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LAND OFF DALZELL STREET, MOOR ROW

PRELIMINARY ECOLOGICAL APPRAISAL

Prepared for: Alpha Design

Date: September 2022

Report Reference: JN00551/D01

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Author	JW / BH
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Approved	MK

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1. INTRODUCTION

Background

1.1 SK Environmental Solutions Limited was commissioned by Alpha Design to undertake a Preliminary Ecological Appraisal (PEA) at land off Dalzell Street, Moor Row, near Whitehaven, Cumbria. The site is located at a central grid reference of NY 00668 14612 and nearest postcode of CA24 3JP.

Aims and Objectives

1.2 The purpose of the PEA is to identify:

- the major habitats present within the working areas and the immediate vicinity;
- the potential for legally protected and / or notable species to be present; and
- the need for additional specialist ecological surveys.

1.3 A PEA does not constitute a full survey for protected species to standard survey methodologies but is used as a tool to determine the potential of a site to support protected/notable species and whether any additional specialist species surveys are likely to be required to inform a mitigation strategy.

1.4 These results have been used to assess the nature conservation importance of the working areas and immediate surroundings, with regards to the habitats and species present.

Definition of Terms

1.5 For the purpose of this report, the term ‘site’ is used to describe the location of the proposed works as shown below in Figure 1, Site Location.

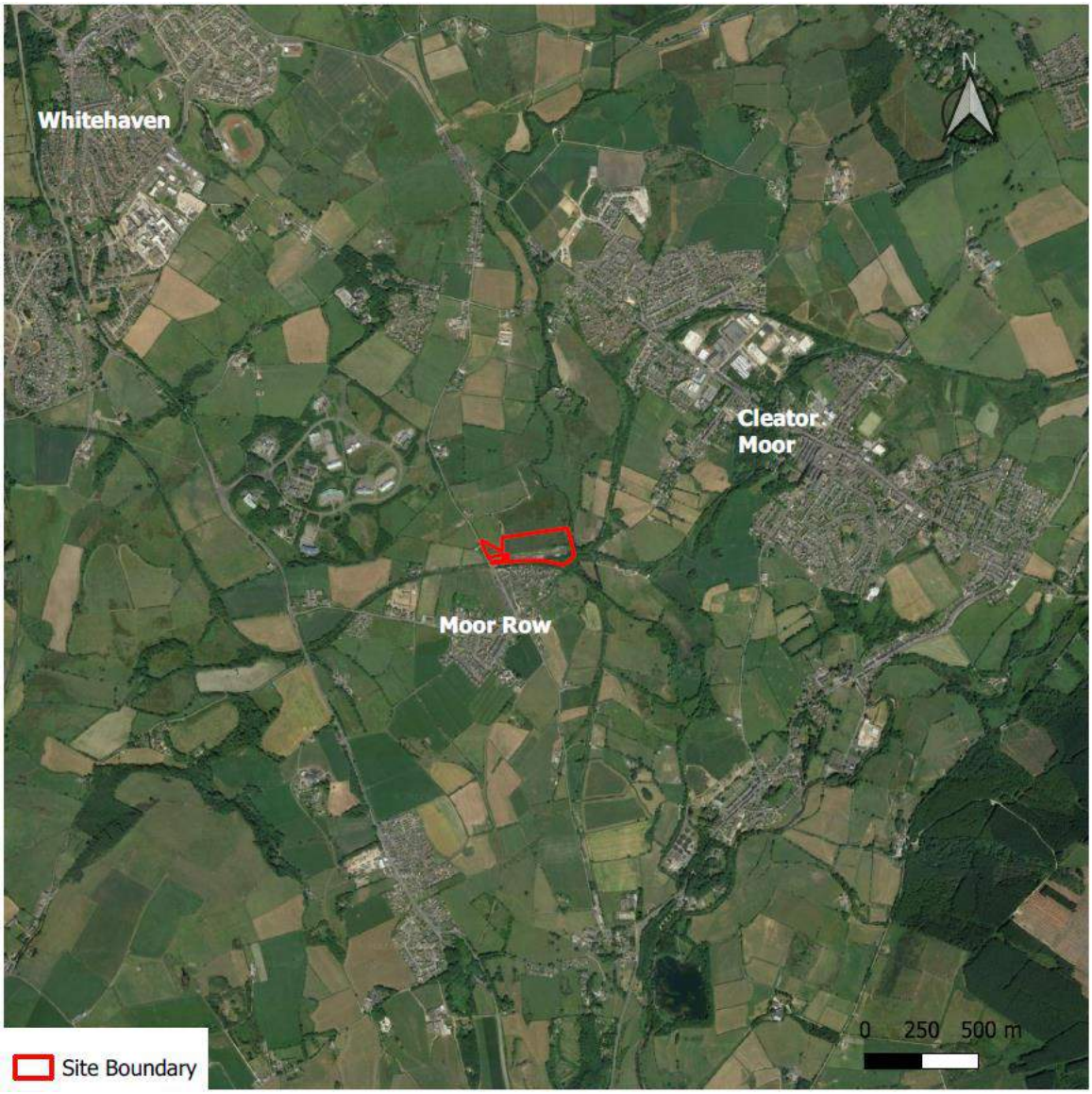

Figure 1. Site Location.

Site Description

1.6 The site is located off Station Yard, on the northern edge of the village of Moor Row, Cumbria. The site extends to approximately 2.5ha and comprises areas of grassland, rush pasture, scrub, bare ground and hardstanding. The site is primarily surrounded by agricultural pasture and is separated from the village of Moor Row to the south by Cycle Route 72, which follows the route of the old Whitehaven, Cleator and Egremont Junction Railway. The site comprises a now disused shunting yard, along with an area of adjacent field. The River Keekle is approximately 10m east of the site boundary, flowing broadly southwards to its confluence with the River Ehen, approximately 1.7km south of the site.

Development Proposals

1.7 The broad proposals for the site are for a residential development, however, design details are currently unknown.

2. METHODOLOGY

Desk Study

2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites and features of interest within and surrounding the proposed application working areas up to 2km from the site's red line boundary. Records for legally protected / notable species or habitats, were obtained from Cumbria Biodiversity Data Centre (CBDC). The baseline conditions are based on a review of the following:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website - to identify statutory designated sites and Priority Habitats;
- Ordnance survey mapping (to identify potentially notable habitats);
- Aerial photography (to identify potentially notable habitats);
- Cumbria Biodiversity Action Plan (CBAP); and
- Cumbria Biodiversity Data Centre (CBDC).

2.2 The consultation and desk study dataset are a large document and can be provided on request.

UK Habitat Classification (UKHab) Survey

2.3 SK Environmental Solutions Limited undertook survey of the working areas and immediate surroundings on 6th September 2022 to inform the PEA; an experienced ecologist conducted the survey.

2.4 The UKhab is a habitat classification system for the UK that has been developed to provide a rapid system for recording and classifying habitats which can be used for field-based surveys. It is intended to assist ecologists to identify and map habitats in a consistent and unified way and has been designed to provide outputs that are suitable for ecological impact assessment, habitat metrics and better data integration and sharing between organisations.

