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PRELIMINARY ECOLOGICAL APPRAISAL

At

Carlton Garden Centre

Pinfold Lane
Llay Industrial Estate
Wrexham
LL12 0PX

NGR: SJ 33060 56223

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A handwritten signature in black ink, appearing to read 'M Halliwell', is positioned below the 'Approved by:' line.

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EXECUTIVE SUMMARY

United Environmental Services Ltd (UES) was commissioned by Sarah Lee to carry out a baseline ecological survey of a parcel of land at Carlton Garden Centre, Llay, Wrexham. A desk study and preliminary ecological appraisal (PEA) survey were undertaken on 29th June 2023, including searches using the Multi Agency Geographic Information Centre (MAGIC) and a local ecological record search undertaken through COFNOD – the Local Environmental Records Centre for North Wales.

The PEA provides an assessment of potential ecological impacts associated with the development at Carlton Garden Centre of the land parcel. The development proposals include the construction a new haulage yard which will include the demolition of buildings and structures associated with the site's current use as an active garden centre.

The land parcel has an area of approximately 0.5ha and predominantly comprises hardstanding with numerous sheds and temporary structures scattered throughout. There are three buildings within the redline boundary, one of which is used for storage, another is a functioning retail outlet for the garden centre, and the third is a toilet block that is due to be retained under the current proposals. Two mature pedunculate oaks overshadow the amenity grassland which lies adjacent to the northeast boundary, and pockets of ephemeral/short perennial are scattered throughout the garden centre. A small area of semi-natural woodland is contained by palisade fencing to the north and north-west of the site.

The results of the survey combined with the results of the desk study have highlighted the requirement for further work in relation to the following habitats and species:

- **Amphibians** – the works should be completed under a precautionary non-licensed method statement and reasonable avoidance measures (RAMs) should be implemented during the construction phase of the development.
- **Bats** – further presence / absence surveys are required to determine the presence or likely absence of roosting bats. These surveys have since been conducted and concluded likely absence (see report UES04084/04 produced by UES).

There are two mature pedunculate oak trees onsite which have been assessed as having low potential to support roosting bats. In accordance with BCT guidelines, no further survey work is required for the trees that have been assessed as having low potential to support roosting bats. However, soft felling techniques should still be used to minimise any incidental risk of harm to bats. The trees must be removed in sections, which will be lowered to the ground and left for a period of 24 hours before removing them from the site.

If any additional trees on site or adjacent to the site will be affected by the proposed developments, then further ground-level tree assessment may be required to determine the suitability of the trees to support roosting bats. If any potential roosting features are found to still be suitable following the inspections, further surveys may be required including aerial tree inspections or bat presence / absence surveys (May to September inclusive).

- **Breeding birds** – site clearance, tree felling, arboricultural works and vegetation clearance are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If not possible and works need to take place during this period, a targeted nest survey is to be undertaken immediately prior



to the works by a suitably qualified ecologist or an ecological clerk of works appointed to oversee the works.

- **Trees and woodland** – to be retained where possible or replaced as part of a detailed landscaping scheme. Generic issues relating to root protection areas.

Mitigation measures, as detailed in section 4, should be adhered to, which may in some cases negate the need for further survey work.

The development also presents an opportunity to improve the habitats on site for wildlife, such as bats and birds. The inclusion of nest boxes and bat boxes will provide suitable nesting and roosting features in the long term.

This report should be read with appendices 1 to 8, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

1 INTRODUCTION

1.1 Author, surveyors, qualifications and scope of study area

This report is written by Bethan Beeston BA, UES Trainee Ecologist. Other surveyors present included:

- Mark Halliwell MBiol, UES Ecologist. Mark holds a level 4 BSBI FISC, which certifies him as competent to undertake phase 1 habitat and National Vegetation Classification (NVC) surveys. Mark is licensed by Natural England to survey all species of bats by observation using an artificial light under licence number 2020-45183-CLS-CLS (level 1). Mark is licensed by Natural England to disturb, take and handle great crested newts under licence number 2021-53200-CLS-CLS (CL08).

The report provides an assessment of the potential ecological impacts associated with the proposed development of Carlton Garden Centre.

The zone of influence considered within the scope of the survey includes all land within the red line boundary. Where relevant, other ecological resources, receptors and important habitats which are spatially separate from the site are considered.

1.2 Survey objectives

UES was commissioned in May 2023 to conduct a PEA of the proposed development site. This was completed in order to:

- Establish baseline conditions and determine the importance of ecological features present or potentially present within the survey area
- Identify key ecological constraints to the project
- Make recommendations for design options to avoid significant effects on important ecological resources at an early stage of development planning
- Identify potential requirement for further surveys for nationally or internationally protected species which may be present on site
- Identify potential requirement for mitigation or compensation, including measures that may be required based on further surveys

1.3 Proposed development

The development proposals include the demolition of the existing structures on site with the exception of the WC and the construction a new haulage yard.

1.4 Structure of the report

This report is a baseline appraisal that forms the basis for further ecological surveys and Environmental Impact Assessments (EIA) if required. In the majority of cases the preliminary ecological assessment will not provide all the ecological data required by the Local Planning



Authority to determine an application, especially in the event that protected habitat or species issues are present or likely.

This report should be read with appendices 1 to 8, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

2 METHODOLOGY

This PEA comprises a desk study and a field survey. The desk study is conducted in order to collate ecological information on species and / or habitats of interest that may be present. The field survey is conducted in order to assess the habitats and their importance, both on site and in the context of their wider surroundings.

2.1 Desk study

The following resources were used to inform the desk study:

- National – Using the UK government's MAGIC website, statutorily protected sites were scoped to a distance of 10km from the application site.
- Local – An ecological record search of designated sites and protected or otherwise notable species within 2km of the proposed development site was undertaken through COFNOD – the Local Environmental Records Centre for North Wales.

2.2 Field survey

An ecological walkover survey was carried out on 29th June 2023 by Mark Halliwell and Bethan Beeston. The purpose of the survey was to identify, record and map dominant habitat types within the development area and highlight any further species surveys that may be required based on the quality of those habitats. When conducting the surveys particular focus was concentrated on the following species and habitat features:

- | | |
|------------------|-------------------------|
| • Amphibians | • Hedgerows |
| • Reptiles | • Plant communities |
| • Badger | • Invasive species |
| • Bats | • Otter |
| • Hazel dormouse | • Water vole |
| • Birds | • White-clawed crayfish |
| • Trees | |

The habitats were assessed by using the phase 1 habitat survey technique, which is a system for environmental audit widely used within the environmental consultancy field. The survey was undertaken in accordance with the methodology in the 'Handbook for phase 1 habitat survey - A technique for environmental audit' (JNCC, 2010) as recommended by Natural Resources Wales, and in the "Guidelines for Preliminary Ecological Appraisal" (CIEEM, 2017).

The survey area encompasses all of the land within the development footprint and the land to a distance of 30m outside it where accessible. In line with recognised guidelines, ponds were also scoped to a distance of 500m (250m radius from the survey area).

The phase 1 habitat survey methodology was extended to record any signs of habitats suitable to support protected / invasive species and any incidental observations of other noteworthy species.



2.3 Survey limitations

The survey was conducted at an appropriate time of year in June when most plants are readily identifiable. Sufficient vegetative identification was possible, allowing a robust assessment of habitats to be undertaken. The area of woodland within the north-western corner of the site could only be surveyed from behind the palisade fencing. A robust assessment of the habitat type was possible, though a detailed inspection of this area of woodland was not possible.

3 RESULTS

3.1 Desk study

A desk study was conducted for the proposed development site and surrounding area. Statutorily protected sites were scoped to a distance of 10km. Further results of the desk study can be found at Appendix 1 – Desk study.

3.1.1 Protected sites

There is one statutorily protected sites (designated for ecological reasons) within 2km of site:

- Llay Bog SSSI¹

*Llay Bog SSSI is located approximately 1.08km to the southwest of the proposed development site. A small peat bog in an ice hollow in the glacial drift deposits. The bog margin, adjacent to the boundary ditch, is more mesotrophic than the central area and contains such species as Marsh Cinquefoil *Potentilla palustris*, Marsh Pennywort *Hydrocotyle vulgaris*, Marsh Violet *Viola palustris* and Soft Rush *Juncus effusus*.*

*The northern fringe is covered in alder - birch carr and includes Alder *alnus glutinosa*, Buckthorn *Frangula alnus*, with Purple Moor Grass *Molinia caerulea* and Broad Buckler Fern *Dryopteris dilatata* as common species underneath the woodland canopy.*

*The small central portion of the bog is characterised by a lawn of Bog Moss *Sphagnum* spp. with Eriophorum *angustifolium* and Cotton Grasses *E. Vaginatum*, Cranberry *Vaccinium oxycoccus*, Bottle Sedge *Carex rostrata*, Sundew *Drosera rotundifolia* and Calluna *vulgaris* and Heaths *Erica tetralix*.*

There are twenty statutorily protected sites (designated for ecological reasons) within 2 – 10km of site:

- | | |
|--|---|
| • Berwyn a Mynyddoedd De Clwyd/Berwyn and South Clwyd Mountains SAC ² | • Old Pulford Brook Meadows SSSI |
| • Buckley Claypits and Commons SSSI | • River Dee and Bala Lake SAC (England) |
| • Coed Talon Marsh SSSI | • River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC (Wales) |
| • Deeside and Buckley Newt Sites SAC | • River Dee (England) SSSI |
| • Gatewen Marsh SSSI | • Afon Dyfrdwy (River Dee) SSSI (Wales) |
| • Johnstown Newt Sites SAC | • Ruabon/Llantysillio Mountains and Minera SSSI |
| • Llandegla Moor SSSI | • Sontley Marsh SSSI |
| • Llay Bog SSSI | • Stryt Las a'r Hafod SSSI |
| • Marford Quarry SSSI | • Vicarage Moss SSSI |
| • Midland Meres and Mosses Phase 2 Ramsar (England) | |
| • Midland Meres and Mosses Phase 2 Ramsar (Wales) | |

¹ SSSI – Site of Special Scientific Interest

² Special Area of Conservation

The proposed development site lies within a SSSI Impact Risk Zone (IRZ) within which Natural England do not request that they are consulted on any agricultural development that could cause air pollution (including livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m² and manure stores > 250t). General combustion processes > 50m energy input. Including energy from waste incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.

