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PRELIMINARY ECOLOGICAL APPRAISAL

At

Unit 102 Tenth Avenue
Deeside Industrial Park
Deeside
CH5 2UA

NGR: SJ 31883 71656

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

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EXECUTIVE SUMMARY

United Environmental Services Ltd (UES) was commissioned by FI Real Estate Management to carry out a baseline ecological survey of a parcel of land surrounding Unit 102 Tenth Avenue at Deeside Industrial Park, Deeside, Flintshire. A desk study and preliminary ecological appraisal (PEA) survey were undertaken on 17th January 2023, including searches using the Multi Agency Geographic Information Centre (MAGIC) and a biological records search through Cofnod (the local environmental records centre for North Wales).

The PEA provides an assessment of potential ecological impacts associated with the development of the land parcel. The development proposals include the construction of additional industrial units with associated infrastructure and access. This will likely include the removal of several semi-mature trees along the south-western site boundary in order to facilitate the construction of a site access point. At present, it is understood that the only other proposed vegetation removal is at the rear (north) of the site whereby the suckering aspen *Populus tremula* will be thinned to facilitate the construction of a fence that will protect the retained plantation woodland.

The land parcel has an area of approximately 1.62ha and comprises an industrial unit with hardstanding and amenity grassland to the front, and closely grazed ephemeral / short perennial vegetation to the rear. Plantation woodland is located at the northern site boundary flanking a wet ditch, and transitions into dense scrub whereby the suckering of aspen is observed. Apart from the primary industrial unit, two sub-stations are also present within the red line boundary. Furthermore, introduced shrub and scattered broadleaved and coniferous trees are present within the amenity grassland that is adjacent to Tenth Avenue. The surrounding landscape comprises Deeside Industrial Park to the south and east of the development boundary. The A548 dual carriage way is situated immediately to the north of the development boundary, beyond which lies Shotwick Solar Park that dominates the landscape to the north.

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:

- **Bats** – external lighting should be sensitively designed to ensure that there is no risk of severing commuting corridors and foraging routes used by bats, specifically along the northeastern site boundary. Furthermore, if the proposals change to include the removal of trees within the woodland the ground-level and aerial tree assessments will be required. Furthermore presence / absence surveys may be required depending on the results of the further surveys.
- **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.
- **Invasive species** – Wall cotoneaster *Cotoneaster horizontalis* and Himalayan cotoneaster *Cotoneaster simonsii* are to be eradicated and subject to control measures prior to the start of works as detailed in section 4.2.4 of this report.
- **Terrestrial mammals** – a badger activity survey has confirmed likely absence of badgers and no evidence of badger activity has been found on site. The site supports



two large rabbit warrens and several individual entrance holes. These will be directly impacted and lost as part of the works. The removal of these features should occur under mitigation measures detailed in section 4.2.1 of this report in order to avoid undue suffering and injury.

- **Watercourse** – specific procedures and control measures to be implemented to ensure that there is no risk of input into the watercourse, including the retention of a buffer zone. The measures should be set out by the contractors prior to commencement and agreed with the LPA and other statutory consultees.
- **Woodland and trees** – 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 planting of hedgerows and 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 Mark Halliwell MBiol, UES Senior Ecologist. Mark holds a level 4 Botanical Society for Britain and Ireland (BSBI) field identification skills certificate (FISC), which certifies him as competent to undertake botanical and habitat surveys up to National Vegetation Classification (NVC) level. Mark is licensed by Natural England to disturb, take and handle great crested newts under licence number 2021-53200-CLS-CLS (CL08). Mark is also 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) and is an accredited agent able to utilise an endoscope under the licence of Toby Hart, UES Managing Director. Toby is licensed by Natural England to disturb, take and handle all species of bats under licence numbers 2015-15898-CLS-CLS (level 3) and 2015-15899-CLS-CLS (level 4).

The report provides an assessment of the potential ecological impacts associated with the proposed development of a parcel of land at Unit 102 Tenth Avenue, Deeside Industrial Park.

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 November 2022 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 construction of additional industrial units with associated infrastructure and access. This will likely include the removal of several semi-mature trees along the south-western site boundary in order to facilitate the construction of a site access point. At present, it is understood that the only other proposed vegetation removal is at the rear (north) of the site whereby the suckering aspen will be thinned to facilitate the construction of a fence that will protect the retained plantation woodland.



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 – A search for protected species or otherwise notable species and local designated sites was undertaken within a 2km radius of the proposed development site by Cofnod (the local environmental records centre for North Wales).

2.2 Field survey

An ecological walkover survey was carried out on 17th January 2023 by Mark Halliwell. The purpose of the survey was to identify, record and map dominant habitats 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 England, 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 in January when there was snow on the ground and so identification of habitats was limited. However, subsequent botanical assessments were undertaken in February 2023 during the badger activity survey. These subsequent assessments enabled sufficient vegetative identification, such that a robust assessment of the habitats on site was 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 are eight statutorily protected sites within 2km of the proposed development site:

- The Dee Estuary (Wales) Ramsar
Located approximately 1km northwest of site, the Ramsar site designation covers approximately 25000ha of the Dee Estuary and has large areas of overlap with the SPA designated site of the same name. The Ramsar site shares many of its designation features with the SPA and SAC, being of international importance for its marine habitats, assemblage of waterfowl and its wintering populations of wetland birds. Qualifying species include, but are not limited to, redshank Tringa totanus, teal Anas crecca, pintail Anas acuta, and knot Calidris canutus islandica.
- The Dee Estuary (Wales) SPA¹
Located approximately 1km northwest of site, The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations.
- Dee Estuary / Aber Afon Dyfrdwy SAC²
Located approximately 1km northwest of site, The Dee Estuary / Aber Dyfrdwy SAC covers an area of approximately 15800ha and includes the Dee Estuary itself and areas of intertidal flats on the north-west coast of the Wirral (North Wirral Foreshore) and on the north-east Wales coast, east of Prestatyn (Gronant Dunes and Talacre Warren). Gronant Dunes and Talacre Warren also includes the largest remaining area of a once extensive dune system along this section of Welsh coast. The SAC has been designated because of its size and biological interest including its saltmarshes, intertidal mudflats and sandflats, sand dunes, drift line vegetation and sea cliffs, the presence of petalwort Petalophyllum ralfsii, and sea lamprey Petromyzon marinus and river lamprey Lampetra fluviatilis that migrate through the area.
- Dee Estuary / Aber Afon Dyfrdwy SSSI³
Located approximately 1km northwest of site, The Dee Estuary/Aber Afon Dyfrdwy is of special interest for its total populations of internationally important wintering

¹ Special Protected Area

² Special Area of Conservation

³ Site of Special Scientific Interest

waterfowl; its populations of individual waterfowl and tern species whose numbers reach national and in some cases, internationally important levels; its intertidal mud and sandflats, saltmarsh and transitional habitats; the hard rocky sandstone cliffs of Hilbre Island and Middle Eye with their cliff vegetation and maritime heathland and grassland; its assemblage of nationally scarce plants; and its populations of sandhill rustic moth Luperina nickerlii gueneei, Red Data Book species.