2.5 The field survey broadly followed the methodology as set out in Data Collection and Mapping, Chapter 3 of 'The UK Habitat Classification User Manual, Version 1.0' and The Chartered Institute of Ecology and Environmental Management's (CIEEM's) Guidelines for Preliminary Ecological Appraisal (2013). It provides information on the habitats within the survey area as well as identifying the actual or potential presence of legally protected or otherwise notable species in or

immediately adjacent to the working areas. The main habitats within the working areas were mapped and are shown below on the Habitat Plan.

2.6 Plant names follow 'New Flora of the British Isles' (Stace 2010). The common and scientific names of all botanical species identified are provided when first mentioned in the text, but only the common name is stated thereafter.

2.7 In addition to establishing the baseline ecological interest within the area, it was intended that the survey should identify areas where further surveys may be required during the appropriate season. Habitat potential for legally protected or national / local BAP species including, but not limited to, bats, badger, breeding birds, flora, amphibians, and reptiles was recorded.

Supporting Information

2.8 Target Notes were compiled as appropriate, with each being given an associated reference number. Target Notes can be found in Appendix 1 and are used to identify:

- Complex habitat mosaics or small habitats; and / or
- Features of ecological importance.

2.9 Photographs are used to illustrate the general area being surveyed and to show specific features of interest, such as valuable vegetation types or damaging activities. A note was made on the survey form with a general description of the image provided.

Limitations

2.10 Ecological surveys are limited by factors that affect presence of plants and animals such as time of year, weather, migration patterns and behaviour. The timing (September 2022) of the survey was considered to be a suitable time of year to carry out a survey. The aim of the survey is not to present an exhaustive list of vegetation present but to provide an indication of broad habitat types and whether there is the potential to support notable or protected species.

Personnel

2.11 All survey work was carried out on 6th September 2022 by experienced SK Environmental Solutions Limited ecologists. Weather conditions were warm and fine with sunny spells and a light breeze.

3. STATUTORY PROTECTION & POLICY

3.1 Chapter 2 of the National Planning Policy Framework (NPPF, 2019) describes the Government's objectives on achieving sustainable development. The environmental objective is "*to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy*."

3.2 The NPPF Chapter 15 sets out the Government's objectives for planning in regard to the protection of habitats and biodiversity. The planning objectives in relation to biodiversity and the natural environment are laid out in paragraph 170 as follows: "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

3.3 The Copeland Local Plan 2021-2038 (draft publication) contains a number of policies which relate to the natural environment. The policies listed below are considered to be of particular relevance to ecology:

Strategic Policy N1PU: Conserving and Enhancing Biodiversity and Geodiversity

"The Council is committed to conserving the borough's biodiversity and geodiversity including protected species and habitats.

Potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage.

Proposals must demonstrate, to the satisfaction of the Council, that the following mitigation hierarchy must have been undertaken:

- Avoidance – Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects
- Mitigation – Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.
- Compensation – Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.

Where harm remains to a National Site Network or Ramsar site, or functionally linked land, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.

Planning permission will be refused for any development if significant harm cannot be avoided, mitigated or compensated for.

A Construction Environmental Management Plan should be submitted where appropriate and sustainable construction methods must be used where possible.

Development proposals where the principal objective is to conserve or enhance biodiversity and geodiversity interests will be supported in principle."

3.4 Strategic Policy N3PU: Biodiversity Net Gain

"All development, with the exception of that listed in the Environment Act must provide a minimum of 10% biodiversity net gain over and above existing site levels, following the application of the mitigation hierarchy set out in Policy N1PU above. This is in addition to any compensatory habitat provided under Policy N1PU.

Net gain should be delivered on site where possible. Where on-site provision is not appropriate, provision must be made elsewhere in order of the following preference: 1. Off site in an area identified as a Local Nature Recovery Network; 2. Off site on an alternative suitable site within the borough; 3. Through the purchase of an appropriate amount of national biodiversity units/credits.

Planning applications must include a Biodiversity Gain Plan which will identify the biodiversity merit of onsite habitats both prior to and after development (using the relevant Metric system), set out details to reduce or prevent adverse effects and demonstrate how net gains will be obtained.

Sites where net gain is provided (on or off site) must be managed and monitored by the applicant or an appropriate body funded by the applicant for a minimum period of 30 years. Annual monitoring reports detailing the sites condition post-enhancement must be submitted to the Council each year over this period.

Where there is evidence of deliberate neglect or damage to any of the habitats on development sites in order to reduce its biodiversity value their deteriorated condition will not be taken into consideration and previous ecological records of the site and/or the ecological potential of the site will be used to decide the acceptability of any development proposals."

3.5 Policy N13PU: Woodlands, Trees and Hedgerows

"Existing trees and hedgerows which contribute positively to the visual amenity and environmental value of their location will be protected. Developers are encouraged to incorporate tree planting and hedgerows into new developments where possible and appropriate.

Development proposals which are likely to affect any trees within the borough will be required to:

1) Include an arboricultural assessment as to whether any of those trees are worthy of retention and protection by means of a Tree Preservation Order

2) Submit proposals to replace or relocate any trees that are to be removed with net provision at a minimum ratio of 2:1. Replacement trees should be on site and with native species where possible.

Any proposed works to trees within Conservation Areas, or those with Tree Protection Orders, will be required to include an arboricultural survey to justify why works are necessary and that the works proposed will, where possible, not adversely affect the amenity value of the area. New development should not result in the loss of or damage to ancient woodland or veteran or aged trees outside woodland unless there are wholly exceptional reasons and a compensation strategy exists. This could include Nationally Significant Infrastructure Projects and Orders under the Transport and Works Act."

3.6 Specific legislation relating to protected species in England can be found at Appendix 2.

4. DESK STUDY RESULTS

Aerial Photography and OS Maps

4.1 Aerial photography and Ordnance Survey (OS) maps were used to identify any waterbodies or watercourses within 500m of the site, shown in Figure 2, below.