3.1.2 Protected species

The following records of protected or otherwise notable species were highlighted by the environmental records search:

- Amphibians: numerous records of great crested newt (GCN) *Triturus cristatus*, were returned from within 2km of the proposed development site, the closest of which is approximately 482m from the site. Records of other amphibian species including smooth newt *Lissotriton vulgaris*, palmate newt *Lissotriton helveticus*, common toad *Bufo bufo*, and common frog *Rana temporaria*, were also returned.
- Bats: numerous records of bats were returned from within 2km of the proposed development site, including an unknown bat species, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, *Myotis* sp., brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctula*, Daubenton's bat *Myotis daubentonii*, and a *Plecotus* sp. bat. The closest record is approximately 267m from the proposed site in 2001.
- Birds: various species, including several NERC section 41, Wildlife and Countryside Act 1981 Schedule 1, Birds of Conservation Concern amber and red list species.
- Hazel dormouse: no records of hazel dormouse *Muscardinus avellanarius* were returned from within 2km of the proposed development site.
- Hedgehog: several records of hedgehog *Erinaceus europaeus* were returned from within 2km of the proposed development site. The closest record is approximately 154m from the site in 2019.
- Otter: records of otter *Lutra lutra* were returned from within 2km of the proposed development site, the closest of which is approximately 1522m from the site.
- Reptiles: several records of grass snake *Natrix Helvetica* were returned from within 2km of the proposed development site. In addition, a single record of common lizard *Zootoca vivipara*, and adder *Vipera berus* were also returned. The closest reptile record details a common lizard approximately 576m from the site in 2021.
- Water vole: two records of water vole *Arvicola amphibius* were returned from within 2km of the proposed development site. The closest record is approximately 1840m from the site in 2001.

- White clawed-crayfish: no records of white-clawed crayfish *Austropotamobius pallipes* were returned from within 2km of the proposed development site.

3.2 Baseline conditions – Habitats

The results of the PEA are also shown on the accompanying map at Appendix 2 – Phase 1 habitat plan. Habitats are colour-coded in accordance with the phase 1 standard. See Appendix 5 – Botanical species list for a detailed list of all the species present on site.

The local area predominantly consists of industrial and residential buildings, amenity gardens and arable fields. The following principal habitat types were characterised on site:

- A1.1.1 Broadleaved woodland – semi natural
- A3.1 Broadleaved scattered trees
- J1.2 Amenity grassland
- J1.3 Ephemeral/short perennial
- J2.4 Fence
- J3.6 Buildings
- J5 Active garden centre

3.2.1 A1.1.1 Broadleaved woodland – semi natural

The offsite woodland is confined to the northeast of site, alongside a small section of woodland that flanks the eastern site boundary. The woodland contains a canopy of pedunculate oak *Quercus robur*, silver birch *Betula pendula*, wild cherry *Prunus avium*, ash *Fraxinus excelsior*, grey willow *Salix cinerea*, sycamore *Acer pseudoplatanus* and poplars *Populus sp* (see Appendix 4 – Photographs, Photograph 1). The shrub layer comprises honeysuckle *Lonicera periclymenum*, field rose *Rosa arvensis* rowan *Sorbus aucuparia* and broom *Cytisus scoparius*, and the ground/ field layer comprises Perforate St johns-wort *Hypericum perforatum*, red fescue *Festuca rubra*, black bindweed *Fallopia convolvulus* and meadow vetchling *Lathyrus pratensis*. The ground / field layer is sparse due to the density of the above canopy and shrub layer.

3.2.2 A3.1 Scattered broadleaved trees

Scattered trees within the proposed development site are limited to two mature pedunculate oak trees located among the amenity grassland, close to the northeast boundary (Photograph 2). Both trees were inspected and found to contain potential roosting features for bats due to the presence of pruning wounds, stem cavities and knot holes (Photographs 3 and 4). The proposed plans include the retention of both trees.

3.2.3 J1.2 Amenity grassland

There is a small area of amenity grassland in the northeastern section of the site adjacent to the boundary fence which is managed and partially sheltered by two mature oak trees (Photograph 2). The grassland is regularly mowed leaving the area dominated by short sward grasses such as annual meadow grass *Poa annua*, perennial ryegrass *Lolium perenne* and Yorkshire fog *Holcus lanatus*. Other species present within the grassland are creeping

buttercup *Ranunculus repens*, broadleaved willowherb *Epilobium montanum*, selfheal *Prunella vulgaris*, hedge garlic *Alliaria petiolata* and white clover *Trifolium repens*.

3.2.4 J1.3 Ephemeral / short perennial

Ephemeral / short perennial is encroaching over the hardstanding within the garden centre particularly between the cracks in the hardstanding, the gravel and raised areas of paving (Photograph 5). Species within the ephemeral / short perennial include procumbent pearlwort *Sagina procumbens*, field horsetail *Equisetum arvense*, common field speedwell *Veronica persica*, creeping cinquefoil *Potentilla reptans* and ribwort plantain *Plantago lanceolata*.

3.2.5 J2.4 Fence

Palisade fencing demarcates the southeast boundary of the site and separates the site from the main road (Photograph 6). The northeast fence is a mix between palisade and wooden fence panels, which are in poor condition due to the trees and shrubs that have dislodged it in some locations. Fencing is also used to partition areas within the garden centre itself.

3.2.6 J3.6 Building

For the purposes of the report, the buildings have been labelled building 1, 2 and 3 (see Appendix 2). Building one is currently utilised as a storage and is not in regular use, building two is a functioning garden centre with multiple designated areas, building three is a W/C and is due to be retained on the proposed plans.

Building 1 is single story with a flat roof of asbestos sheeting (Photograph 7). The corrugated roof is generally well sealed with the exception of a small number of areas where it is slightly raised (Photograph 8), timber bargeboards surround the periphery of the building some of which are in poor condition and have PRF's, such as gaps beneath the bargeboards on the northeast aspect (Photograph 9), these gaps are heavily blocked by cobweb suggesting they are not currently in use by bats. The walls are constructed of concrete cladding with timber cladding to the south aspect. Some gaps in between the concrete cladding are present however these are superficial and do not lead to any crevices that would be suitable for roosting bats.

Building 2 is constructed of similar materials to building 1 with a mix of pitched and flat roof. The portion of roof extending out to the west is pitched with slate tiles and is well fitted. The roof is constructed of corrugated asbestos sheeting and Perspex and allows for a large amount of light ingress (Photograph 10). The periphery of the roof has a both timber box soffits and timber bargeboards, some of which present PRF's by way of gaps beneath (Photograph 11). The facade of the building is cladded in concrete and is in generally good condition. The building perimeter is heavily cluttered with gardening supplies and equipment.

Building 3 is an additional recently constructed WC on site with a slate roof and rendered walls (Photograph 12). This structure was assessed as having negligible potential to support roosting bats, furthermore it is due to be retained as part of the proposed plans.

3.2.7 J5 Other habitat - Active garden centre

The majority of the site comprises a working garden centre with two buildings and a combination of concrete and paved hardstanding. There are also areas of bare ground and gravel. The garden centre contains numerous temporary structures including wooden sheds, shipping containers, wooden pallets and sheds, which are being used for storing materials and stock (Photographs 13 and 14). Some areas of the garden centre are being encroached by ephemeral and short perennial species.

3.3 Baseline conditions – Protected species or resources

As part of the PEA, specific observations of wildlife were also recorded. Wildlife observations focused on protected species, invasive species or species of conservation concern. Habitats with potential to support protected species were noted with a view to follow up surveys if required.

3.3.1 Amphibians

Numerous records of great crested newt were returned from within 2km of the proposed development site, the closest of which is approximately 482m from the site. Records of other amphibian species including smooth newt, palmate newt, common toad and common frog were also returned.

There is a single mapped pond within 250m of the proposed development site, which is located approximately 171m to the northeast of the site. The pond is located within an pasture field immediately adjacent to a busy intersection between Rackery Lane, Chapel Lane, Gresford Road, and the B5102 (Straight Mile, and Llay Road).

