended) state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place, whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead GCN or part of such an animal.

In addition, GCN are listed as a 'Priority Species' under the under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

In addition, the National Planning Policy Framework (NPPF 2019) has an overall focus on sustainable development, and states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to GCN for England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO OTTERS

Otters (*Lutra lutra*), also known as European otters, are protected under the Wildlife and Countryside Act (WCA) 1981 (amended), which has also been amended by various later legislation including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017 (amended), and this legislation is applicable to England and Wales. Otters are listed on Schedule 5 of the WCA and are, therefore, subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb an otter while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by an otter (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Otters are also listed under Annexes IIa and IVa of EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (amended).

The Conservation of Habitats and Species Regulations 2017 (amended) state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place, whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead otter or part of such an animal.

In addition, otters are listed as a 'Priority Species' under the under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

In addition, the National Planning Policy Framework (NPPF 2019) has an overall focus on sustainable development, and states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to otters for England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO REPTILES

All six of the native British reptile species are afforded varying degrees of protection under the Wildlife and Countryside Act (WCA) 1981, as amended by various later legislation, and this legislation is applicable to England and Wales. All six species are listed on Schedule 5 of the WCA.

The four widespread species, common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*) and adder (*Vipera berus*) are afforded part protection under Section 9(1), making it an offence to intentionally kill or injure any of these species of reptile. The two rarer species, sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*), are subject to a greater degree of protection under Section 9(4) which, with the amendments, make it (in brief) an offence to:

- Intentionally or recklessly disturb a sand lizard or smooth snake while it is occupying a structure or place used for shelter or protection (S9:4b); or
- Intentionally or recklessly obstruct access to any structure or place a sand lizard or smooth snake uses for shelter or protection (S9:4c).

All six species are afforded protection from buying, selling or exchange under Section 9(5) of the WCA.

Sand lizard and smooth snake are also listed under Annexes IIa and IVa of EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (amended).

The Conservation of Habitats and Species Regulations 2017 (amended) state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead sand lizard or smooth snake or part of such an animal.

In addition, all six reptile species are listed as a 'Priority Species' under the under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

In addition, the National Planning Policy Framework (NPPF 2019) has an overall focus on sustainable development, and states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to reptiles for England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

APPENDIX 2

Botanical Species List

Appendix 2 Botanical Species List

Common Name	Scientific Name	Semi Improved Neutral Grassland B2.2	Marshy Grassland B5	Tall Ruderal Edge to Stream/ Grassland C3.1	Swamp F1	Boundary Woodland Scattered Trees A1.1.1 and A3.1	Defunct Hedgerow NE Boundary J2.2
Woody Species							
Alder	<i>Alnus glutinosa</i>				R (sapling)	O-LD	
Ash	<i>Fraxinus excelsior</i>					O	
Bramble	<i>Rubus fruticosus</i> agg.					R	
Dog rose	<i>Rosa canina</i>					LO	
Elder	<i>Sambucus nigra</i>					R	
Goat willow	<i>Salix caprea</i>					R	
Hawthorn	<i>Crataegus monogyna</i>					O	D
Pedunculate oak	<i>Quercus robur</i>					O-F	
Willow sp.	<i>Salix</i> sp.					R	
Herbs, Grasses and Ferns							
Annual meadow-grass	<i>Poa annua</i>	R					
Bird's-foot trefoil	<i>Lotus corniculatus</i>		R				
Bittersweet	<i>Solanum dulcamara</i>				O		
Broad-leaved dock	<i>Rumex obtusifolius</i>			O			
Brooklime	<i>Veronica beccabunga</i>	LR					
Bulrush	<i>Typha latifolia</i>				LF		
Cat's ear	<i>Hypochaeris radicata</i>	LO					
Cleavers	<i>Galium aparine</i>	LR					
Cock's-foot	<i>Dactylis glomerata</i>	F-LA		O			
Common bent	<i>Agrostis capillaris</i>	A					
Common chickweed	<i>Stellaria media</i>	LR					
Common fleabane	<i>Pulicaria dysenterica</i>				LO		
Common knapweed	<i>Centaurea nigra</i>	LR					
Common mouse-ear	<i>Cerastium fontanum</i>	LR					
Common nettle	<i>Urtica dioica</i>	O-LF		A-LD			
Common ragwort	<i>Jacobaea vulgaris</i>	R-LO					
Common sorrel	<i>Rumex acetosa</i>	R-LO					
Common vetch	<i>Vicia sativa</i>				LO		
Cow parsley	<i>Anthriscus sylvestris</i>			LR			
Creeping buttercup	<i>Ranunculus repens</i>	O-F		LO			
Creeping thistle	<i>Cirsium arvense</i>	O-LF		O-LF			
Crested dog's-tail	<i>Cynosurus cristatus</i>	LO					
Dandelion	<i>Taraxacum officinale</i> agg.	O					
False oat-grass	<i>Arrhenatherum elatius</i>	R					
Fern species	<i>Dryopteris</i> sp.					R	
Field horsetail	<i>Equisetum arvense</i>				R		
Foxglove	<i>Digitalis purpurea</i>					LR	
Germander speedwell	<i>Veronica chamaedrys</i>	R					
Greater stitchwort	<i>Stellaria holostea</i>	R-LO			LR		
Hedge garlic	<i>Alliaria petiolata</i>					R-LO	
Hedge woundwort	<i>Stachys sylvatica</i>					LR	
Herb-Robert	<i>Geranium robertianum</i>					R	
Hogweed	<i>Heracleum sphondylium</i>			R			
Ivy	<i>Hedera helix</i>					LO	
Jointed rush	<i>Juncus articulatus</i>				LR		
Lesser burdock	<i>Arctium minus</i>			LR			
Marsh thistle	<i>Cirsium palustre</i>		R-O		LR		
Meadow buttercup	<i>Ranunculus acris</i>	F					
Meadowsweet	<i>Filipendula ulmaria</i>	LO	R				
Pendulous sedge	<i>Carex pendula</i>	LR					
Perennial rye-grass	<i>Lolium perenne</i>	R					
Red campion	<i>Silene dioica</i>					LR	
Red clover	<i>Trifolium pratense</i>	LR					
Reed sweet-grass	<i>Glyceria maxima</i>		A-D		LO		
Scented mayweed	<i>Matricaria chamomilla</i>	LR					
Sedge species	<i>Carex</i> sp.	F-A	A-D		LO		
Selfheal	<i>Prunella vulgaris</i>	R					
Soft-rush	<i>Juncus effusus</i>	O-F	O-F		O		
Spear thistle	<i>Cirsium vulgare</i>	LR					
Timothy	<i>Phleum pratense</i>	F-LA					
Tufted hair-grass	<i>Deschampsia caespitosa</i>	LR					
Water mint	<i>Mentha aquatica</i>				O-LF		