- **Shotton Lagoons and Reedbeds SSSI**
Located approximately 1.7km southwest of site, Shotton Lagoons and Reedbeds are of special interest for their breeding population of common tern Sterna hirundo and their reedswamp vegetation characterised by common reed Phragmites australis. Two nationally scarce plants are present on site: variegated horsetail Equisetum variegatum and white mullein Verbascum lychnitis. The lagoons also provides breeding, roosting and feeding opportunities for a range of waterfowl.
- **Inner Marsh Farm SSSI**
Located approximately 1.7km northwest of site, Inner Marsh Farm straddles the England / Wales border at the head of the Dee Estuary. The site is notified for its ornithological interest, particularly its wintering and summering bird populations. The site lies on former estuarine flats which were reclaimed from the Dee Estuary in the nineteenth century and now comprises marshland. The site is a complex of open water and wetland habitats and provides valuable roosting and feeding areas for birds displaced from the estuary by high tides. Lapwing Vanellus vanellus and redshank are also known to breed in the site in small numbers.
- **The Dee Estuary (England) Ramsar**
Located approximately 1.7km northwest of site, and as per the above description for the portion of the Ramsar site that lies within Wales.
- **The Dee Estuary (England) SPA**
Located approximately 1.7km northwest of site, and as per the above description for the portion of the SPA that lies within Wales.

The proposed development site lies within a SSSI Impact Risk Zone (IRZ) within which Natural England request that they are consulted on developments where a net additional gross internal floorspace of 1000m² or more is attained.

There is one non-statutorily protected sites within 2km of the proposed development site:

- **Shotton Steelworks Wildlife Site**
Located approximately 1km southwest of the site boundary, Shotton Steelworks is an ex-industrial site adjacent to the Dee Estuary SSSI. Habitats present include rough neutral grassland, marshy grassland, reedbed, and man-made lagoons. The site supports a number of interesting plant species and is also important for breeding and wintering birds, including an important tern colony.

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

- Afon Dyfrdwy (River Dee) SSSI
- Brotherton Park and Dibbinsdale LNR⁴
- Rivacre Valley LNR
- Rivacre Valley LNR

⁴ Local Nature Reserve

- Buckley Claypits and Commons SSSI
- Burton Mill Wood LNR
- Connah's Quay Ponds and Woodland SSSI
- Deeside and Buckley Newt sites SAC
- Dibbinsdale SSSI
- Hallwood Farm Marl Pit SSSI
- Maes y Grug SSSI
- Mersey Estuary Ramsar
- Mersey Estuary SPA
- Mersey Estuary SSSI
- River Dee (England) SSSI
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (England) SAC
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales) SAC
- River Dee and Bala Lake SAC
- Stanney Wood LNR
- Whitby Park LNR

3.1.2 Protected species

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

- Amphibians: two records of common toad *Bufo bufo* were returned from the records search. Both records are dated from 1997 or earlier and are located more than 1km from the site. No other records of amphibians were returned as part of the record search. There is a wet ditch that runs along the northern site boundary but there are no other ponds or waterbodies within 500m of the site boundary.
- Badgers: five records of badger *Meles meles* were returned from within 2km of the proposed development site. The closest records to the proposed development site are both situated approximately 750m from the site boundary and consist of dead individuals found along the carriageway that runs west to east past the northern site boundary.
- Bats: seven records of bats were returned from the record search. Records include pipistrelle species *Pipistrelle* sp., common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, whiskered bat *Myotis mystacinus*, noctule *Nyctalus noctula* and whiskered / Brandt's *Myotis brandtii* bat. The closest record is situated approximately 1km southeast of the site and consists of a grounded whiskered / Brandt's bat that was found on a wall in the industrial estate and taken into care.
- Birds: various species, including several NERC section 41 and Wildlife and Countryside Act 1981 Schedule 1 species.
- Hazel dormouse: no records of hazel dormouse *Muscardinus avellanarius* were returned from within 2km of the proposed development site.
- Hedgehog: three records of hedgehog *Erinaceus europaeus* were returned from within 2km of the proposed development site. The closest details a live juvenile found 1.5km southwest of the proposed development site in the industrial estate.
- Otter: a single record of otter *Lutra lutra* was returned from within 2km of the proposed development site and details the presence of an otter spraint approximately 1.5km northwest of the site near Rifle Range Sealand.

- Reptiles: three records of reptiles were returned from the records search. The closest two records detail a grass snake *Natrix Helvetica* located 1.2km and 1.4km southwest of the proposed site within a balancing pool in Deeside Industrial Park, but are dated 1999. A single common lizard *Zootoca vivipara* record dated from 2016 is located 1.8km north of the site within Burton Mere Wetlands RSPB reserve.
- Water vole: there are six records of water vole *Arvicola* returned from within 2km of the proposed development site. The closest record is situated 1.4km southwest of the proposed development site within Shotton Steelworks Wildlife Site. Several other records are found within the mouth of the Dee in this area dated 2008. Another single record dated from 2022 of droppings confirmed by eDNA analysis is located 2km east of the site within a drainage ditch on the west side of the A494 dual carriageway.
- 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. A full botanical species list for each habitat is provided at Appendix 5.

The surrounding landscape comprises Deeside Industrial Park to the south and east of the development boundary. The A548 dual carriage way is situated immediately to the north of the development boundary, beyond which lies Shotwick Solar Park that dominates the landscape to the north. The following principle habitat types were characterised on site:

- A1.1.2 Broad-leaved plantation woodland
- A2.1 Dense scrub
- A2.2 Scattered scrub
- A3.1 Broad-leaved scattered trees
- A3.2 Broad-leaved coniferous trees
- G1 Standing water
- J1.2 Amenity grassland
- J1.3 Ephemeral / short perennial
- J1.4 Introduced shrub
- J2.4 Fence
- J5 Hardstanding
- J6 Other habitat – rabbit warren

3.2.1 A1.1.2 Broad-leaved plantation woodland

Plantation woodland is situated at the northern site boundary flanking a wet ditch and largely comprises aspen (see Appendix 4 – Photographs, Photo 4). It was likely planted as a barrier to the industrial estate from the adjacent A548 dual carriageway. Other species are present throughout the woodland including crack willow *Salix fragilis*, hawthorn *Crataegus monogyna*, and elder *Sambucus nigra*. Due to the density of the trees, it is likely that ground flora is limited although this could not be accurately discerned due to the timing of the survey. Bramble *Rubus fruticosus* agg, scaly male fern *Dryopteris affinis*, stinging nettles *Urtica dioica*, cleavers

Galium aparine and herb Robert *Geranium robertianum* were also identified within the woodland.

Several crack willows have fallen and/ or contain split limbs which may provide suitable roosting opportunities for roosting bats, though at present it is understood the woodland will be retained as part of the works.

3.2.2 A2.1 Dense scrub

The aspen is suckering at its southern limit and is encroaching into the site. This area has been mapped as dense scrub due to the immaturity of the saplings present (Photo 5).

3.2.3 A2.2 Scattered scrub

Individual specimens of elder, buddleia *Buddleja davidii* and a rose species *Rosa* sp. are found within the site boundary, typically adjacent to Building 1 or the palisade fence within the site (Photo 6).