Some of the lifted paving stones onsite may provide suitable sheltering opportunities for amphibians (Target Note 1). However, with the exception of the woodland which is due to be retained under the current proposals, the remainder of the site is of poor quality for amphibians. The amenity grassland has a very short sward, and the rest of the site comprises and active garden centre with limited foraging opportunities for amphibians.

3.3.2 Reptiles

Several records of grass snake were returned from within 2km of the proposed development site. In addition, a single record of common lizard and adder were also returned.

The majority of the site comprises a working garden centre with buildings, hard standing and bare ground that is of poor quality for reptiles. The woodland and woodland edge could be used by commuting and foraging common reptile species, although this is due to be retained under the current proposals.

3.3.4 Bats

There are three buildings located within the proposed development site. A subsequent bat presence / absence survey was carried out by UES in July 2023 (see corresponding report UES04084/04).

Building 1 is a single storey building with a flat roof constructed from asbestos sheeting with concrete and timber cladding walls. The building has been assessed as having low potential to support roosting bats due to the presence of potential roosting features (PRFs) such as raised areas of the roof and gaps underneath the bargeboards on the northeastern aspect.

Building 2 is a single storey building with mixture of pitched and flat roof sections. The pitched roof is constructed from slate tiles, whereas the flat roof is constructed from corrugated asbestos sheeting. The walls are constructed from concrete. The building has also been assessed as having low potential to support roosting bats due to the presence of PRFs such as gaps underneath the timber boxed soffits and bargeboards.

Building 3 is a recently constructed toilet block on site with a slate roof and rendered walls. This structure was assessed as having negligible potential to support roosting bats, furthermore it is due to be retained as part of the proposed development.

The proposed development site also contains two mature pedunculate oak trees which have been assessed as having low potential to support roosting bats due to the presence of knot holes, stem cavities and pruning wounds. These features were accessible via ladders or from ground level and were thoroughly inspected during this survey.

The habitats onsite and directly adjacent to the site, including the woodland and amenity grassland, will provide commuting and foraging opportunities for bats. Roosting opportunities may also be available within the woodland.

3.3.5 Hazel dormouse

The habitats onsite are relatively unsuitable for hazel dormice *Muscardinus avellanarius*. Although the woodland habitats onsite and adjacent to the northeastern boundary contain honeysuckle, other key species such as hazel were not identified during the walkover survey. In addition, there are no records of hazel dormice within 2km of the proposed development site. Therefore, it is considered unlikely that hazel dormice will be present onsite.

3.3.6 Birds

Although a targeted bird survey was not conducted during the site visit, the following bird species were recorded whilst on site: robin *Erithacus rubecula*, blackbird *Turdus merula*, magpie *Pica pica*, wren *Troglodytes troglodytes*, long-tailed tit *Aegithalos caudatus*, blue tit *Cyanistes caeruleus*, and woodpigeon *Columba palumbus*.



Nesting opportunities may be present within the permanent and temporary structures on site, in addition to within the woodland and scattered broadleaved trees.

3.3.7 Trees

Trees on site may be subject to a Tree Preservation Order (TPO), for which a check has not been undertaken as part of this assessment.

3.3.8 Hedgerows

There are no hedgerows on site.

3.3.9 Plant communities

No plant communities or individual species were recorded on site which are afforded statutory protection in their own right.

3.3.10 Invasive species

No invasive species were recorded on site during the walkover survey.

3.3.11 Otter, water vole and white-clawed crayfish

There are no aquatic habitats on site suitable to support otter, water vole or white-clawed crayfish. Therefore, otter, water vole and white-clawed crayfish are not anticipated to be present onsite.

3.3.12 Hedgehog

Several records of hedgehog were returned from within 2km of the proposed development site. The areas of amenity grassland and woodland may provide foraging and commuting opportunities for hedgehogs.

4 EVALUATION AND RECOMMENDATIONS

This section provides a brief assessment of the likely impacts associated with the proposed development on the receptors identified during the walkover survey and desk study. It also includes any mitigation and compensation measures which may be required for the proposed development to proceed.

4.1 Habitats

4.1.1 Designated sites

The sites identified during the desk study were cross-referenced with the survey area relevant to this report. The closest statutorily protected site is Llay Bog which is located approximately 1.08km to the southwest of the proposed development site.

Given the scale of development, it is considered unlikely that the proposed development will have any direct or indirect impact on these or any other local designated sites.

4.1.2 Trees

There are a number of trees on the site, which vary in condition and maturity.

Construction impacts

Site clearance and setting out may involve the direct loss of trees on site as an ecological resource, or may result in damage to any trees which are to be retained. Construction activities too close to the RPAs of retained trees could cause permanent damage.

Mitigation

Trees, in particular those forming a linear feature across the site, should be retained where possible. RPAs should be established and implemented around the trees which are to be retained. These areas should be adequately protected by appropriately designed protective barriers and ground protection throughout the entire development process.

Compensation

If any trees are to be removed, they should be replaced accordingly as part of a detailed landscaping scheme, with only native species to be planted.

Operational impacts

No operational impacts are envisaged.

4.1.3 Woodland

There is an area of woodland adjacent to the northeastern boundary of the site. At present it is understood that this woodland will be retained under the current proposals.

Construction impacts

The woodland could be permanently damaged, altered and / or disturbed by the construction activities.

Mitigation

The woodland should be adequately protected during the construction activities on site. It should be fenced off to protect the root systems of the trees within, and no contractors should access the woodland unless authorised to do so or for reasons related to working within the woodland (e.g. protecting it from construction activities). No materials should be stored in the woodland and no temporary or permanent external lighting should be directed onto the woodland.

Compensation

If the proposals change and the woodland on site is to be removed, it should be replaced two-fold in terms of area in an appropriate location. A detailed woodland management plan should be prepared for the newly created woodland and agreed with the local planning authority.

Operational impacts

No operational impacts are envisaged.

4.2 Species

4.2.1 Amphibians

There is a single pond within 250m of the proposed development site. In addition, the paving stones may provide sheltering opportunities for amphibians.

Construction impacts

Potential impacts include direct harm, injury and / or death to individuals, if present at the time of works.

Mitigation

Given the distance of the nearest aquatic habitat from site, the barriers to movement such as busy roads, and the poor quality of terrestrial habitat on site it is considered unlikely that GCN will be present on site. However, as a precautionary measure to reduce the risk of harm to negligible levels, the works should be completed under a non-licensed method statement and the following RAMs should be implemented on site during the construction phase of the development:

- The grassland vegetation are to be maintained at their current short sward length of below 10cm.
- Any potential refugia within the working area will be removed from site by hand and a check for sheltering amphibians will be made. Where this is not possible due to the weight of the refugia, any items lifted by machinery will be lifted vertically upwards opposed to being dragged horizontally, to reduce the risk of harming wildlife that may be sheltering beneath. Potential refugia includes but is not limited to log piles, brash

piles, rubble piles, pipes, paving slabs, fence panels and other discarded sheets of material.

- No excavations are to be left open overnight. If this is not feasible a plank should be left within the excavation at a 45-degree angle to allow amphibians or other wildlife to escape. Any open excavations should be checked for trapped wildlife in the morning prior to start of works on site.
- All excavations will be checked for trapped or sheltering wildlife immediately prior to any infilling works.
- Where possible, materials will be stored on pallets off the ground in order to reduce the risk of amphibians sheltering underneath them.
- Any common amphibians observed within the working area are to be translocated to an area of suitable habitat outside of the working area. Suitable habitat to translocate to includes the base of hedgerows at the site boundaries.
- The hedgerows and trees along the site boundaries should remain, where feasible, to continue to provide shelter and connectivity across site for amphibians and other fauna.
- UES will remain on-call throughout the development and if any suspected GCNs are encountered, work on site is to stop immediately and ecological advice is to be sought. UES can be contacted directly on **01565 757788**.

Operational impacts

No operational impacts are envisaged.

4.2.2 Bats

There are two buildings and two mature pedunculate oak trees onsite which have been assessed as having low potential to support roosting bats.

Construction impacts

If bats are roosting within the buildings or trees during site clearance and demolition, they are at risk of direct harm and disturbance and the roosts will be lost permanently. Inappropriate landscaping could also result in the severing of commuting corridors used by bats as well as the loss of foraging habitats.

Mitigation and compensation

Buildings 1 and 2 have been assessed as having low potential to support roosting bats, whilst Building 3 is due to be retained under the current proposals. A bat presence / absence survey has been undertaken which concluded likely absence of roosting bats (see report UES04084/04).

There are two mature pedunculate oak trees onsite which have been assessed as having low potential to support roosting bats. In accordance with BCT guidelines, no further survey work is required for the trees that have been assessed as having low potential to support roosting

bats. However, soft felling techniques should still be used to minimise any incidental risk of harm to bats in the event that the proposals change and the trees become scheduled for removal. The trees must be removed in sections, which will be lowered to the ground and left for a period of 24 hours before removing them from the site.