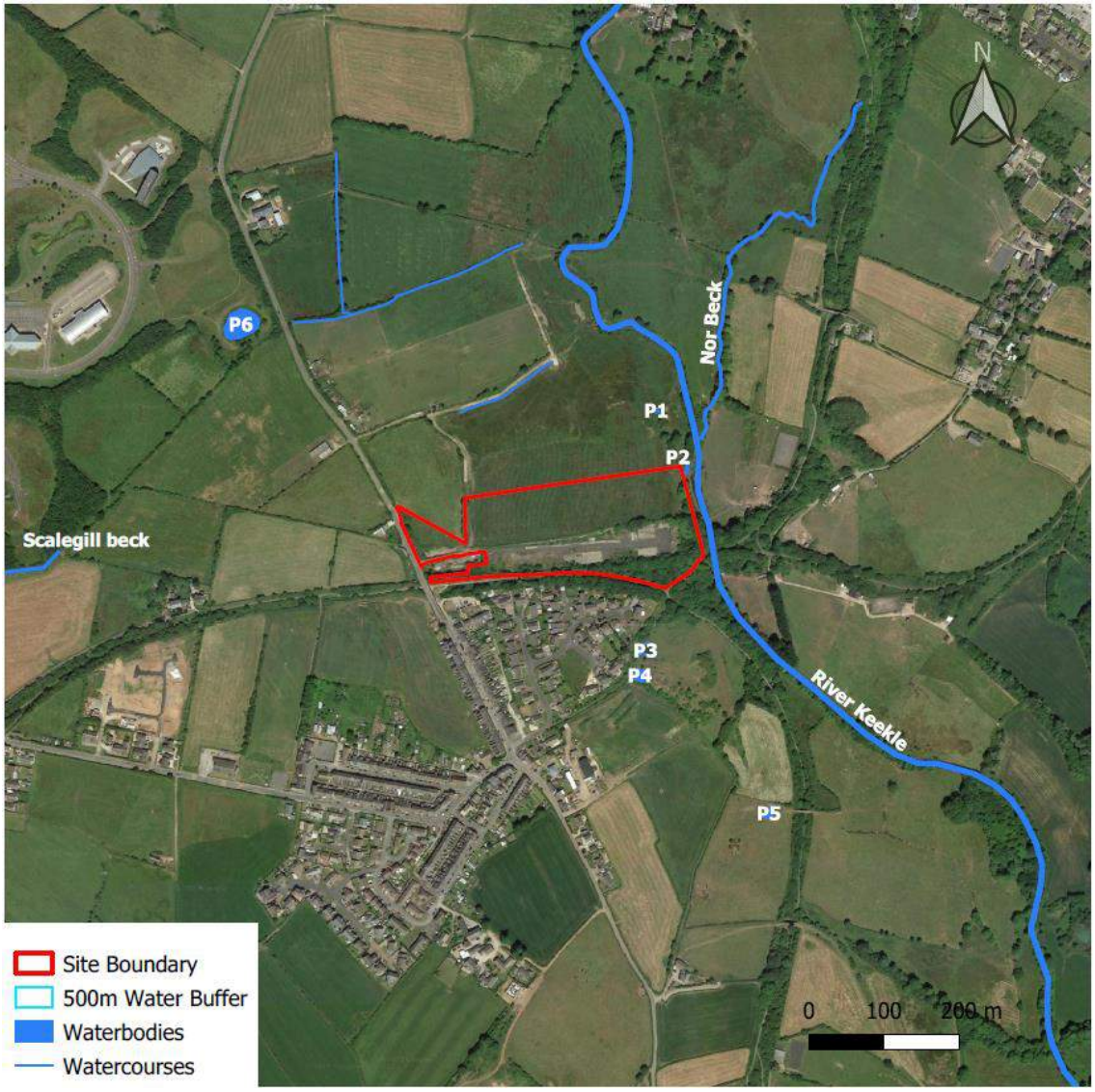

Figure 2. Mapped water features within 500m of the site. Scale as a guide only.

4.2 The following water features are mapped on Figure 2:

- The River Keekle is situated approximately 10m east of the site boundary at its closest point. It flows broadly southwards to its confluence with the River Ehen, approximately 1.7km south of the site;

- Nor Beck, a short tributary of the River Keekle, flowing broadly south-westwards to its confluence approximately 50m north of the site boundary;

- Two field ditches, draining the agricultural pasture to the north, situated approximately 110m and 270m north of the site respectively; and

- The headwaters of Scalegill Beck, situated approximately 450m west of the site boundary at its closest point. From this point, Scalegill Beck flows broadly south-westwards to its confluence with Pow Beck, approximately 2.2km south-west of the site.

4.3 Four waterbodies were mapped within 500m of the site boundary during the desk study (P3-P6). These comprise three small, ephemeral field ponds are situated approximately 75m, 110m and 320m south of the site boundary and a single pond extending to an area of 0.145ha situated approximately 290m north-west of the site boundary.

4.4 During the site survey, two further ponds were identified close to the site boundary (P1 and P2). These are marshy, cattle poached field ponds situated approximately 80m north and <5m west of the site boundary respectively.

Statutory & Non-Statutory Designated Sites for Nature Conservation

Statutory Designated Sites

4.5 Natural England's Magic Map identified three statutory designated sites located within 2km of the working area boundaries. These are shown in Figure 4 below.

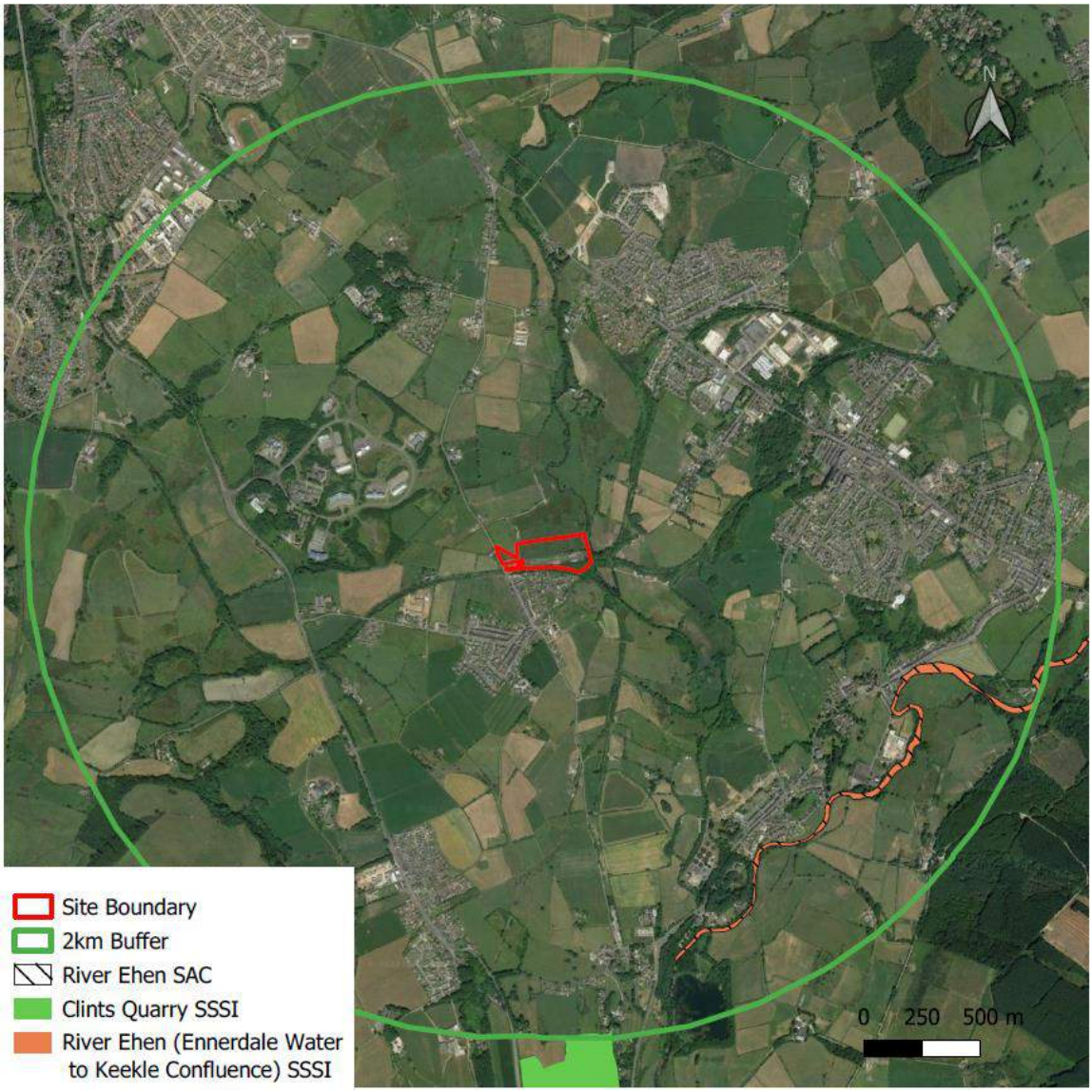

Figure 4. Statutory designated sites within 2km of the working areas. Scale as a guide only.