3.2.4 A3.1 Broad-leaved scattered trees

Scattered broadleaved trees are present along a raised bank of amenity grassland at the south-western site boundary. Species present include semi-mature sycamore *Acer pseudoplatanus*, rowan *Sorbus aucuparia*, and cherry species *Prunus* sp.. These trees were all inspected from ground level and no tree had any suitable potential roosting features due to their young age.

3.2.5 A3.2 Coniferous scattered trees

Also scattered along the south-western site boundary are a number of Austrian pines *Pinus nigra*. As above, no potential roosting features were identified from ground level.

3.2.6 G1 Standing water

A wet ditch flows within the plantation woodland along the north-eastern site boundary (Photos 7 and 8). The ditch has gently sloping bank which are heavily shaded by the overhanging aspen, with hawthorn, elder, and bramble also present. The ditch is approximately 40cm deep at its deepest point in the centre and it contains large amounts of leaf litter. No aquatic vegetation was found during the initial site survey or indeed on any subsequent site visits in February 2023 as part of the badger activity survey.

3.2.7 J1.2 Amenity grassland

Amenity grassland is located adjacent to Tenth Avenue at the south-western site boundary. This area contains a larger proportion of grasses than the ephemeral / short perennial that is located to the rear of Building 1, most likely because it does not experience the same intensity of grazing by rabbits *Oryctolagus cuniculus*. However, the sward is still short and intensely managed. Species present include annual meadowgrass *Poa annua*, Yorkshire fog *Holcus*

lanatus, red fescue *Festuca rubra* agg., ribwort plantain *Plantago lanceolata*, dandelion *Taraxacum officinale* agg., shepherd's purse *Capsella bursa-pastoris*.

3.2.8 J1.3 Ephemeral / short perennial

The areas surrounding Building 1 largely comprise ephemeral / short perennial vegetation. The land is intensely grazed by rabbits which have formed two large warrens to the rear of Building 1 (TN1). These serve to reduce the sward to an extremely low level whereby it largely comprises mosses, with abundant daisy *Bellis perennis*, ribwort plantain, common storksbill *Erodium cicutarium*, and common mouse ear *Cerastium fontanum*. Biting stonecrop *Sedum acre*, yarrow *Achillea millefolium*, and dove's-foot cranesbill *Geranium molle* are also present amongst the sward. The density of grasses is relatively low with mosses and low growing forbs being found more frequently over the thin and sandy soil.

In addition to the rabbit warrens (TN2) identified by fifteen or more entrances shown on Appendix 2 – Phase 1 Map, J6 – Other habitat, individual burrow entrances are scattered throughout this habitat (TN1). These individual entrances are located along the western edge of Building 1, and at the boundary between the dense scrub and ephemeral / short perennial vegetation near the western site boundary. Furthermore, wall cotoneaster (TN3) *Cotoneaster horizontalis*, and Himalayan cotoneaster (TN4) *Cotoneaster simonsii* are present as individual specimens amongst this habitat.

A pile of concrete blocks and other building constituents such as pipes and wooden boards is located near the south-eastern corner of the site amongst this habitat. The pile measures approximately 15m long by 6m wide (TN5, Photo 18).

3.2.9 J1.4 Introduced shrub

Non-native and ornamental introduced shrub planting is located along the south-western site boundary primarily around the site access point, but also in small stands along this boundary.

3.2.10 J2.4 Fence

Metal palisade fencing demarcates the western site boundary from the adjacent industrial units. It also surrounds a hardstanding yard around Building 1.

3.2.11 J3.6 Buildings

Three buildings are present on site comprising a metal-clad industrial unit currently used as a warehouse (Photos 9 – 12), and two red brick substations (Photos 13 – 15).

3.2.12 J5 Hardstanding

A hardstanding yard and car park are situated to the east and south of Building 1, respectively.

3.2.13 J6 Other habitat – rabbit warren

Two rabbit warrens are located within the ephemeral / short perennial vegetation to the rear of Building 1 (Photos 3, 5, 16 and 17). These have been mapped as a polygon to show the approximate area they cover. Each polygon contains approximately 15 entrances. The majority of the entrance holes are too small to accommodate badger, though several holes contain large scratch marks at the entrance and are up to 25cm wide. No evidence of badger activity was recorded during the initial site visit, and a badger activity survey has been undertaken which also did not find the site to be used by badgers.

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

Just two records of common toad have been returned from within 2km of the proposed development boundary. No other amphibian records were returned from the records search.

There are no mapped ponds within 500m of the proposed development site, although there is a wet ditch that runs along the northern site boundary adjacent to the dual carriageway. Although the ditch contains leaf litter, it is broadly unsuitable for breeding great crested newt (GCN) *Triturus cristatus* given it is heavily shaded and contains no aquatic vegetation.

The terrestrial habitats within the development footprint are of mixed suitability for GCN. The plantation woodland and dense scrub offer exposed root systems and fallen logs that will provide broadly suitable terrestrial habitat for GCN. However, the amenity grassland and ephemeral / short perennial habitats are closely cropped and offer very limited quality foraging and commuting habitat. Furthermore, there are a number of potential refuges scattered throughout the site such as wooden boards and piles of brick; all of these were searched with no amphibians identified.

Given the absence of any newt records and the poor quality of the aquatic habitats, it is considered extremely unlikely that GCN or any other newts will be impacted by the works, which are restricted to the intensely grazed amenity grassland, ephemeral / short perennial, and developed areas of the site.

3.3.2 Reptiles

There are two historical grass snake records located adjacent to balancing pools in Deeside Industrial Park, and a single common lizard record within RSPB Burton Mere Wetlands reserve. All records are greater than 1km from the site boundary.

As with amphibians, there are some, albeit limited, edge habitats that provide a small amount of habitat for reptiles, such as at the interface between dense scrub and ephemeral / short perennial vegetation. However, there is a lack of reptile records nearby and the terrestrial habitats that are to be impacted by the development proposals – the hardstanding, buildings, amenity grassland and ephemeral / short perennial – are unsuitable for foraging and

commuting reptiles. Brick piles, wooden boards and other potential refuges were searched with no evidence of reptiles found.

Given the lack of nearby reptile records and the low quality of terrestrial habitat that will be impacted by the works, it is considered extremely unlikely that reptiles are present on site or within the nearby area. Furthermore, the retained and surrounding terrestrial habitat has the ability to absorb any displaced reptiles in the extremely unlikely event that they are present. The proposals will also retain the linking habitat such as the plantation woodland to the north of the site.

3.3.3 Badger

Nearby badger records consist of deceased individuals found by the side of the A548 dual carriageway although they are located approximately 700m from site.

The site itself is broadly suitable for badgers due to the plantation woodland located on a sloping bank that provides a strip of habitat and links the site to the wider area. Two clusters of mammal holes (TN2) and several individual mammal holes (TN1) are scattered throughout the site. The majority of holes are too small for badger and contain evidence of use by rabbits, such as droppings. However, several holes within TN2 are considered large enough to support badger. A badger activity survey has since been conducted following the initial site survey in January and no badgers have been recorded using the site. The mammal holes are used exclusively by rabbits, with fox *Vulpes vulpes* and domestic cat *Felis catus* also recorded on trail cameras. No badger tracks, latrines or guard hairs were identified during this badger activity survey and so it is considered that the works will not affect badgers.