If any additional trees on site or adjacent to the site will be affected by the proposed developments, then a ground-level tree assessment may be required to determine the suitability of the trees to support roosting bats. If any potential roosting features are found to still be suitable following the inspections, further surveys may be required including aerial tree inspections or bat presence / absence surveys (May to September inclusive).

No detailed landscaping proposals are available to UES, however care must be taken when installing any new lighting to ensure that light spillage onto the offsite habitats is minimised, particularly those associated with the woodland to the north of the site. This may require the use of cowlings or relocation of the bat box or lighting (see Appendix 6 – External lighting guidance).

Enhancements

The provision of bat boxes as part of the development proposals would increase the roosting opportunities for bats on site but would also increase the ecological value of the site. At the time of writing this report no detailed plans are available, but bat boxes that could be used on site include:

- Schwegler 1FF box (affixed to trees or buildings)
- Schwegler 2F box (affixed to trees or buildings)
- Schwegler 1FW hibernation box (affixed to trees)
- Schwegler 2FR bat tube (installed in connected pairs or threes into the external walls of buildings)

Bat boxes affixed to trees should be fitted at a height of between 5 and 6m metres on a southerly aspect.

The bat boxes affixed to or installed into the external walls of buildings should be installed just below the eaves / roof height. No detailed lighting proposals are as yet available to UES; however, care must be taken when installing any new lighting to ensure that light spillage onto the bat boxes is minimised. This may require the use of cowlings or relocation of the bat box or lighting.

It should be noted that once bat inhabits a bat box, they may only be disturbed by a licensed bat worker.

Operational impacts

To be assessed following the further surveys.

4.2.3 Birds

The scattered trees, woodland, and temporary and permanent structures on site offer suitable habitats for nesting birds.

Construction impacts

Tree felling, arboricultural works and vegetation removal could result in the direct loss of nests, any individuals within the nests and of available nesting territories if conducted during the breeding season.

Mitigation

Site clearance, tree felling, arboricultural works and vegetation removal (including enabling works) are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible and works need to take place between this period, a targeted breeding bird nest scoping survey should be conducted by a suitably qualified ecologist immediately prior to the works, or an ecological clerk of works appointed to oversee the works.

Compensation and enhancement

If extensive areas of vegetation are to be removed, consideration should be given to providing replacement habitat for foraging and nesting birds by incorporating tree, shrub or scrub planting as part of the landscaping proposals.

Landscaping can also be used to promote biodiversity through the appropriate design of habitats and creating habitat mosaics, which promote natural linkages and hence the dispersal of target species. Principles and landscaping ideas beneficial to wildlife and relevant to this site include:

- Planting and management of hedgerows
- Planting of berry and nut bearing shrub species to encourage winter birds
- Planting and management of shrubs which develop a mosaic of structures to support breeding birds
- Use of nectar bearing flowers to encourage invertebrates (such as bees, flies, beetles and butterflies)

Species are to be native of local provenance or to have a proven benefit to biodiversity. Further information can be found at Appendix 7 – Landscape design for birds.

Compensation for the loss of nesting habitat and the enhancing of the nesting habitat on site can also be provided through the provision of bird nest boxes. The boxes can be installed on the new proposed stable or on existing mature trees on site.

- Schwegler 1B nest box (affixed to trees)
- Schwegler 1SP sparrow terrace (affixed to building below the eaves)
- Schwegler 2H robin nest box (affixed to trees)
- Schwegler 3S starling nest box (affixed to trees or buildings)
- Schwegler 1MR Avianex box (affixed to trees or buildings)
- Manthorpe swift nest brick (incorporated into the external walls of buildings)

The bird boxes should be sited at a minimum height of three metres. Unless there are trees which shade the box during the day, the boxes should be oriented between north and east, thus avoiding strong sunlight and the wettest winds. House sparrow terraces and swift nest boxes should be installed just below the roof level.

Operational impacts



Inappropriate management of the habitats on site could degrade them and render them unsuitable for wildlife.

Mitigation

It is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides and slug pellets) should be discouraged to prevent fatal effects on the food chain. Any pesticides used should be non-residual.

Excessive removal or pruning of trees and hedgerows should be avoided to maximise the growth and plant matter available to wildlife. Pruning should be left until late winter to leave seeds and berries for wintering wildlife and to ensure no impact on breeding and nesting birds.

5 CONCLUSION

The land parcel has an area of approximately 0.5ha and predominantly comprises hardstanding with numerous sheds and temporary structures scattered throughout. There are three buildings within the redline boundary, one of which is used for storage, another is a functioning retail outlet for the garden centre, and the third is a toilet block that is due to be retained under the current proposals. Two mature pedunculate oaks overshadow the amenity grassland which lies adjacent to the northeast boundary, and pockets of ephemeral/short perennial are scattered throughout the garden centre. A small area of semi-natural woodland is contained by palisade fencing to the north and north-west of the site.

The preliminary ecological appraisal has highlighted potential issues with the following ecological receptors on or adjacent to site: amphibians, breeding birds, bats, woodland and trees. Provided these issues are addressed in accordance with the recommendations detailed in this report, the development may proceed without adversely impacting the aforementioned ecological receptors.

The development also presents an opportunity to enhance the habitats available to wildlife on site. The provisioning of bat and bird nest boxes on site will provide improved roosting and nesting opportunities into the long-term future of the site.



6 REFERENCES

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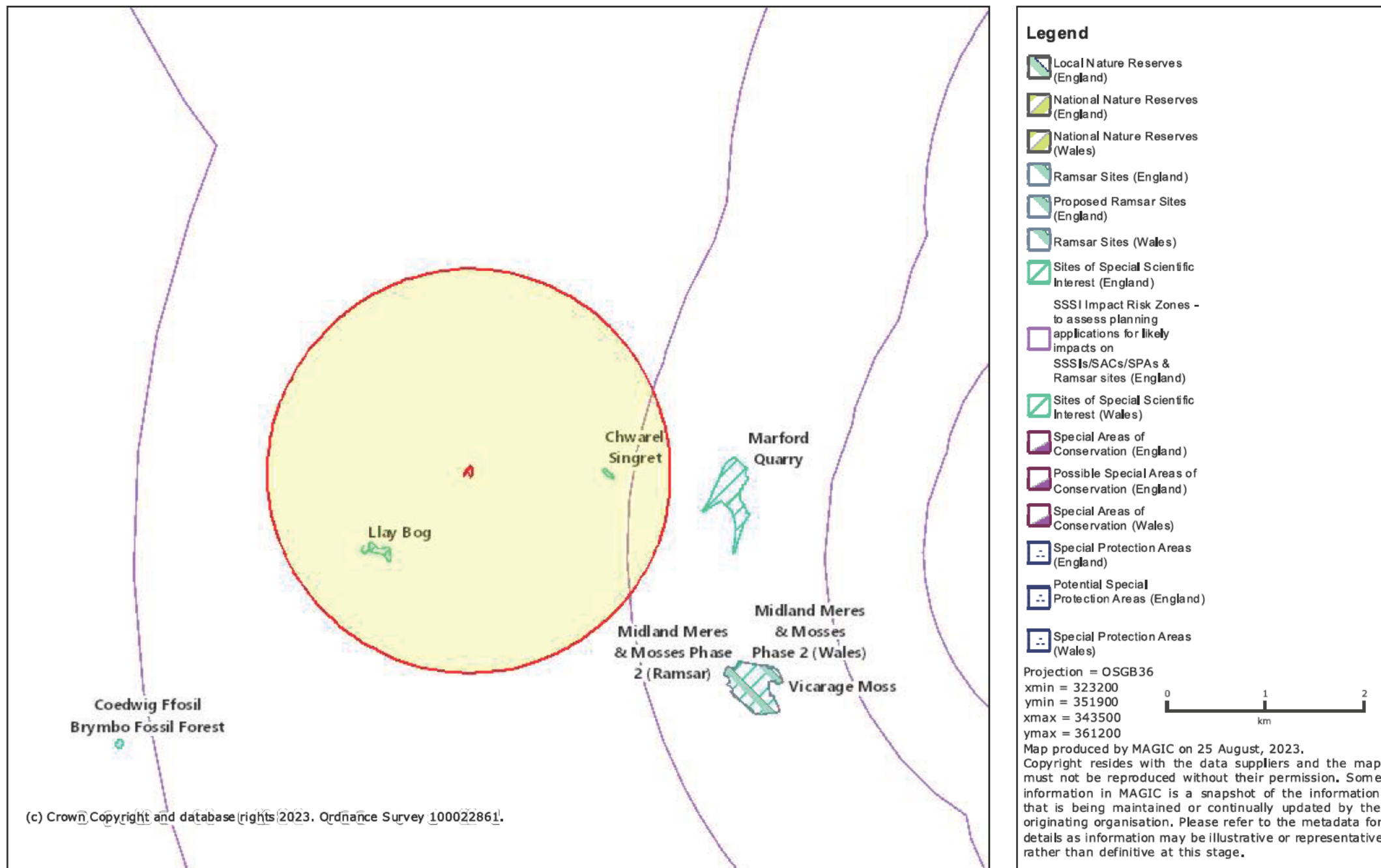
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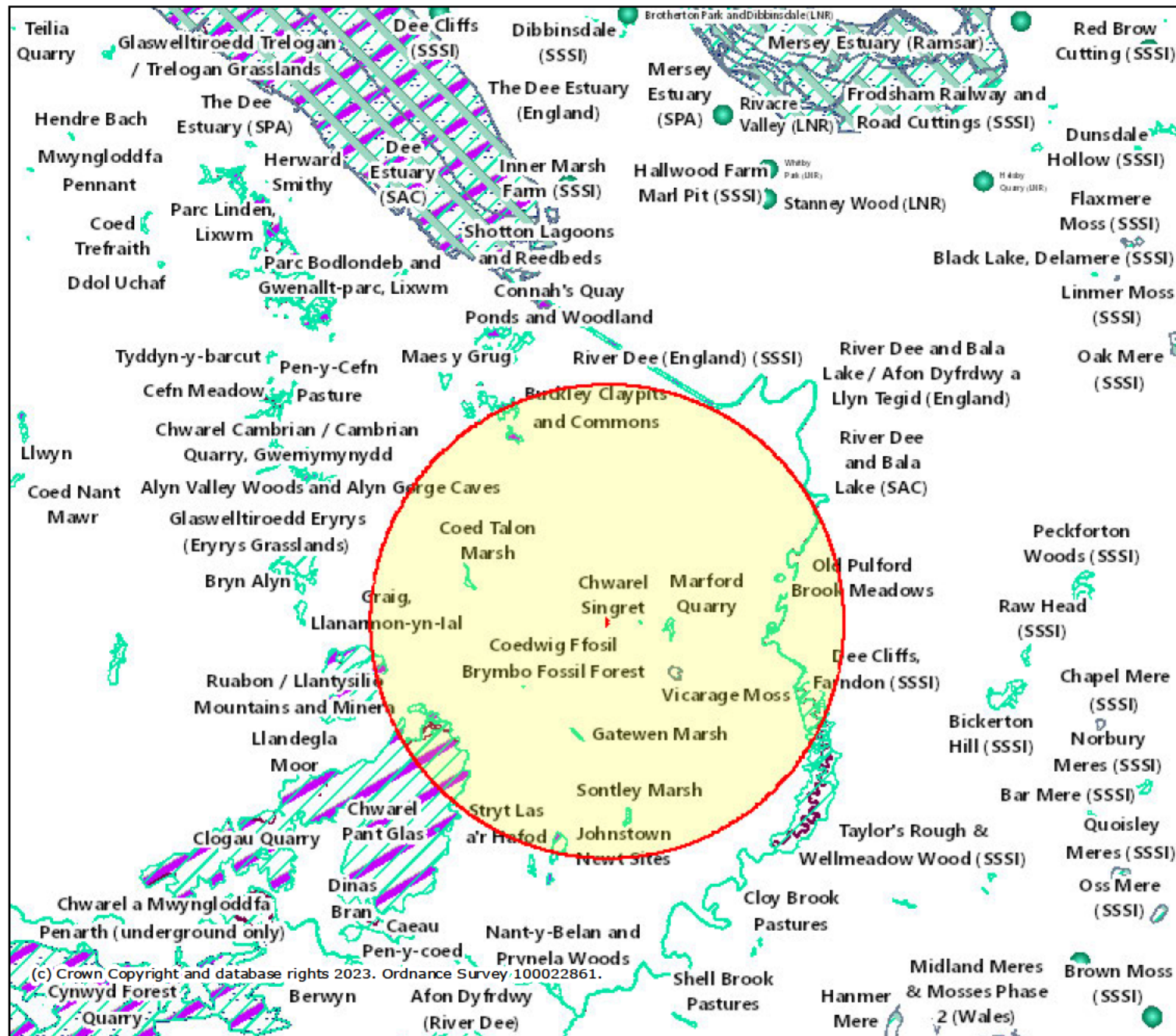
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APPENDICES