4.6 River Ehen Special Area of Conservation (SAC) extends to an area of approximately 23.3ha covering the extent of the River Ehen from Ennerdale Water to its confluence with the River Keekle. It is situated approximately 1.4km south-east of the site boundary at its closest point. The SAC comprises the River Ehen (Ennerdale Water to Keekle Confluence) Site of Special Scientific Interest (SSSI). The river supports the largest population of freshwater pearl mussel *Margaritifera margaritifera* in England and may be the only site in the country 'recruiting' juvenile mussels. The SAC is designated for the following qualifying features:

Annex I habitats that are a primary reason for selection of this site:

- Not applicable.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Not applicable.

Annex II species that are a primary reason for selection of this site:

- 1029 Freshwater pearl mussel *Margaritifera margaritifera*.

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- 1393 Atlantic salmon *Salmo salmar*.

4.7 Clints Quarry SSSI is situated approximately 2km south of the site at its closest point. The site is designated for its geological interest and the species-rich neutral and calcareous grasslands it supports.

Non-Statutory Designated Sites

4.8 Cumbria Biodiversity Data Centre (CBDC) identified the following non-statutory designated sites located within 2km of the site boundaries:

- Keekle River Country Wildlife Site (CWS) which is located approximately 995m north of the site;
- Longlands Lake CWS which is located approximately 1.57km south of the site;
- Orebank House Quarry Local Geological Site (LGS) which is located approximately 1.84km south of the site;

- Stanley Pond CWS and Site of Invertebrate Significance (SIS) which is located approximately 1.93km west of the site;
- Birkhouse Pond CWS which is located approximately 1.95km east of the site; and
- Clints Quarry LGS and SIS which is located approximately 1.98km south of the site.

4.9 A map of the above mentioned non-statutory sites and any Ancient Woodland within 2km can be found in Appendix 3.

Trees and Woodland

4.10 Natural England's Magic Map identified no areas of ancient woodland on, or adjacent to, the site.

4.11 The Woodland Trust's database of notable, veteran and ancient trees identified no such trees within, or adjacent to, the site.

Local Biodiversity Action Plan

4.12 The Cumbria Biodiversity Action Plan (CBAP) is relevant to the proposed development site. The CBAP lists action plans for the following habitats:

- Mesotrophic standing waters;
- Rivers and streams;
- Cities, towns and villages;
- Coastal habitats;
- Honeycomb worm reefs;
- Ancient and/or species rich hedgerows;
- Calcareous grassland;
- Hay meadows and lowland pastures;
- Limestone pavement;
- Purple moor-grass and rush pasture;
- Blanket bog;

- Upland heathland;
- Basin mire;
- Lowland raised mire;
- Reedbed;
- Upland oak woodland;
- Upland mixed ashwood; and
- Wet woodland.

4.13 In 2009 the CBAP was updated to include all species listed in the UK BAP at the time (now S41 of the NERC act). The full list of species included within the CBAP can be found in Appendix 4.

Sites of Priority (BAP) Habitat

4.14 Natural England's Magic Map identified areas of *Deciduous Woodland* on and adjacent to the site.

Notable Species Records

4.15 Consultation with Cumbria Biodiversity Data Centre (CBDC) identified a number of protected and / or notable species records located within 2km of the working area boundaries. For the purpose of this desk study only records from the past ten years are considered relevant (i.e., 2012 to present).

Badger

4.16 CBDC returned no records of badger *Meles meles* from within 2km of the site.

Otter

4.17 CBDC returned six records of otter *Lutra lutra*, the closest of which was located approximately 1.5km south of the site.

Bats

4.18 CBDC returned seven records of bat species within 2km of the site:

- Two records of Natterer's bat *Myotis nattereri* located approximately 1.2km south of the site;
- Two records of common pipistrelle *Pipistrellus pipistrelles*, the closest of which was located approximately 1.4km south-east of the site;
- One record of Daubenton's bat *Myotis daubentonii* located approximately 1.5km south of the site;
- One record of an unidentified *Myotis* species located approximately 1.7km south of the site; and
- One record of soprano pipistrelle *Pipistrellus pygmaeus* located approximately 1.92km south of the site.

Red Squirrel

4.19 CBDC returned twenty-three records of red squirrel *Sciurus vulgaris*, the closest of which is located approximately 80m east of the site.

Other Mammals

4.20 CBDC also returned seventeen records of grey squirrel *Sciurus carolinensis* the closest of which is located approximately 500m south of the site.

4.21 CBDC also returned fourteen records of west European hedgehog *Erinaceus europaeus*, the closest of which was located approximately 810m south-east of the site.

Birds

4.22 Almost all the bird records were supplied to a precision of 2km grid-squares, distances of records given are from the centre of the tetrad to the closest working area boundary. Please note these may not represent the exact location of the record.

4.23 CBDC returned 130 records of 42 species from within 2km of the working area. Of these, three records are of two species classed as 'sensitive' by CBDC and therefore cannot be referenced in this report.

4.24 For the purposes of this report, bird species listed under Schedule 1 of the Wildlife and Countryside Act 1981, Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006, Annex I of the European Birds Directive 1979 or the Red List of the Birds of Conservation

Concern 5 2021 are considered to be of 'conservation concern'. Table 2, below, lists species of 'conservation concern' recorded within 2km of the site and considered to have potential to be present at the working areas are included in Table 2.

Table 2 – Recorded birds of conservation concern potentially represented at the working areas

Common Name	Scientific Name	Number of records	Distance of closest record from working area boundary	Schedule 1 / Annex 1 / NERC / Red List
Bullfinch	*Pyrrhula pyrrhula*	1	1.4km	NERC
Greenfinch	*Chloris chloris*	1	1.4km	Red
House sparrow	*Passer domesticus*	1	1.4km	Red/NERC
Reed bunting	*Emberiza schoeniclus*	1	1.6km	NERC
Starling	*Sturnus vulgaris*	1	1.4km	Red/NERC

4.25 In addition, a further thirty-seven common species not considered to be of conservation concern were recorded within 2km of the working areas. Of these, twenty species are considered to have potential to be present at the working areas, such as blackbird *Turdus merula*, blue tit *Cyanistes caeruleus* and robin *Erithacus rubecula*.