3.3.4 Bats

There are three buildings on site including an industrial unit and two smaller substations. There are a number of mature trees present on site including within the plantation woodland.

All trees on site were subject to a thorough ground-level tree assessment and potential roosting features were restricted to crack willows within the plantation woodland. This woodland will be unaffected by the proposals. Scattered semi-mature broadleaved and coniferous trees which are located at the south-western site boundary and may be removed as part of the proposals were also inspected. No potential roosting features were identified in these trees, which were fully assessed as part of the ground level assessment.

Building 1 is a large steel-framed industrial unit covered with corrugated metal cladding. The roof is also clad with corrugated metal although it contains dozens of translucent skylights that enable large amounts of natural light into the interior. The building features several large fans that ventilate the interior, but are blocked internally with a mesh that would reduce the likelihood of providing access for bats. The front of the building features several glass windows all of which are in good condition and provide no access points for bats and the eaves of the building are sealed by a metal capping. Internally the building has no loft space with the roof structure visible from below. The interior is heavily lit by natural light which enters through the skylights. Potential roosting features are restricted to gaps between the steel beams of the roof structure although no evidence of bat activity was identified. Furthermore, the building is currently regularly disturbed as it is used for storage purposes.

Buildings 2 and 3 are very similar in their type and construction, they are both red brick substations which have flat roofs. These buildings are in good condition and no potential access points to the interior of the buildings were identified. Building 2 has a plastic capping to the top of the wall plate, which is tightly sealed and offers no potential roosting features for bats. Building 3 does not have this plastic capping and the top of the wall plate is exposed. Lead flashing is present as a drainage feature although it is tightly sealed and offers no potential roosting features for bats. The interior of the substations was not assessed although no potential access points were identified externally and under the current proposals the substations are due to be retained.

All the buildings on site are considered to provide negligible roosting suitability for bats and no trees with potential roosting features are due to be impacted under the current proposals, as such it is considered that the development will not directly or indirectly impact bats.

3.3.5 Hazel dormouse

The habitats on site are unsuitable for dormice *Muscardinus avellanarius*. The plantation woodland lacks key species such as hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum*.

Hazel dormice are known to have a limited distribution nationally and given the absence of nearby records and the poor quality of surrounding habitat, they are considered extremely unlikely to be on site or within the nearby area.

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: blue tit *Cyanistes caeruleus*, carrion crow *Corvus corvone*, woodpigeon *Columba palumbus*, robin *Erithacus rubecula*, blackbird *Turdus merula*, wren *Troglodytes troglodytes*, jackdaw (flyover) *Corvus monedula*, dunnock *Prunella modularis*, redwing (flyover) *Turdus iliacus*, and herring gull *Larus argentatus*.

The habitats on site are unsuitable for overwintering waders given the disturbed nature of the site, its small size and lack of any ephemeral scrapes. No such birds were present on site during the walkover survey.

Of these species mentioned above, the herring gull is listed on the most recent birds of conservation concern "red list". Redwing, dunnock, woodpigeon and wren are all included in the "amber list", and redwing are a Schedule 1 species.

The scattered trees, dense scrub, and plantation woodland all provide suitable nesting opportunities for breeding birds in the summer.

3.3.7 Trees

Trees on site may be protected by a Tree Preservation Order (TPO), for which a check has not been undertaken.

3.3.8 Hedgerows



There are no hedgerows present 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

In three locations, wall cotoneaster (TN3) and Himalayan cotoneaster (TN4) is found in localised areas.

3.3.11 Otter and water vole

Records of otter and water vole were returned as part of the records search. Otter records are restricted to a single record located more than 1.5km from the site. Water vole records are all more than 1.4km from the site and there are a total of six records.

The wet ditch is considered unsuitable to support water voles and otters except potentially for commuting individuals. The ditch has a shallow bank that is heavily shaded by aspen and lacks any vegetation that water vole may feed on. Furthermore, the shallow banks are broadly unsuitable for water vole burrows and no runs, droppings or burrows were identified along its length. Similarly, the shallow depth of the ditch reduces the likelihood it will contain fish on which otter may feed.

The ditch is the only potentially suitable habitat on site for otter and water vole and it is due to be retained under the current proposals with a buffer zone of at least 20m being retained from its edge. Given the scale of the work and the distance from this feature, it is considered extremely unlikely that otter or water vole will be impacted by the works.

3.3.12 White-clawed crayfish

There are no records of white-clawed crayfish returned as part of the records search and they are not considered to be on site or in the nearby surrounding area. As such, it is considered extremely unlikely that they will be directly or indirectly impacted by the proposed works.

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 nearest non-statutorily protected site is Shotton Steelworks Wildlife Site, which is located more than 1km from the site boundary. The nearest statutorily protected sites within 2km of the development site is the Dee Estuary Ramsar, SAC, SPA and SSSI, which are all located just over 1km from the site boundary on the opposite side of the A548 dual carriageway. These sites are typically designated or notable for the bird populations that they support. The development site itself is not considered to be functionally linked to these sites given the absence of any suitable habitat such as ephemeral scrapes, wetland, or large areas of grassland. The site is heavily disturbed both by activities on site and within adjacent industrial units. There is no evidence to suggest that qualifying species of these designated sites are present within the proposed development boundary, and none were identified during the site visits.

Given the localised nature of the works and the distance from designated sites, it is considered unlikely that the proposed development will have any direct or indirect impact on any local statutorily designated or non-statutorily designated sites.

4.1.2 Trees

There are a number of trees on the site, which vary in condition and maturity. Scattered trees along the southwestern site boundary are semi-mature, whilst there are mature specimens present in the plantation woodland adjacent to the northeastern site boundary.

Construction impacts

The proposals will result in the removal of a number of semi-mature trees at the southwestern site boundary, which will involve their loss as an ecological resource, or may result in damage to any trees which are to be retained. No arboricultural works are due to occur within the plantation woodland along the northern site boundary except for the cutting back of suckering aspen saplings.

Mitigation

Root protection areas (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 plantation woodland along the northern site boundary.

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

At present, the proposals will only result in the thinning of the aspen saplings that have grown through suckering at the edge of the woodland. There is considered to be no requirement to compensate for the loss of this vegetation as it comprises immature saplings.

Operational impacts

It is anticipated that there will not be an increase in disturbance within the woodland as part of the proposals. The proposals are for industrial purposes and the woodland will be adequately fenced off from the site such that there will be no storage of materials within the woodland during the operational phase of the development.

4.1.4 Watercourse

An unnamed wet ditch flows within the plantation woodland along the northern site boundary.

Construction impacts

The construction activities are located beyond a 20m buffer from the watercourse and there is considered to be no risk of disturbance and / or pollution to the watercourse.

Mitigation

Specific procedures and control measures will need to be implemented to ensure that there is no risk of input into the watercourse. These measures should be set out by the contractors

prior to the commencement of works and will need to be agreed with the Local Planning Authority (LPA) and other statutory consultees. These measures should conform to best practice guidance and include the cleaning of all machinery and equipment before use on site to prevent contamination of the watercourse with foreign abiotic and biotic materials.