Appendix 1 – Desk study





Legend

- Local Nature Reserves (England) - points
- National Nature Reserves (England) - points
- National Nature Reserves (Wales) - points
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Ramsar Sites (Wales)
- Sites of Special Scientific Interest (England)
- Sites of Special Scientific Interest (Wales)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Areas of Conservation (Wales)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)
- Special Protection Areas (Wales)

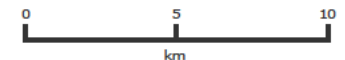
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ymax = 383800



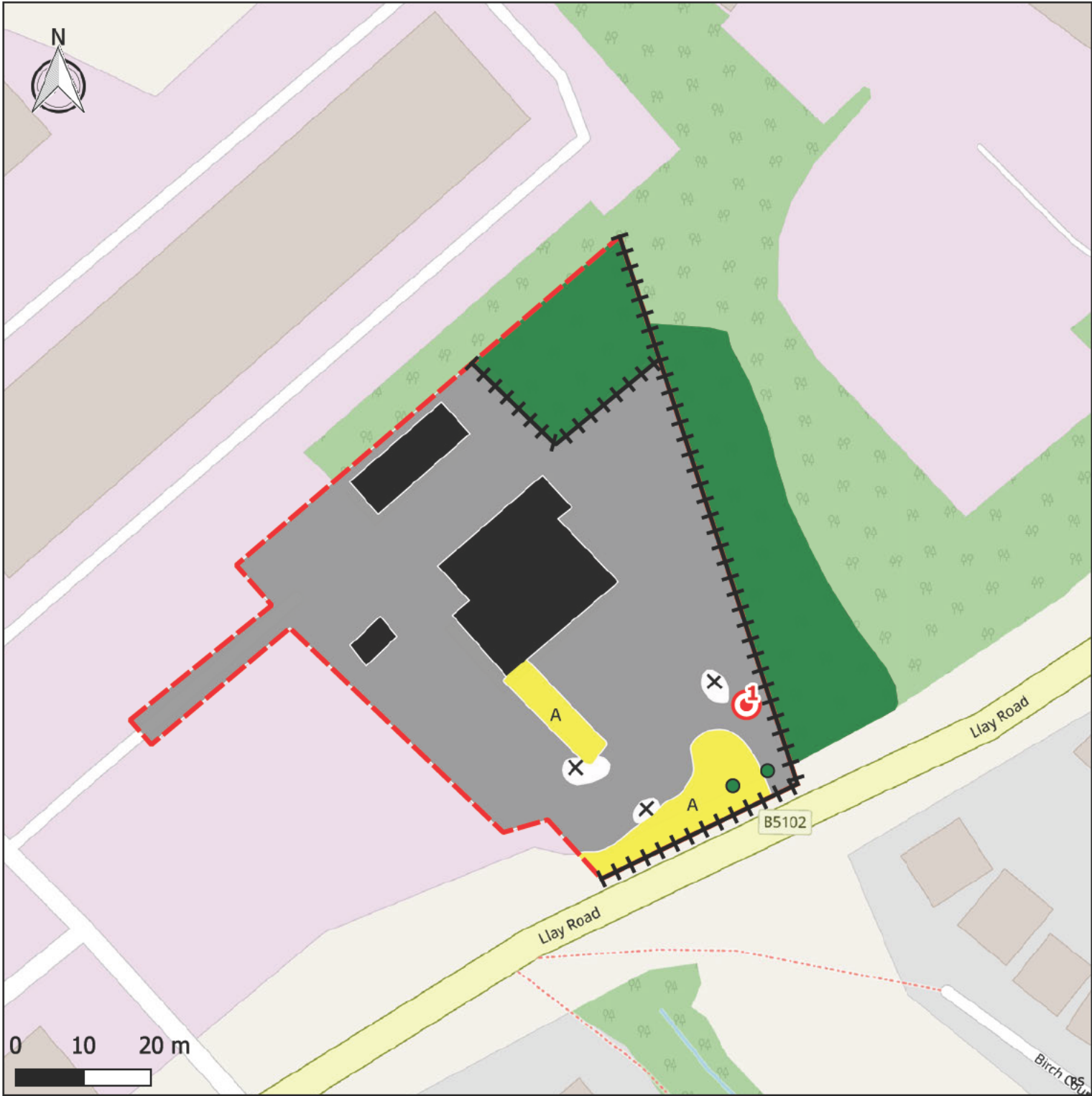
Map produced by MAGIC on 25 August, 2023.

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Appendix 2 – Phase 1 habitat plan

Target Note 1 - Broken paving slabs



**Site: Carlton Garden
Centre
NGR: SJ 33077 56213
Author: River Six
Date: 20/07/23**



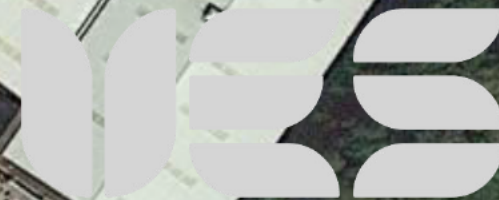
- | | | | |
|---|--|---|-----------------------------------|
|  | Site boundary |  | J1.2 - Amenity grassland |
|  | Target note |  | J1.3 - Ephemeral/ short perennial |
|  | A1.1.1 - Broadleaved woodland - semi-natural |  | J2.4 - Fence |
|  | A3.1 - Broadleaved scattered trees |  | J5 - Active garden centre |

THIS PLAN IS BASED UPON OpenStreetMap® AND IS OPEN DATA, LICENSED UNDER THE OPEN DATA COMMONS OPEN DATABASE LICENCE (ODbL) BY THE OpenStreetMap FOUNDATION.