4.26 A full list of species records within 2km of the working areas can be provided upon request.

Reptiles

4.27 CBDC returned no records of reptiles within 2km of the working areas.

Amphibians

4.28 CBDC returned a single record of common frog *Rana temporaria* and a single record of smooth newt *Lissotitron vulgaris* both located approximately 1.1km west of the site.

Fish & Aquatic Invertebrates

4.29 CBDC returned no records of fish from within 2km of the site.

4.30 CBDC returned no records of white clawed crayfish *Austropotamobius pallipes* from within 2km of the site.

Invertebrates

4.31 CBDC returned forty records of eight species of terrestrial invertebrates from within 2km of the working areas. Table 3, below, shows species listed under Schedule 5 of the Wildlife and Countryside Act 1984, Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006 or Annex II of the Bern Convention 1979. All of the below species listed as NERC are also listed in the Cumbria Biodiversity Action Plan (CBAP).

Table 3 – Recorded invertebrate species		
Common Name	**Scientific Name**	**Schedule 5 / Annex II / NERC**
Cinnabar	*Tyria jacobaeae*	NERC
Dingy skipper	*Erynnis tages*	NERC
Small heath	*Coenonympha pamphilus*	NERC
Wall	*Lasiommata megera*	NERC

Invasive Non-Native Species

4.32 CBDC returned twenty-six records of three invasive non-native species from within 2km of the site:

- Ten records of Himalayan balsam *Impatiens glandulifera*, the closest of which was located approximately 930m west of the site;
- Fifteen records of Japanese knotweed *Fallopia japonica*, the closest of which was located approximately 310m north of the site; and
- A single record of montbretia *Crocosmia x crocosmiiflora* located approximately 930m west of the site.

Protected & Notable Flora

4.33 CBDC returned no records of protected flora from within 2km of the site.

5. SURVEY RESULTS

General Site Description

5.1 The site is situated on the northern edge of the village of Moor Row, near Cleator Moor, Cumbria. It is bounded to the south by Cycle Route 72, which follows the route of the old Whitehaven, Cleator and Egremont Junction Railway, while the River Keekle flows approximately 10m east of the site boundary. The site is roughly split in half between greenfield and brownfield areas. Agricultural pasture comprises the northern, undeveloped half of the site and is divided from the southern half by a tall, barbed wire security fence.

5.2 The southern half of the site comprises previously developed land, once used as a shunting yard for the now disused railway. This area has been neglected since the buildings were removed in the mid-2000s and still comprises areas of concrete and asphalt hard standing. It is separated from the cycle route to the south by an area of immature, self-set woodland and lines of trees, which is not currently accessible from the rest of the site due to the presence of a razor wire fence. The site also extends to a small area of ungrazed, unmanaged grassland, scrub and ruderal vegetation on the north side of the access road, connecting the site to Dalzell Street on its western boundary. Evidence of fly tipping was recorded in this area.

Field Survey

Habitats

Overview

5.3 The main habitats recorded within the survey area are described below. Habitats are shown JN00551/DW01 Habitat Plan and Target Notes are provided as Appendix 1. The main habitats recorded are:

- g1d other lowland acid grassland;
- g3c other neutral grassland;
- g4 modified grassland;
- h2b other hedgerows;
- h3d bramble scrub;
- h3h mixed scrub;
- u1b developed land; sealed surface;

- u1c artificial unvegetated unsealed surface;
- u1e built linear feature;
- w1g other woodland; broadleaved; and
- w1g6 line of trees.

5.4 Four ponds (P1-P4) (r1 – standing open water and canals) have been mapped within 250m of the site boundary, although none lie within the site itself. P5 and P6 are situated more than 250m from the site boundary and therefore are not considered further in this report.

g1d other lowland acid grassland

5.5 The eastern half of the pasture field to the north of the site is comprised of g1d, 14, 59 – other lowland acid grassland; scattered rushes; cattle grazed (TN11). The field, which is heavily grazed by cattle, is dominated by perennial ryegrass *Lolium* var. with extensive rush *Juncus* spp. present in this area. The sward is longer and rougher where the field slopes steeply down towards the River Keekle at the east of this area. Yorkshire fog *Holcus lanatus* and sweet vernal-grass *Anthoxanthum odoratum* are also occasionally present in the sward, along with creeping buttercup *Ranunculus repens*, white clover *Trifolium repens*, common bird's-foot-trefoil *Lotus corniculatus* and cuckoo flower *Cardamine pratensis*. The wetness, characterised by the extensive area of rush, along with indicator species such as sweet vernal-grass and cuckoo flower, mark this area out as being acidic in nature.

g3c other neutral grassland

5.6 The western boundary of the western-most field and the access road boundary (TN8 and TN4 respectively) are dominated by tall herbs, particularly rosebay willowherb *Chamerion angustifolium* with frequent hairy willowherb *Epilobium hirsutum*, nettle *Urtica dioica*, bramble *Rubus fructosis* and hogweed *Heracleum sphodylium* and others.

5.7 Much of the previously developed land is now covered by g3c, 10, 17 – other neutral grassland; scattered scrub; ruderal/ephemeral (TN19) which has grown up through areas of gravel and unsealed hard standing. These areas contain the most diverse sward found on the site with grass species including crested dogs-tail *Cynosurus cristatus* and false oat grass *Arrhenatherum elatius*. Herbs include extensive wild carrot *Daucus carota* along with vetch spp., common birds-foot-trefoil and yarrow *Achillea millefolium* amongst others. Emergent scrub comprises birch *Betula* sp., willow *Salix* spp., hawthorn, dog rose *Rosa canina*, bramble and buddleia *Buddleja davidii*. A more comprehensive species list can be found in Appendix 1 (TN19).

5.8 An area of tall ruderals (g3c, 16, 17 – other neutral grassland; tall herb; ruderal/ephemeral) is present on the roadside verge, on the northern side of the junction between the access road and Dalzell Street. Dominated by rosebay willowherb, other species include bramble, creeping thistle *Cirsium arvense*, dog rose, honeysuckle *Lonicera periclymenum* and common toadflax *Linaria vulgaris*.

g4 modified grassland

5.9 The open area (TN7) of the field is unmown, ungrazed grassland with grasses including cocks-foot *Dactylis glomerata*, common bent *Agrostis capillaris* and wavy hair grass *Deschampsia flexuosa*. Herbs and ruderal vegetation include ribwort plantain *Plantago lanceolata*, herb robert *Geranium robertianum*, common birds-foot-trefoil *Lotus corniculatus*, meadowsweet *Filipendula ulmaria*, common knapweed *Centaurea nigra* and ragwort *Senecio jacobaea*.

5.10 Narrow strips of g4, 17 – modified grassland; ruderal/ephemeral are present along the verges of the access road from Dalzell Street (TN2). Species include Yorkshire fog and cocks-foot, along with herb Robert, common knapweed and ribwort plantain. Occasional nettle and rosebay willowherb are present.