A buffer zone should also be retained along the length of the watercourse to protect it from disturbance. The buffer zone should be adequately fenced off and no vegetation clearance or other construction activities should take place within it, except for the purpose of enhancing the plantation woodland.

Operational impacts

No operational impacts are envisaged.

4.2 Species

4.2.1 Terrestrial mammals

A badger activity survey has been conducted which found that the site contains two rabbit warrens but no evidence of badger activity. The site is not considered to support badgers although rabbits, foxes and domestic cats were recorded during the badger activity survey.

Construction impacts

The construction activities will result in the direct loss of the rabbit warrens and may also cause injury and/or death to the rabbits inside.

Mitigation

Since the area is not currently used by badgers no mitigation is required with respect to badgers. However, in order to minimise unnecessary suffering to the rabbits, it is recommended that the rabbit warrens are sensitively excavated by hand rather than machine in order to minimise the risk of direct harm and to allow them to disperse naturally.

Operational impacts

No operational impacts are envisaged.

4.2.2 Bats

There are no buildings on site which offer roosting potential for bats. A number of mature trees will be removed as part of the works, although the only trees with potential to support roosting bats are found within the woodland at the north of the site. This woodland is due to be retained and no arboricultural works including tree felling are envisaged within this area.

Construction impacts

If the proposals changed to include the removal of trees within the woodland and if bats are roosting within the woodland during site clearance, 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

As the proposals will not currently impact trees or buildings with the potential to support roosting bats, further surveys are not considered necessary.

If the plans change to affect the trees within the woodland, ground level and aerial tree inspections should be conducted of any trees to be removed or otherwise altered. These inspections can be undertaken at any time of year. If any potential roosting features are found to still be suitable following the inspections, bat presence / absence surveys may be required (May to September inclusive).

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. The following bat boxes 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)

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

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. Furthermore, light spill onto the northern site boundary should also be minimised as the woodland edge provides suitable commuting and foraging opportunities for bats currently (see Appendix 6 – External lighting guidance).

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

Operational impacts

No operational impacts are envisaged.

4.2.3 Birds

The scattered trees and dense scrub on site could support breeding 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. At the time of writing this report no detailed plans are available, but bird boxes that could be used on site include:

- Schwegler 1B nest box (affixed to trees)
- Schwegler 2H robin nest box (affixed to trees)

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.

Operational impacts

No operational impacts are envisaged.

4.2.4 Invasive species

Wall cotoneaster and Himalayan cotoneaster are found on site or immediately adjacent to the site boundary and are both listed under Schedule 9 of the Wildlife and Countryside Act 1981. As such, it is an offence to plant or otherwise cause these species to grow in the wild.

Construction impacts



Site clearance and setting out could result in the disturbance and dispersal of wall and Himalayan cotoneaster on and off site.

Mitigation

Invasive species will need to be eradicated prior to the start of works on site in order to ensure that they do not spread across the site or onto adjacent areas. It is essential that a competent and qualified person carries out any herbicide treatment.

Both wall cotoneaster and Himalayan cotoneaster can be eradicated by chemical treatment with a glyphosate herbicide or through mechanical means such as excavation. However, if excavation is chosen as the method of treatment, then the materials removed should be treated as controlled waste and disposed of accordingly via a licenced handler or at a licenced facility. If excavation is the chosen method of control, then all berries must be removed to ensure that invasive species do not regenerate. Any herbicide application should be undertaken by trained operatives holding the relevant licences.

Operational impacts

If wall cotoneaster and Himalayan cotoneaster are eradicated prior to the start of works on site, no further operational impacts are envisaged. However, complete eradication is an ongoing process, and if it is not treated as such, it can return and continue to spread. This could become more acute with increased activity on site.



5 CONCLUSION

The proposed development site has an area of approximately 1.62ha and comprises an industrial unit with hardstanding and amenity grassland to the front, and closely grazed ephemeral / short perennial vegetation to the rear. The proposals are restricted to these areas, in addition to a line of dense scrub comprising suckering aspen, which will be cut back to facilitate the construction of a fence to protect the woodland beyond. The woodland beyond comprises plantation woodland primarily composed of aspen, with other occasional mature trees spread throughout. A wet ditch flows through the northern edge of this woodland.

The preliminary ecological appraisal has highlighted potential issues with the following ecological receptors on or adjacent to site: trees, woodland, watercourse, bats, invasive species, breeding birds and terrestrial mammals. 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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DEFRA (2019). *MAG/C* [online]. Available at: <http://magic.defra.gov.uk/>.

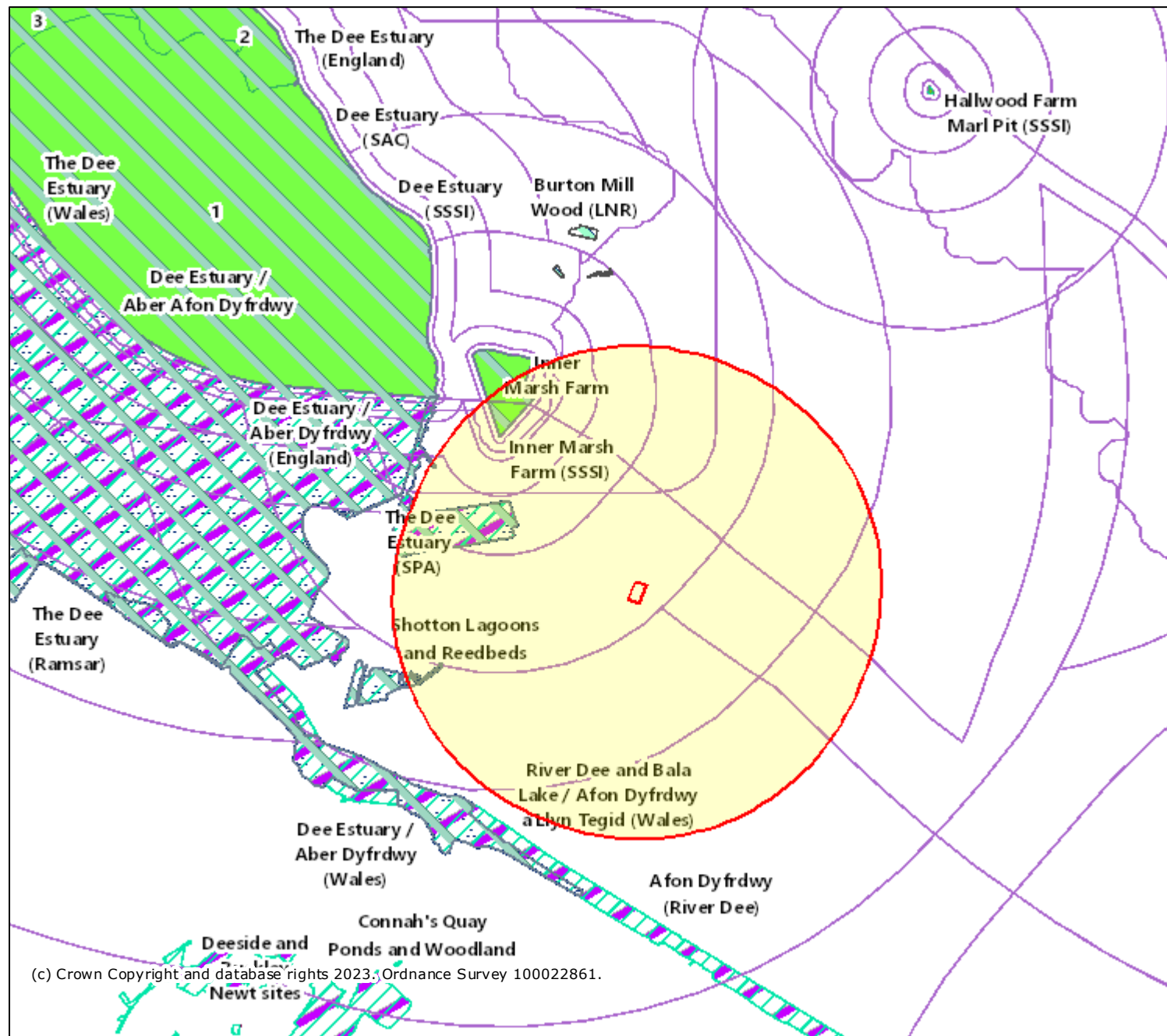
JNCC (2010). *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