THIS PLAN IS ISSUED BY UNITED ENVIRONMENTAL SERVICES LTD SUBJECT TO THE CONDITION THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN.



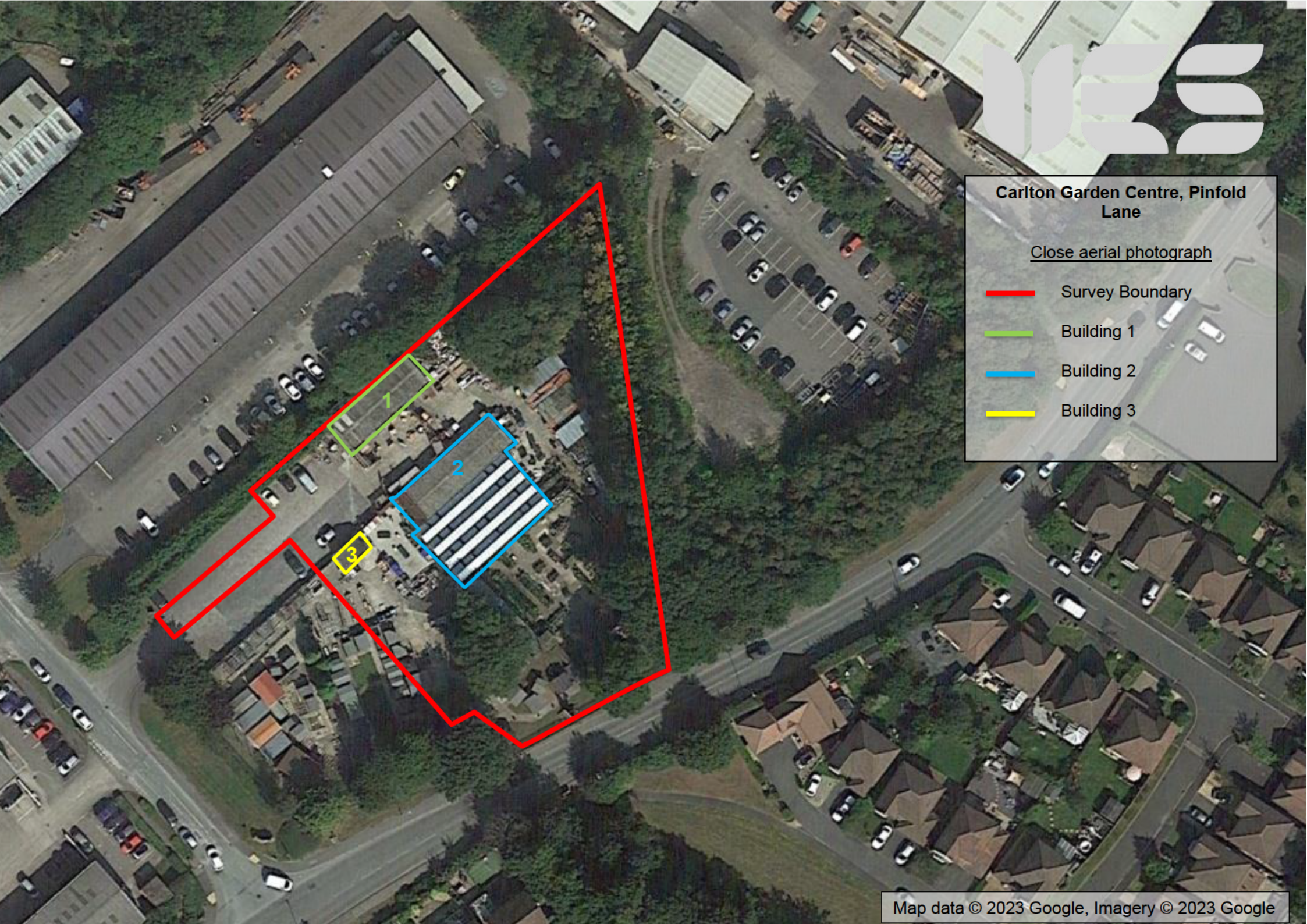
Appendix 3 – Aerial photographs



Carlton Garden Centre, Pinfold Lane

Close aerial photograph

- Survey Boundary
- Building 1
- Building 2
- Building 3





Carlton Garden Centre, Pinfold Lane

Wide aerial photograph



Site Location



Appendix 4 – Photographs



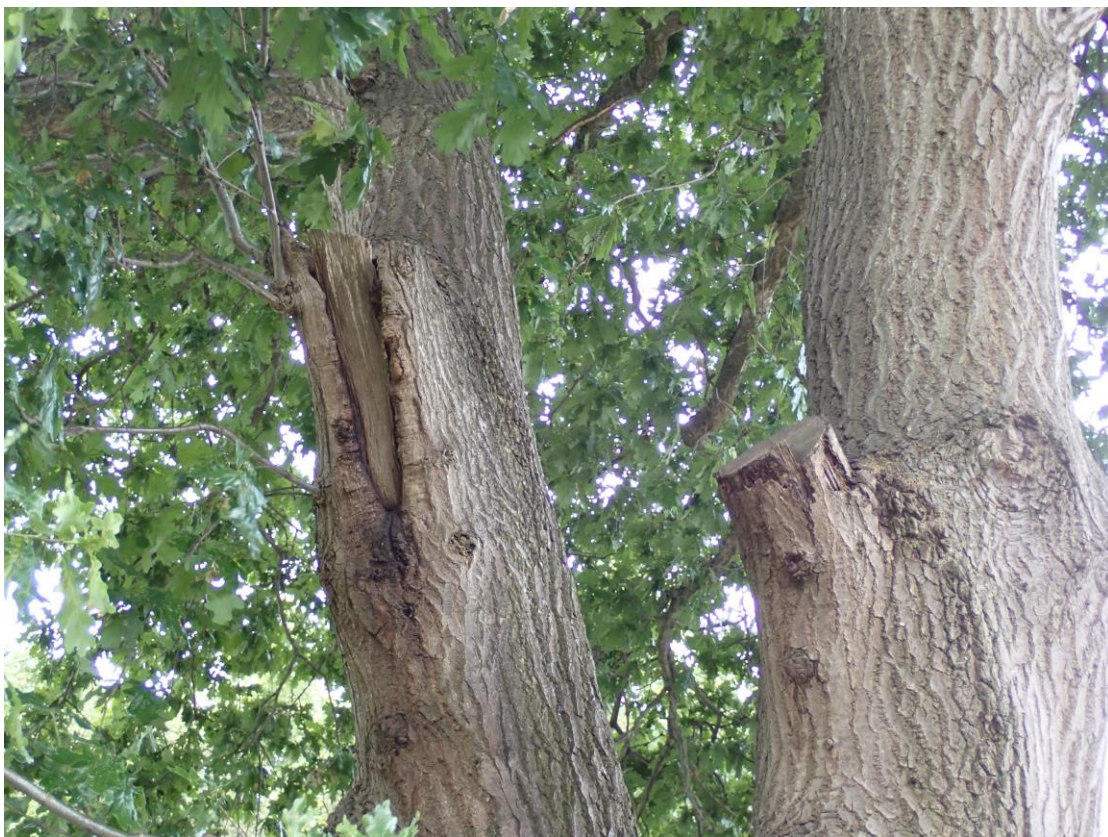
Photograph 1. An area of offsite woodland adjacent to the site boundary.



Photograph 2. Scattered broadleaved trees within the northeastern section of the site.



Photograph 3. Potential roosting features on a scattered tree.



Photograph 4. Potential roosting features on a scattered tree.



Photograph 5. Ephemeral / short perennial within the proposed development site.



Photograph 6. Metal fencing separating the proposed development site from an adjacent road.



Photograph 7. The northeastern aspect of Building 1.



Photograph 8. Lifted asbestos roof on Building 1.



Photograph 9. Gaps underneath the barge boards on Building 1.



Photograph 10. The northwestern aspect of Building 2.



Photograph 11. Gap between the timber soffit and concrete façade on Building 2.



Photograph 12. Building 3.



Photograph 13. The garden centre onsite, showing the temporary structures.



Photograph 14. Areas of hardstanding and temporary structures within the garden centre.