5.11 The western portion of the cattle field (TN10) is heavily grazed and species poor. Perennial ryegrass *Lolium* var. dominates with occasional white clover, dandelion sp., creeping buttercup, creeping thistle and bitter dock *Rumex obstusifolius*.

h2b other hedgerows

5.12 TN9 (h2b, 77 – other hedgerows; neglected) is a short section of neglected hawthorn hedgerow running westwards between the access gate at the southwestern corner of the cattle field (TN10) and the high security fence surrounding the brownfield area of the site. Occasional bramble and hedge bindweed *Calystegia sepium* are present within the hedgerow.

h3d bramble scrub

5.13 A strip of bramble scrub (TN17), interspersed with rosebay willowherb and hogweed, runs along the south side of the high security fence which separates the brownfield area from the agricultural pasture (h3d, 16 – bramble scrub; tall herb).

h3h mixed scrub

5.14 h3h – mixed scrub runs along the north and west sides of the brownfield area of the site (TN 12 and TN13), along with another area along its south side. These areas are dominated by immature,

self-set willow spp., birch sp. and hawthorn, along with occasional ash *Fraxinus excelsior,* dog rose, gorse *Ulex europaeus* and bramble.

5.15 An area of mixed scrub, interspersed with tall ruderal vegetation (h3h, 16, 17 – mixed scrub; tall herb; ruderal/ephemeral) is situated along the site's western boundary with Dalzell Street (TN6). Woody vegetation is comprised of hawthorn and willow spp., while ruderal vegetation is dominated by rosebay willowherb, with occasional hairy willowherb. Bramble is also occasionally present.

r1 – standing open water and canals

5.16 Pond 1 (TN22) is located within 5m of the north-western site boundary. The pond is situated in an area of marshy vegetation dominated by soft rush and reed sweet grass *Glyceria maxima*. Water quality is poor, largely as result of poaching by cattle. A Habitat Suitability Index (HSI) assessment was undertaken in which this pond was determined to be of below average suitability for great crested newt.

5.17 Three further ponds (Ponds 2, 3 and 4) are situated within 250m of the site boundary (TNs 23, 24 and 25 respectively) and have been HSI assessed for their suitability to support great crested newt. These were categorised as below average, good and average respectively.

u1b developed land; sealed surface

5.18 The concrete foundations of past buildings remain on the site (TN18).

u1c artificial unvegetated unsealed surface

5.19 A small area in the south-western corner of the western most field has been reduced to bare earth as a result of fly tipping activity (TN5).

u1e built linear features

5.20 An asphalt road with turning bays runs through the centre of the brownfield area of the site, connecting it to Dalzell Street to the west. (TN3).

w1g other woodland; broadleaved

5.21 An area of young, self-set broadleaved woodland (w1g, 57 – other woodland – broadleaved; young trees – self-set) is present along the southern and eastern site boundary, adjacent to Cycle Route 72 (TN14). The woodland is inaccessible from the rest of the site as it is separated by a razor wire fence. The woodland has a relatively uniform age structure and is dominated by willow spp. with birch sp., ash, elder *Sambucus nigra* and sycamore *Acer pseudoplatanus* increasingly

frequent moving eastward. Only occasional hawthorn and hazel *Corylus avellana* are present in the understorey.

w1g6 line of trees

5.22 A thin line of trees (TN15) runs along the southern boundary fence towards the western end of the brownfield area. Trees appear to be self-set and comprise young willow spp. and birch sp.

5.23 A narrow, densely group of trees present in the south-western most section of the site (TN16), separated from it by a high fence. This area was largely inaccessible but ash, willow spp., birch sp. and hazel were visible along the edge and within the canopy.

Notable Species

Badger

5.24 No definitive field signs of badger were recorded during the site survey. Although the woodland on site may provide suitable sett habitat, however this could not be accessed during the survey. The absence of any signs of badger within the adjacent areas of the site (such as mammal paths, latrines or snuffle holes) would indicate that the likelihood of a sett being present here is low.

Bats

5.25 No buildings are present on site. Ground level inspections identified no potential roost features in any of the trees within the site boundary and, as a result, are considered to have negligible potential to support roosting bats. Although the trees within the woodland to the south of the site could not be closely assessed due to limited accessibility, the age structure and species composition of this area are considered unlikely to provide any suitable roosting opportunities for bats.

5.26 There is the potential for some of the more mature trees within the eastern area of the woodland could potentially contain roost features, however this could not be ascertained definitively due to the limited accessibility.

5.27 The habitat within the site is considered to provide suitable foraging habitat, particularly along the woodland and scrub edges. The River Keekle is also considered likely to provide an important foraging corridor for bats.

Otter and Water Vole

5.28 No definitive signs of otter presence were identified during the site survey. Species records indicate that otter do use the River Keekle, which passes within 5m of the site boundary. However, the banks of the Keekle at this location are relatively tall and shear and as such it is considered unlikely to be suitable as laying up areas for commuting otters. No suitable holt building habitat is present on, or immediately adjacent to, the site

5.29 There are no records of water vole within 2km of the site and the species are not known to be present in the locale.

Red Squirrel

5.30 No dreys were recorded in any of the visible trees on site, the majority of which are considered to be too young to be likely to support a drey. However, red squirrel are known in the area, with the closest returned record situated just 80m east of the site. As such, it is possible that red squirrel occasionally commute through the habitats on site.

Birds

5.31 Common passerine species, such as robin *Erithacus rubecula* and blackbird *Turdus merula* were observed within the scrub and woodland associated with brownfield area of the site, as well as the strip alongside Dalzell Street. These habitats are considered to provide suitable nesting habitat for such species. None of the five species listed in Table 2 were observed during the site survey.

5.32 A flock of nine lapwing were observed foraging within the cattle pasture (TN 10 and TN11) during the survey. Given the time of year, these birds will be using the site as wintering habitat, primarily used for foraging and loafing habitat. To this end, birds will roam over a relatively large area through the season as foraging opportunities come and go in different areas. As such, it is considered unlikely that the small area of suitable habitat within the site boundary represents a significant wintering ground for lapwing.

Reptiles

5.33 The site, in particular the brownfield area with its complex of open ground with dark surfaces such as asphalt, scrub, grassland and woodland, is considered likely to provide suitable habitat for common reptile species such as common lizard and slow-worm. However, no records of reptiles were returned within 2km of the site boundary.

Amphibians

5.34 Although no ponds are situated within the site boundary, four have been mapped within 250m with habitat connectivity to the site. HSI assessments of these ponds within 250m of the site boundary were undertaken to determine their suitability for great crested newts. Ponds 3 and 4 have been categorised as good and average respectively, while ponds 1 and 2 were categorised as below average..

5.35 It is likely that common frog and common toad *Bufo bufo* will be present within the leaf litter in the woodland and scrub areas of the site. There are no records of great crested newt from within 2km of the site boundary.

Fish

5.36 The River Keekle flows approximately 10m east of the site boundary. The river has the potential to support brook lamprey *Lampetra planeri*, stone loach *Barbatula barbatula*, Atlantic salmon *Salmo salar,* European eel *Anguilla Anguilla* and brown trout *Salmo trutta*. The Keekle flows into the River Ehen approximately 1.7km south of the site. Upstream of its confluence with the River Keekle, the River Ehen is designated as an SAC and SSSI, primarily for its colony of freshwater pearl mussel.