Common Name	Scientific Name	Semi Improved Neutral Grassland B2.2	Marshy Grassland B5	Tall Ruderal Edge to Stream/ Grassland C3.1	Swamp F1	Boundary Woodland Scattered Trees A1.1.1 and A3.1	Defunct Hedgerow NE Boundary J2.2
Water-pepper	<i>Persicaria hydropiper</i>	O-LF (nr stream)	O-LF				
White clover	<i>Trifolium repens</i>	LR					
Wild angelica	<i>Angelica sylvestris</i>		R		O-F		
Willowherb species	<i>Epilobium sp.</i>		R-O				
Wood avens	<i>Geum urbanum</i>					O	
Yarrow	<i>Achillea millefolium</i>	LR					
Yellow iris	<i>Iris pseudacorus</i>				LO		
Yorkshire fog	<i>Holcus lanatus</i>	F-LA		O			

KEY

D-Dominant, A-Abundant, F-Frequent, O-Occasional, R-Rare, L-Locally

APPENDIX 3

Photographs



Photo 1

**Semi Improved Neutral
Grassland and Marshy
Grassland within the field
interior**



Photo 2

**Scattered trees and defunct
hedge on north-east site
boundary**



Photo 3

**Scattered trees and defunct
hedge on eastern site
boundary**



Photo 4

**Woodland adjacent to
southern boundary**



Photo 5

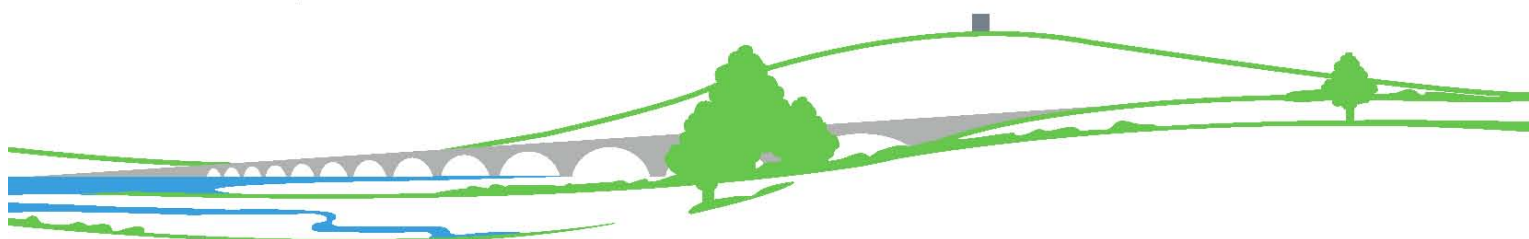
Shell Brook



Photo 6

**Off-site pond to north-west of
site**

Penny Anderson
Associates Ltd
CONSULTANT ECOLOGISTS



Park Lea, 60 Park Road, Buxton, Derbyshire SK17 6SN