Appendix 5 – Botanical species list

Scientific name	Common name
<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground elder
<i>Agrostis capillaris</i>	Common bent
<i>Alliaria petiolata</i>	Hedge garlic
<i>Anagallis arvensis</i>	Scarlet pimpernel
<i>Arrhenatherum elatius</i>	False oat grass
<i>Artemisia vulgaris</i>	Mugwort
<i>Bellis perennis</i>	Daisy
<i>Betula pendula</i>	Silver birch
<i>Brachypodium sylvaticum</i>	False wood brome
<i>Bromus hordeaceus</i>	Soft brome
<i>Centaurea nigra</i>	Black knapweed
<i>Cerastium fontanum</i>	Common mouse ear
<i>Cirsium vulgare</i>	Spear thistle
<i>Conopodium majus</i>	Pignut
<i>Cotoneaster sp.</i>	Cotoneaster sp.
<i>Crataegus monogyna</i>	Hawthorn
<i>Cytisus scoparius</i>	Broom
<i>Dactylis glomerata</i>	Cock's foot grass
<i>Daucus carota</i>	Wild carrot
<i>Epilobium ciliatum</i>	American willowherb
<i>Epilobium montanum</i>	Broadleaved willowherb
<i>Equisetum arvense</i>	Field horsetail
<i>Euphorbia peplus</i>	Petty spurge
<i>Fallopia convolvulus</i>	Black bindweed
<i>Festuca rubra</i>	Red fescue
<i>Fraxinus excelsior</i>	Ash
<i>Fumaria muralis</i>	Common ramping fumitory
<i>Galium aparine</i>	Cleavers
<i>Geranium molle</i>	Dove's-foot cranesbill
<i>Geum urbanum</i>	Wood avens
<i>Hedera helix</i>	Ivy
<i>Holcus lanatus</i>	Yorkshire fog
<i>Hypericum androsaemum</i>	Tutsan
<i>Hypericum perforatum</i>	Perforate St John's wort
<i>Ilex aquifolium</i>	Holly
<i>Lapsana communis</i>	Nipplewort
<i>Lathyrus pratensis</i>	Meadow vetchling
<i>Lolium perenne</i>	Perennial rye grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Common bird's-foot trefoil
<i>Medicago lupulina</i>	Black medick
<i>Pilosella aurantiaca</i>	Fox and cubs
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Plantago major</i>	Greater plantain
<i>Poa annua</i>	Annual meadow grass
<i>Poa trivialis</i>	Rough meadow grass
<i>Polypogon viridis</i>	Water bent
<i>Populus sp.</i>	Hybrid poplar
<i>Potentilla reptans</i>	Creeping cinquefoil
<i>Prunella vulgaris</i>	Selfheal
<i>Prunus avium</i>	Wild cherry
<i>Quercus robur</i>	Pedunculate oak
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rosa arvensis</i>	Field rose
<i>Rubus fruticosus agg.</i>	Bramble
<i>Rumex crispus</i>	Curled dock
<i>Sagina procumbens</i>	Precumbant pearlwort
<i>Salix cinerea</i>	Grey willow
<i>Senecio jacobaea</i>	Common ragwort
<i>Senecio vulgaris</i>	Common groundsel
<i>Sorbus aucuparia</i>	Rowan
<i>Stachys sylvatica</i>	Hedge woundwort
<i>Taraxacum officinale agg.</i>	Dandelion
<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	White clover
<i>Urtica dioica</i>	Stinging nettle
<i>Veronica persica</i>	Common field speedwell
<i>Vicia sativa</i>	Common vetch
<i>Viola x wittrockiana</i>	Garden pansy



Appendix 6 – External lighting guidance

Lighting scheme in relation to bats

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.
2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component.
- High pressure Sodium Lamps (SON) emit a small UV component.
- White SON, though low in UV, emit more than regular SON.

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.
- Variable
- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.
- Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

- Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.
- Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.
- If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas. Light should not leak upwards to illuminate first floor and higher levels.
- Lamps of greater than 2000 lumens (150 W) must not be used.
- Movement or similar sensors must be used. They must be carefully installed and aimed, to reduce the amount of time a light is on each night.
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible. Light must not be directed at or close to bat roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit.
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.



Appendix 7 – Landscape design for birds

Lavender	E	Y	Y	Y	Y	Su	D	Flowers attract many insects, seeds popular with finches		
Lilac	D	Y	Y	Y		Su	D	Flowers attractive to insects		
Oregon grape	E		Y	Y	Y	Su/Sh	M	Early flowers good for insects		
Pheasant berry	E		Y	Y		Su	D	Berries popular with many bird species		
Privet*	E		Y	Y	Y	Y	Su	D	Flowers attract butterflies, produces berries	
Rose	D	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds	
Rosemary	E	Y	Y	Y	Y	Y	Su	D	Flower attract many insects	
Shad bush	D		Y	Y			Su	M	Flowers attract insects, early forming berries good for thrushes	
Snowberry	D		Y	Y	Y	Y	Su/Sh	D	Flowers attractive to bees, fruits attractive to birds, dense stems provide cover	
Spindle*	D		Y	Y	Y		Su	D	Berries eaten by birds, but poisonous to mammals	
Tamarix	D		Y	Y	Y	Y	Su	D	Flowers attractive to various insects, tolerant of salt - good in coastal areas	
CLIMBERS & RAMBLERS										
Bramble*	D		Y	Y	Y	Y	Y	Su/Sh	D	Food for birds, insects and mammals, nesting sites
Clematis	D	Y	Y	Y	Y			Su	D	Nesting sites
Honeysuckle*	D	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Ivy*	E	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Rose	D	Y	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds
Winter jasmin	E	Y	Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Wisteria	D	Y	Y	Y	Y		Y	Su	D	Attractive to insects, good nesting site

KEY			
*	Native (NB: some varieties are cultivars or non-native)	Location	H = may be used as a hedge plant
F	D = Deciduous		W = may be used as a wall shrub
Foliage type	E = Evergreen		Su = Sunny borders
	B = Both		Sh = Shade tolerant
Size	T = Terraces & balconies		Su/Sh = Grows in partial shade
Suitable for garden sizes	S = Small garden (<= 6m x 4m)	Soil moisture	D = Well drained
	M = Medium gardens (<= 12m x 6m)		M = Moist
	L = Large gardens (> 12m x 6m)		W = Wet soil

SPECIES	F	SIZE				LOCATION			SOIL	BENEFITS TO WILDLIFE
		T	S	M	L	H	W	Su/Sh	MOISTURE	
TREES										
Alder*	D			Y				Su	M	Seed food for birds
Beech*	D			Y	Y	Y		Su	D	Seed food for birds
Birch*	D		Y	Y	Y			Su	D	Seed food for birds
Bird cherry *	D			Y	Y			Su	D	Food for birds, flowers attract insects
Crab apple*	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
English oak*	D				Y			Su	D	Food for birds, insects and mammals, nesting sites
European larch*	D				Y			Su	M	Seed food for birds
Holly*	E		Y	Y	Y	Y		Su	D	Fruits eaten by birds, food plant of holly blue butterfly
Juniper*	E							Su	D	Shelter and nest sites, fruits eaten by thrushes
Lime*	D				Y	Y		Su	D	Seed food for birds
Rowan*	D			Y	Y			Su	D	Fruits eaten by birds
Scot's pine*	E				Y			Su	D	Seed food for birds
Swedish whitebeam	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
Wild cherry*	D			Y	Y			Su	D	Food for birds, flowers attract insects
Yew*	E		Y	Y	Y	Y		Su	D	Food for birds, nesting sites
SHRUBS										
Barberry	B	Y	Y	Y	Y	Y		Su	D	Good shelter and nest cover for birds, berries may provide food
Blackthorn*	D			Y	Y	Y		Su	M	Attracts insects, food for birds, nesting sites
Buckthorn*	D			Y	Y	Y		Su/Sh	D	Food plant of brimstone butterfly, fruits eaten by birds
Butterfly bush	E	Y	Y	Y	Y	Y		Su	D	Attracts insects
Californian lilac	E			Y	Y	Y	Y	Su	D	Flowers attractive to various insects
Dogwood*	D			Y	Y	Y		Su	D	Food for birds, winter stem colour
Elder*	D		Y	Y	Y	Y		Su	D	Food for birds
Escallonia	E			Y	Y	Y		Su	M	Flowers attractive to various insects, tolerant of salt - good in coastal areas
Field maple*	D		Y	Y	Y	Y		Su	D	Good source of insect food for birds
Firethorn	E	Y	Y	Y	Y	Y	Y	Su	D	Berries popular with many bird species
Flowering current	D		Y	Y	Y			Su	D	Early flowers attractive to insects
Forsythia	D		Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Garria	E	Y	Y	Y	Y		Y	Su	D	Winter catkins, early cover for nesting birds
Goat willow*	D	Y	Y	Y	Y			Su	D	Catkins attractive to bees, good source of insect food for birds
Gorse*	E			Y	Y	Y		Su	D	Early flowers attractive to insects, good protection for birds
Rhytismatales	E			Y	Y	Y		Su	D	Good cover, tolerant of salt - good in coastal areas
Guelder-rose*	D			Y	Y	Y		Su	D	Food for birds & insects
Hawthorn*	D		Y	Y	Y	Y		Su	D	Flowers attractive to insects, fruits eaten by birds, good shelter and nesting site
Hazel*	D	Y		Y	Y	Y		Su	D	Food for birds, insects and mammals, nesting sites
Laurel-leaved vibumum	E		Y	Y	Y			Su	D	Early flowers good for insects, good cover for birds



Appendix 8 – Planning and statutory context

STATUTORY AND PLANNING CONTEXT

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Habitats

Section 7 of the Environment Act (Wales) places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists, and encourage others to take such steps.