Terrestrial Invertebrates

5.37 No invertebrates of note were recorded during the site survey. It is considered that the habitats on site are likely to support common and widespread invertebrate species.

Aquatic Invertebrates

5.38 No records of white clawed crayfish *Austropotamobius pallipes* were returned by CBDC within 2km of the site and no signs of their presence were recorded within the River Keekle during the survey.

Invasive Non-Native Species

5.39 No invasive non-native flora or fauna were recorded on site during the site survey. Himalayan balsam is widespread along both banks of the River Keekle (TN21).

Protected & Notable Flora

5.40 No protected or notable flora were recorded during the site survey.

6. DISCUSSION AND RECOMMENDATIONS

Scope of Works

6.1 Although there are no definitive development proposals at this point, the planned development is known to be residential in nature.

Ecological Constraints

Statutory and Non-Statutory Designated Sites

6.2 It is not anticipated that the proposed works will have a deleterious impact upon any statutory designated sites. The River Keekle flows into the River Ehen, however the River Ehen is only designated as an SAC and SSSI upstream of this confluence and, as such, it is not considered likely that pathways exist by which this designated site would be impacted.

6.3 Given that Longlands Lake (situated 1.8km south of the site), for which the Longlands Lake CWS is primarily designated, is not connected to the River Ehen (and hence the Keekle), it is not anticipated that the development would lead to any detrimental impacts upon the site.

6.4 It is not anticipated that any of the other non-statutory sites would be negatively impacted by the development.

Habitats

6.5 Of the habitats present on site, the area of woodland to the south of the site is considered to be the most ecologically valuable. Ideally this habitat should be retained as part of the development. If this is not possible, appropriate compensation / habitat creation measures may need to be implemented in order to mitigate for the loss of this habitat.

6.6 The remaining onsite habitats are considered to be of low ecological value, however, the loss of these habitats will require mitigation / compensation in order to achieve the required 10% net gain.

6.7 As the River Keekle is situated less than 10m from the site boundary, appropriate pollution prevention measures should be detailed within a Construction Environmental Management Plan secured via condition, should be implemented in order to protect this habitat from detrimental impacts as a result of the development.

Protected/Notable Species

Bats

6.8 The habitats on site are all considered to provide moderate bat foraging habitat. As there will be no direct impact on foraging habitat or the local bat population, no further survey work is considered to be required.

6.9 None of the trees, which could be confidently assessed for bat roosting features on site are considered to have potential to support roosting bats.

6.10 Only the larger trees within the woodland along the eastern boundary, which could not be confidently assessed, are considered to have any potential to contain bat roost features. If these trees cannot be retained as part of the development, an assessment of their bat potential would need to be made by a suitably qualified ecologist.

6.11 To minimise risk of disturbance to foraging and commuting bats on the site, it is recommended that the proposed works should follow lighting minimisation precautions, including the following:

- No works on site should be conducted after sunset if possible. If necessary and if lighting is required then this should be kept to the minimal level (as necessary for safety and security);
- Any post-construction lighting necessary should be directed away from boundary trees and vegetation, and away from trees with bat roost potential; and
- If required any installation of lighting columns will be set at the lowest practical height level with box shield fittings will minimise glare and light spillage;

Otters

6.12 The River Keekle is known to support otters, however, at this location it is not considered that suitable habitat for anything other than commuting is present on or adjacent to the site.

6.13 As a precaution, no hazards should be left overnight and any holes/trenches left overnight should have escape routes installed to prevent the trapping of otter and other mammals.

Red Squirrel

6.14 Red squirrel is known to be present within the wider area. No dreys were identified within the site. However, as wildlife can be extremely mobile and absence of a species can never be totally

confirmed, it is advised that removal of any trees should be conducted with caution. However, once a detailed scheme for the development has been agreed, a further assessment of the potential for the proposed development to have a deleterious impact upon the species should be undertaken.

Birds

6.15 The site is considered to have negligible potential as a breeding site for ground nesting birds. Although wintering lapwing were observed during the site survey, it is not considered that the small area of the site which is suitable for this species represents a significant or important wintering ground. The trees and scrub are likely to support a range of passerine species during the bird breeding season.

6.16 Any tree removal or ground preparation works required should be undertaken outside the breeding bird season (March – August inclusive) or inspected by a suitably experienced ecologist prior to works commencing.

6.17 An ecologist should carry out a nesting bird check a maximum of 24 hours in advance of vegetation clearance works. If nesting birds are found, an appropriate exclusion zone will need to be set up around any active nests, which will require monitoring to determine when the young have fledged. The ecologist will carry out regular monitoring checks to advise when it is possible for clearance works to proceed. The size of the exclusion zone will depend on the species nesting.

6.18 The following advice should be adhered to at all times:

The Wildlife and Countryside Act 1981 states that, it is an offence for any person to intentionally (subject to Provisions of this Part) -

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird whilst it is in use or being built; or
- take or destroy an egg of any wild bird.

6.19 If any nesting birds are found during works then works on that area should cease and an ecologist should be contacted immediately and advice sought to the best course of action.

Reptiles

6.20 There are no records of reptiles within 2km of the proposed working area. However, the habitats on site are suitable to support reptiles, particularly within the brownfield area of the site. Therefore,

it is recommended that a Precautionary Method of Working (PMW) be followed to mitigate any risk to local reptile populations. Clearance of habitats with suitability for reptiles should be undertaken outside of the hibernation period (October – March inclusive).

Amphibians

6.21 Although no ponds are situated within the site boundary, four have been mapped within 250m with habitat connectivity to the site. HSI assessments these ponds within 250m of the site boundary was undertaken and Ponds 3 and 4 have been categorised as good and average respectively, as such, presence/absence surveys are recommended of these ponds to determine whether they support great crested newt, while ponds 1 and 2 were categorised as below average.

6.22 Given the need for presence/absence surveys on Ponds 3 and 4, it is considered that they should be extended to include Ponds 1 and 2 as both of these ponds lie within the cattle field which the site partially comprises.

Terrestrial Invertebrates

6.23 The habitats on site are likely to support a range of common and widespread invertebrate species. The proposed works are not likely to have a deleterious impact upon local invertebrate populations.

Aquatic Invertebrates & Fish

6.24 There is a risk that activities associated with the construction phase of the development, along with the installation of new drainage, may result in pollution entering the watercourse.

6.25 Therefore, appropriate pollution prevention measures should be incorporated into a Construction Environmental Management Plan secured via condition and this should then be implemented in order to minimise the possibility of pollution events or other detrimental impacts resulting from the development.

Notable & Non-Native Invasive Flora

6.26 No notable species of flora were identified during the survey and as such no further survey or mitigation is recommended.

6.27 Himalayan balsam was not recorded within the site boundary but is present along the River Keekle. As such, operatives should be aware of the presence of Himalayan balsam close to the site boundary and the risks of further spreading this invasive non-native species.