MHCLG (2021). National Planning Policy Framework (NPPF).



APPENDICES

Appendix 1 – Desk study



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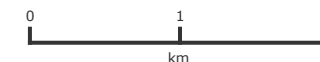
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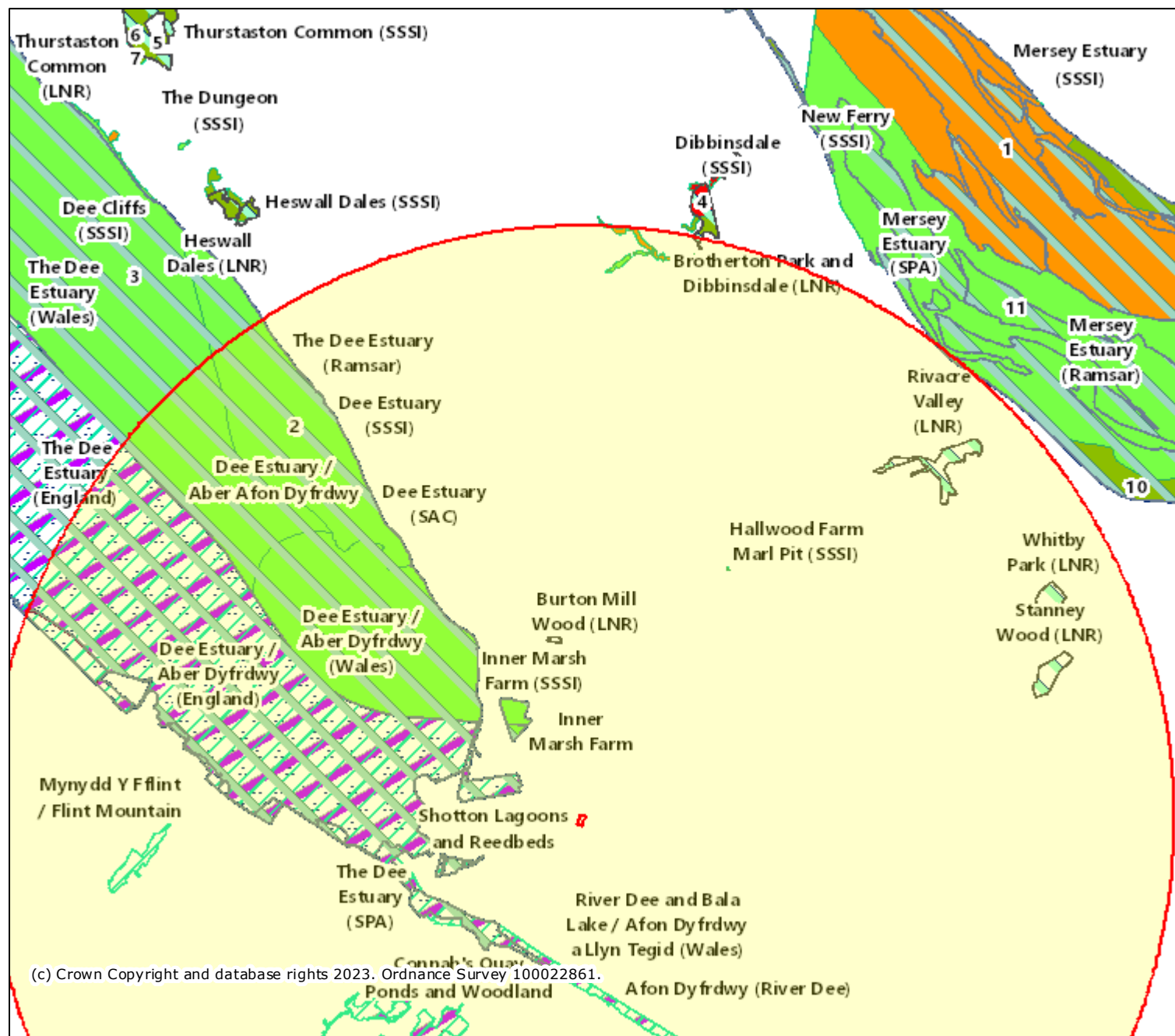
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Legend

- | | | | |
|--|------------------------------------|--|--|
| | Local Nature Reserves (England) | | Part Destroyed |
| | National Nature Reserves (England) | | Destroyed |
| | National Nature Reserves (Wales) | | Not Assessed |
| | Ramsar Sites (England) | | Sites of Special Scientific Interest (England) |
| | Proposed Ramsar Sites (England) | | Sites of Special Scientific Interest (Wales) |
| | Ramsar Sites (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) |

Sites of Special Scientific Interest Units (England)

- | | |
|--|-------------------------|
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| | Unfavourable Recovering |
| | Unfavourable no change |
| | Unfavourable Declining |