Amphibians

Great crested newts

Great crested newts (GCN) *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture GCN
- Deliberately, intentionally or recklessly disturb GCN in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of GCN
- Damage or destroy breeding sites or resting places of GCN
- Intentionally or recklessly disturb sheltering GCN, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead GCN, any part of GCN or anything derived from GCN

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

GCN are also protected by the Protection of Animals Act 1911, which prohibits cruelty and mistreatment. Releasing a GCN in such a way as to cause undue suffering may be an offence under the Abandonment of Animals Act 1960.

In addition to the above, there are various statutory provisions relating to the transport of animals, designed to ensure their welfare. GCN are also listed under Section 7 of the Environment (Wales) Act 2016.

It is important to identify the presence of GCN individuals and also to identify suitable habitat on sites so that legal obligations regarding this species can be observed. If a survey identifies the presence of GCN on the site, an assessment of the population size class is required. This can then inform a mitigation scheme, which would need to be developed in liaison with the local Natural Resources Wales (NRW) team, and which minimises direct threats to newts and compensates for any loss of habitat. A licence issued by NRW is required for the legal implementation of a mitigation scheme.

An NRW mitigation licence application requires a Mitigation Method Statement and a Reasoned Statement of Application. The Mitigation Method Statement contains details of the proposed mitigation works. The Reasoned Statement needs to provide a rational and reasoned justification as to why the proposed development meets the requirements of the Conservation (National Habitats & c.) regulations 1994, namely Regulations 44(2)(e), (f) or (g), and 44(3)(a).

Other amphibians

More common British amphibians, such as common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Triturus vulgaris* and palmate newt *Triturus helveticus* are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

The above named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out.

Natterjack toad *Bufo calamita* and pool frog *Pelophylax lessonae* are also offered the same level of protection as GCN, through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

Natterjack and common toad are also listed under Section 7 of the Environment (Wales) Act 2016.

Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance. A site may require statutory protection as a Site of Special Scientific Interest (SSSI).

Reptiles

Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure any of the species listed above
- Sell, offer, advertise or transport for sale a live or dead animal of the species listed above

If a proposed development is likely to have an impact on these reptiles the local statutory nature conservation organisation must be consulted.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* receive full protection under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017. Read together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture any sand lizards or smooth snakes
- Deliberately, intentionally or recklessly disturb sand lizards or smooth snakes in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of such an animal
- Damage or destroy breeding sites or resting places of such animals
- Intentionally or recklessly disturb sheltering sand lizards or smooth snakes, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead sand lizards or smooth snakes, any part of such an animal or anything derived from such an animal

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

All reptile species (except for smooth snake) are also listed under Section 7 of the Environment (Wales) Act 2016.

Badger

European badgers *Meles meles* and their habitat are protected under The Protection of Badgers Act 1992 and are also included on Schedule 6 of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention. The legislation affords badgers protection against deliberate harm or injury making it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger (or attempt to do so)
- To interfere with a sett by damaging or destroying it
- To obstruct access to, or entrance of, a badger sett
- To disturb a badger whilst it is occupying a sett

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Works that disturb badgers whilst they are occupying a sett are illegal without a licence. Disturbance can occur even without direct interference or damage to the sett in question. In general, the following activities are likely to require a licence:

- Use of heavy machinery or significant earth moving within 30m of a sett
- Use of lighter machinery (usually any wheeled vehicles) within 20m of a sett
- Any digging, chain saw use or scrub clearance within 10m of a sett

Hazel dormouse

Hazel dormice *Muscardinus avellanarius* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture dormice
- Deliberately, intentionally or recklessly disturb dormice in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of dormice
- Intentionally or recklessly disturb sheltering dormice, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead dormouse, any part of a dormouse or anything derived from a dormouse

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Dormice are also listed under Section 7 of the Environment (Wales) Act 2016.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the “Habitats Regulations”). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] ... uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by NRW.

The Environment (Wales) Act 2016 also lists the following bat species as species of principle importance under Section 7:

- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Birds

All wild birds, their nests and young are protected throughout England and Wales by the Wildlife & Countryside Act 1981 (as amended). It is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds. The legislation applies to all bird species, common and rare.

In addition to the protection afforded to all wild birds, more vulnerable species listed on Schedule 1 of the Act receive enhanced protection when breeding. Schedule 1 species, including their dependent young, are protected from intentional or reckless disturbance whilst at or near the nest, in addition to the protection afforded the more common species.

The Environment (Wales) Act 2016 offers further protection to the nests of some species that regularly re-use their nests, even when the nests are not in use.

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status' of 244 UK bird species. "Birds of Conservation Concern 4: the Red List for Birds" is the most recent publication summarising their findings. Three lists, Red, Amber and Green, have been produced based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. These lists are a valuable resource when considering conservation priorities.

Trees

Trees may be protected on an individual or group level through a Tree Preservation Order (TPO). In order to carry out works to trees with a TPO, prior written consent must be obtained from the Local Planning Authority. Trees may also be protected through a condition of planning consent or designated conservation areas.

Hedgerows

The Hedgerow Regulations are made under Section 97 of the Environment Act 1995 and came into operation on 1st of June 1997. They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification to the Local Planning Authority.

A hedgerow can only be considered for classification as "important" if it, or the hedgerow of which the section belongs to is over 20m in length (or which meets a hedgerow at either end) and has existed for 30 years or more.

Plants

Schedule 8 of the Wildlife & Countryside Act 1981 (as amended) lists a number of plant species which are protected under Section 13 of the same legislation. As such, it is an offence to:

- Intentionally or recklessly pick, uproot or destroy a plant, or any seeds or spores attached to it, which is listed on Schedule 8
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead wild plant on Schedule 8, any part of the plant or anything derived from the plant

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

The Conservation of Habitats and Species Regulations 2017 extends European legislative protection to a further subset of plants. It is therefore an offence to pick, collect, cut, uproot, destroy or trade any plant listed in Schedule 4 of these Regulations, unless the appropriate licence is first obtained.

A large number of species of vascular plants, lichens, algae, fungi, mosses, stoneworts and liverworts are also protected through planning policy as species of principal importance, as required under Section 7 of the Environment Act (Wales) 2016.

Invasive Plant Species

A number of invasive, non-native plant species are listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (as amended). The most commonly encountered listed species in ecological surveys are Japanese knotweed *Fallopia japonica*, Montbretia *Crocosmia x crocosmiiflora* and variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*. Section 14(2) of this Act makes it an offence to *plant or otherwise cause to grow in the wild* any plant listed on Schedule 9 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

A number of invasive, non-native plants species are listed under Schedule 2 (Part II) of the Invasive Alien Species (Enforcement and Permitting) Order 2019. The most commonly encountered listed species in ecological surveys are Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*. Section 3 of this Act make it an offence to *plant or otherwise causes to grow in the wild* any plant which is listed on Schedule 2 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

Soil or plant material contaminated with non-native and invasive plants can cause ecological damage and may be classified as controlled waste. It is an offence to keep, treat or dispose of waste that could harm the environment or human health. If there is any doubt, contact the local authority or Environment Agency.

Japanese knotweed has an extensive root system and new plants can regenerate rapidly from the smallest fragments of rhizomes. Material containing this species is classed as “controlled waste” under the Environmental Protection Act (Duty of Care) Regulations 1991. The disposal of such waste requires all involved parties to follow a strict code of practice and maintain adequate records regarding their conduct.

Otter

European otter *Lutra lutra* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture otters
- Deliberately, intentionally or recklessly disturb otters in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of otters
- Intentionally or recklessly disturb sheltering otters, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead otter, any part of an otter or anything derived from otter

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Otters are also listed under Section 7 of the Environment (Wales) Act 2016.

Water vole

Water voles *Arvicola amphibius* are protected by the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take water vole
- Possess or control live or dead water vole or any part of a water vole
- Intentionally or recklessly damage destroy or obstruct access to any structure or place which a water vole uses for shelter or protection, or disturb water vole using such a place
- Sell, offer, advertise or transport live or dead water voles for sale

Licences are available from NRW to allow activities that would otherwise be an offence, including:

- Scientific or educational purposes
- For the purposes of ringing or marking
- Conserving wild animals or introducing them into particular areas
- Preserving public health or public safety
- Preventing the spread of disease
- Preventing serious damage to any form of property or to fisheries

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Water voles are also listed under Section 7 of the Environment (Wales) Act 2016.

White-clawed crayfish

White-clawed crayfish *Austropotomobius pallipes* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure white-clawed crayfish
- Sell, offer, advertise or transport for sale a live or dead white-clawed crayfish

If a proposed development is likely to have an impact on white-clawed crayfish then the local statutory nature conservation organisation must be consulted.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Their inclusion on the EC Habitats Directive allows areas to be designated as Special Areas of Conservation (SAC) for the presence of white-clawed crayfish. Such a designation brings legal protection under the Conservation of Habitats Regulations 2017, this includes how the site is managed and what development can occur on and in proximity to these sites.

White-clawed crayfish are also listed under Section 7 of the Environment (Wales) Act 2016.

Planning Policy

National planning guidance is issued in the form of Planning Policy Wales (PPW - 2018). The most relevant sections are included in Chapter 6: Distinctive and Natural Places. This chapter details the policies on issues such as the protection of trees, woodlands, species, and designated sites. The document is free and available to view online.