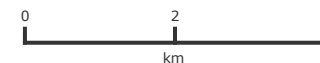
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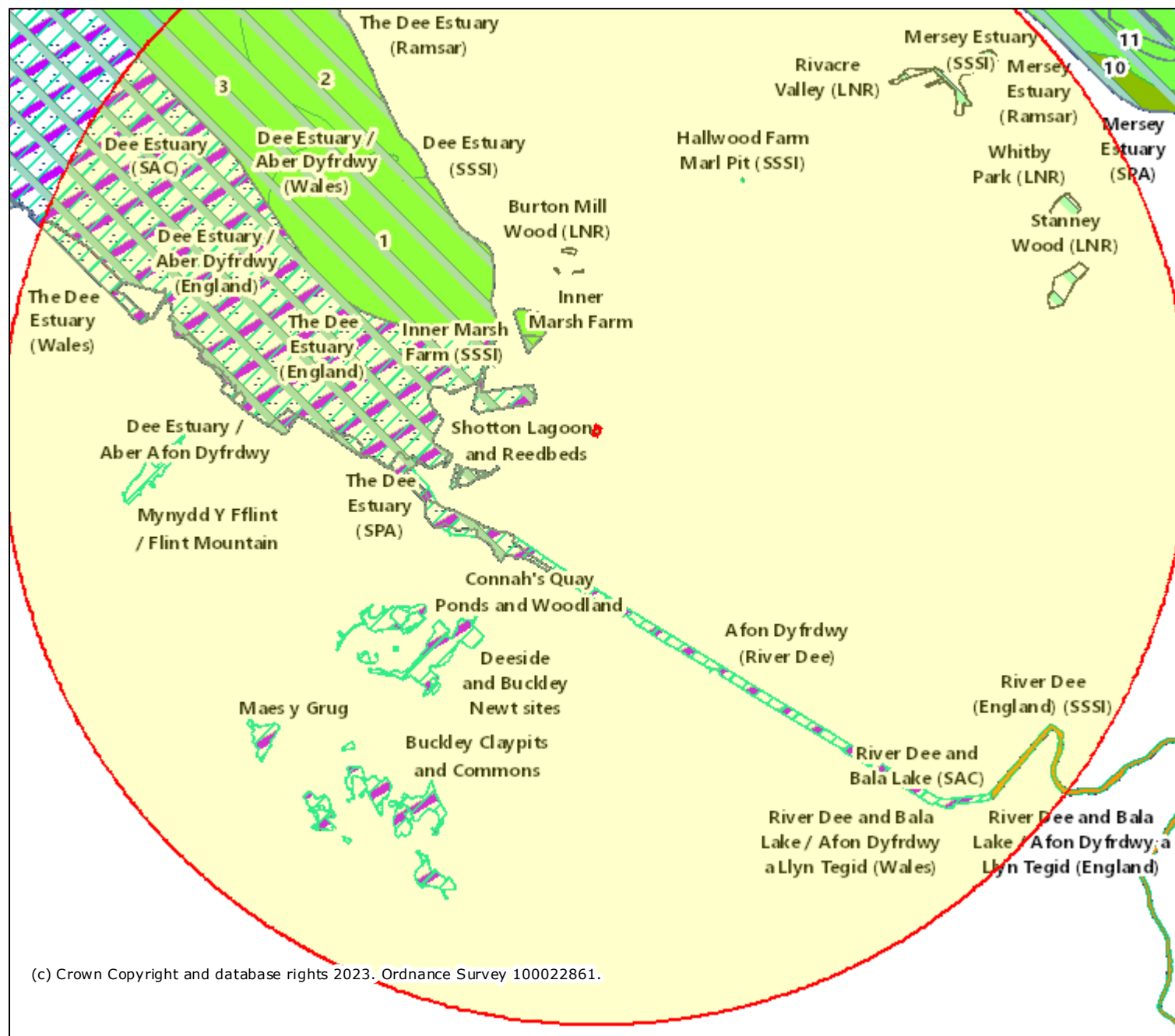
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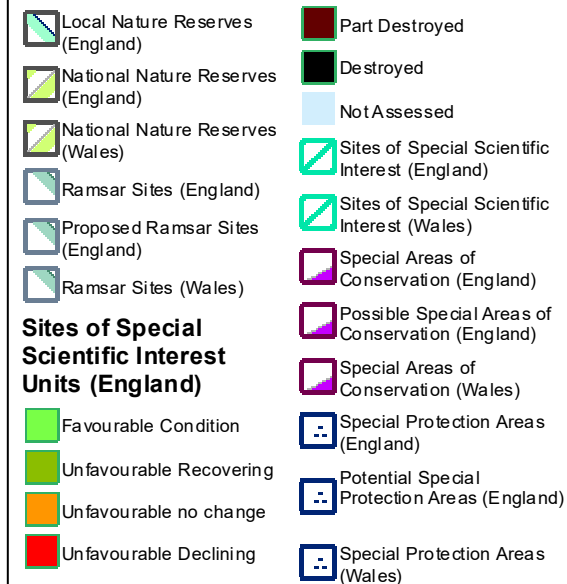


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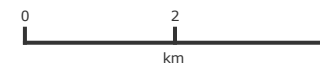
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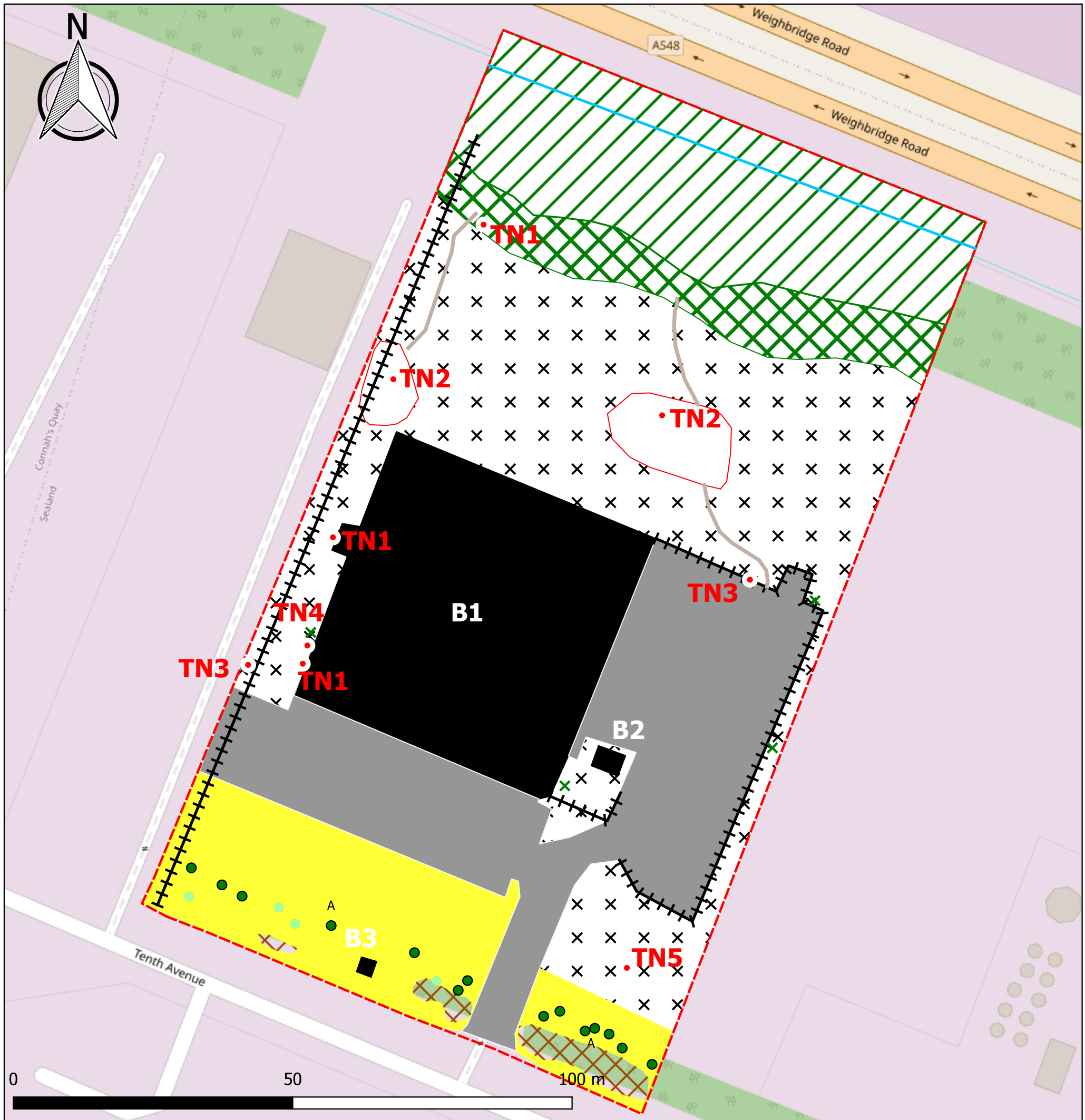


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Appendix 2 – Phase 1 habitat plan

- | | |
|-----------------|---|
| Target Note 1 - | Individual rabbit hole |
| Target Note 2 - | Rabbit warren comprising more than 15 entrances |
| Target Note 3 - | Wall cotoneaster |
| Target Note 4 - | Himalayan cotoneaster |
| Target Note 5 - | Concrete blocks and other debris |



Preliminary Ecological Appraisal

Site: Unit 102 Tenth Avenue, Deeside Industrial Park
NGR: SJ 31883 71656
Author: Mark Halliwell
Date: 01/03/2023



Key	
A1.1.2 - Broadleaved plantation woodland	J1.3 - Ephemeral/short perennial
A2.1 - Dense scrub	J1.4 - Introduced shrub
A2.2 - Scattered scrub	J2.4 - Fence
A3.1 - Broadleaved scattered trees	J3.6 - Buildings
A3.2 - Coniferous scattered trees	J5 - Hardstanding
G1 - Standing water	J6 - Other habitat - rabbit warren
J1.2 - Amenity grassland	Mammal path
	Target Notes
	Survey boundary

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Appendix 3 – Aerial photographs



Unit 102, Tenth Avenue, Deeside
Industrial Park

Close aerial photograph

 Site boundary



**Unit 102, Tenth Avenue, Deeside
Industrial Park**

Wide aerial photograph

 Site location



Appendix 4 – Photographs



Photo 1. Looking northwest from the southern site boundary at the site entrance.



Photo 2. Looking west from the southern site boundary along scattered coniferous and broadleaved trees.



Photo 3. Looking east from the western site boundary to the rear (north) of Building 1.



Photo 4. Looking west within the plantation woodland showing the regular and dense pattern of aspen trees.



Photo 5. Looking east over a rabbit warren in the foreground, with the suckering of the aspen shown at the top left.



Photo 6. Looking southwards from the eastern site boundary over the metal palisade fencing with scattered scrub visible at the left of the image.



Photo 7. Looking over the wet ditch within the plantation woodland at the north of the site.



Photo 8. Looking north over the wet ditch towards the A548 dual carriageway.



Photo 9. Front (south) aspect of Building 1.



Photo 10. Western aspect of Building 1 with corrugated materials visible that were inspected for evidence of reptiles or amphibians.



Photo 11. Interior of Building 1 showing the large levels of natural light.



Photo 12. Sheltered features within Building 1 were inspected thoroughly and no evidence of roosting activity was identified.



Photo 13. Northern aspect of Building 2, which is a red brick substation.



Photo 14. The wall plate of Building 2 is capped and tightly sealed to the brickwork.



Photo 15. Northern aspect of Building 3, which is another redbrick substation.



Photo 16. Rabbit droppings leading out of a burrow. Ephemeral / short perennial vegetation surrounds the warren.



Photo 17. Entrance to a rabbit warren with scratch marks.



Photo 18. Concrete blocks and other debris at Target Note 5.



Appendix 5 – Botanical species list

Scientific name	Common name	Habitats						
		A1.1.2 Broadleaved plantation woodland	A2.1 Dense scrub	A2.2 Scattered scrub	A3.1 Broadleaved scattered trees	A3.2 Coniferous scattered trees	J1.2 Amenity grassland	J1.3 Ephemeral / short perennial
<i>Acer pseudoplatanus</i>	Sycamore				X			
<i>Achillea millefolium</i>	Yarrow							X
<i>Arabidopsis thaliana</i>	Thale cress							X
<i>Arenaria serpyllifolia</i>	Thyme-leaved sandwort							X
<i>Bellis perennis</i>	Daisy						X	X
<i>Buddleja davidii</i>	Buddleia			X				
<i>Capsella bursa-pastoris</i>	Shepherd's-purse							X
<i>Cardamine flexuosa</i>	Wavy bitter-cress						X	X
<i>Centaurea nigra</i>	Common knapweed							X
<i>Cerastium fontanum</i>	Common mouse-ear						X	X
<i>Crataegus monogyna</i>	Hawthorn	X						
<i>Dactylis glomerata</i>	Cock's-foot	X						X
<i>Dryopteris affinis</i>	Scaly male-fern	X						
<i>Epilobium hirsutum</i>	Great willowherb	X						
<i>Erodium cicutarium</i>	Common stork's-bill							X
<i>Festuca rubra</i> agg.	Red fescue						X	X
<i>Galium aparine</i>	Cleavers	X						X
<i>Geranium molle</i>	Dove's-foot crane's-bill						X	X
<i>Geranium robertianum</i>	Herb Robert	X						
<i>Holcus lanatus</i>	Yorkshire-fog	X					X	X
<i>Jacobaea vulgaris</i>	Common ragwort						X	X
<i>Oenothera glazioviana</i>	Large-flowered evening-primrose							X
<i>Phalaris arundinacea</i>	Reed canary-grass	X						
<i>Pinus nigra</i>	Austrian pine					X		
<i>Plantago lanceolata</i>	Ribwort plantain						X	X
<i>Poa annua</i>	Annual meadow-grass						X	X
<i>Populus tremula</i>	Aspen	X	X					
<i>Pulicaria dysenterica</i>	Common fleabane							X
<i>Rosa</i> sp.	Rose species							X
<i>Rubus fruticosus</i> agg.	Bramble	X						
<i>Salix x fragilis</i>	Hybrid Crack-willow	X						
<i>Sambucus nigra</i>	Elder	X		X				
<i>Sedum acre</i>	Biting stonecrop							X
<i>Senecio vulgaris</i>	Groundsel							X
<i>Sorbus aucuparia</i>	Rowan				X			
<i>Stellaria media</i>	Common chickweed						X	X
<i>Taraxacum officinale</i> agg.	Dandelion						X	X
<i>Urtica dioica</i>	Common nettle	X						
<i>Veronica chamaedrys</i>	Germander speedwell						X	X



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

SPECIES	F	SIZE				LOCATION		SOIL MOISTURE	BENEFITS TO WILDLIFE		
		T	S	M	L	H	W			Su/Sh	
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 viburnum	E			Y	Y	Y		Su	D	Early flowers good for insects, good cover 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	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	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	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 mositure	D = Well drained
	M = Medium gardens (<= 12m x 6m)		M = Moist
	L = Large gardens (> 12m x 6m)		W = Wet soil



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 *Crocsmia 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.