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DRAWINGS

TITLE: Habitat Plan
CLIENT: Alpha Design
SITE: Land off Dalzell Street, Moor Row

JOB NUMBER: JN00551
DATE: September 2022
DRAWN/CHECKED: JW/MK

SCALE: NTS
DRAWING NUMBER: JN00551_DW01

- Target Notes
- Site Boundary
- Trees
- g1d, 14, 59 - Other lowland acid grassland; scattered rushes; cattle grazed
- g3c, 10, 17 - other neutral grassland; scattered scrub; ruderal/ephemeral
- g3c, 16, 17 - other neutral grassland; tall herb; ruderal/ephemeral
- g4, 17 - modified grassland; ruderal/epheme
- g4, 59 - modified grassland; cattle grazed
- w1g, 57 - other woodland-broadleaved; young trees - self-set
- w1g6 - line of trees
- h2b, 77 - other hedgerows; neglected
- h3d - bramble scrub
- h3h - mixed scrub
- h3h, 16, 17 - mixed scrub; tall herb; ruderal/ephemeral
- u1b - developed land. sealed surface
- u1c - artificial unvegetated unsealed surface
- u1e - built linear features
- r1 - standing open water and canals (ponds)

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APPENDIX 1

APPENDIX 1 – TARGET NOTES

Target Note	Habitat Description	Photograph(s)
1 **g3c, 16, 17 – other neutral grassland; tall herb; ruderal/ ephemeral**	A small area of roadside vegetation at the entrance to the site from Dalzell St. The vegetation community is dominated by rosebay willowherb *Chamerion angustifolium* with occasional bramble *Rubus fructosis*, creeping thistle *Cirsium arvense*, dog-rose *Rosa canina*, hawthorn *Crataegus monogyna*, common toadflax *Linaria vulgaris* and honeysuckle *Lonicera periclymenum* (drone photo).	
2 **g4, 17 – modified grassland; ruderal/ ephemeral**	Vegetated verges on both sides of the site entrance road. Grasses are dominated by Yorkshire fog *Holcus lanatus* and cocks-foot *Dactylis glomerata*. Other species include herb robert *Geranium robertianum,* knapweed *Centaurea nigra* and ribwort plantain *Plantago lanceolata* with occasional rosebay willowherb and nettle *Urtica dioica*.	

3 **u1e – built linear feature**	Existing, intact concrete and asphalt forming the access roads across the previously developed area of the site.	
4 **g3c, 16, 17 – other neutral grassland; tall herb; ruderal/ ephemeral**	A narrow strip of tall ruderal vegetation on the field side of the road barrier, dominated by rosebay willowherb and bramble.	
5 **u1c – artificial unvegetated, unsealed surface**	An area from which vegetation has largely been cleared as a result of fly tipping. Dumped materials primarily comprise piles of soil, rubble and building materials (drone photo).	
6 **h3h, 16, 17 – mixed scrub; tall herb; ruderal/ ephemeral**	An area of mixed scrub and tall ruderal vegetation within the site adjacent to Dalzell Street. Woody vegetation is comprised of hawthorn and willow *Salix spp.*, while other vegetation includes rosebay willowherb, hairy willowherb *Epilobium hirsutum*, bramble and hedge bindweed *Calystegia sepium*.	

7 **g4, 17 – modified grassland; ruderal/ ephemeral**	A small triangular field, formed of rough, ungrazed grassland in the western portion of the site. Grasses include cocks-foot, common bent *Agrostis capillaris* and wavy hair-grass *Deschampsia flexuosa* with herbs including ribwort plantain, common ragwort *Senecio jacobaea*, creeping buttercup *Ranunculus repens*, herb robert, common knapweed, red clover *Trifolium pratense*, curled dock *Rumex crispus*, common bird's-foot-trefoil *Lotus corniculatus*, meadowsweet *Filipendula ulmaria*, hogweed *Heracleum sphodylium*, wild carrot *Daucus carota*, common vetch *Vicia sativa* and soft rush *Juncus effusus*.	
8 **g3c, 16, 17– other neutral grassland**	An area of open, tall ruderal vegetation at the eastern edge of the mixed scrub in TN6, extending out into TN7. Dominant species are rosebay willowherb and bramble, along with hairy willowherb, cow parsley, curled dock, dog rose, common knapweed, creeping thistle, wild carrot, common toadflax, hedge bindweed and nettle.	
9 **h2b, 77 – other hedgerows; neglected**	A short, neglected hawthorn hedgerow partially overtaken in places by bramble and hedge bindweed.	

10 **g4, 59 – modified grassland; cattle grazed**	Heavily cattle-grazed pasture field dominated by perennial ryegrass *Lolium* var. with occasional white clover *Trifolium repens*, dandelion sp., creeping buttercup, creeping thistle and bitter dock *Rumex obtusifolius*.	
11 **g1d, 14, 59 – other lowland acid grassland; scattered rushes; cattle grazed**	The eastern half of the same field as TN10 but wetter, with extensive soft rush and hard rush *Juncus inflexus*. Grasses dominated by perennial ryegrass but with occasional Yorkshire fog and sweet vernal-grass *Anthoxanthum odoratum*. Other species include white clover, dandelion sp., creeping buttercup, marsh thistle *Cirsium palustre,* common bird's-foot-trefoil and cuckoo flower *Cardamine pratensis*.	
12 **h3h – mixed scrub**	A strip of mixed scrub, including natural, self-set shrubs along the northern boundary fence of the previously developed area. Woody vegetation dominated by willow spp. and silver birch *Betula pendula* with occasional gorse *Ulex europaeus*, bramble and dog rose.	

13 **h3h – mixed scrub**	An area of self-set mixed scrub at the eastern end of the previously developed area. The area is comprised of willow spp., silver birch, hawthorn, ash *Fraxinus excelsior* and bramble.	
14 **w1g, 57 – other woodland; broadleaved; young trees – self-set**	An area of immature, self-set willow *spp*. dominated woodland. Beyond this lies a razor wire fence separating the previously developed area from the cycle route, along the defunct railway line to the south. Other species include silver birch, ash, elder *Sambucus nigra* and sycamore *Acer pseudoplatanus*. The woodland does not have a varied age structure, with a dense canopy and only occasional hawthorn and hazel *Corylus avellana* in the understorey.	
15 **w1g6 – line of trees**	A narrow line of immature willow and silver birch trees along the razor wire fence bounding the site from the cycle route to the south.	

16 **w1g6 – line of trees**	A small, inaccessible block of immature trees at the south-western corner of the site. Visible species comprised ash, willow spp., silver birch and hazel.	
17 **h3d, 16 – bramble scrub; tall herb**	A strip of rough, bramble dominated scrub along the fence line separating the previously developed area from the field to the north (TN10). The bramble is interspersed with rosebay willowherb and hogweed.	
18 **u1b – developed land; sealed surface**	The concrete foundation footprints of the buildings which were previously present on site.	
19 **g3c, 10, 17 – other neutral grassland; scattered scrub; ruderal/ ephemeral**	A series of fragmented areas of neutral grassland growing on gravelled areas within the brownfield area of the site. Species diversity is greater here than within any other areas of neutral grassland on site. Grass species comprise sweet vernal grass, cock's-foot, common bent, Yorkshire fog, red fescue *Festuca rubra,* crested dog's-tail *Cynosurus cristatus* and	

	false oat grass *Arrhenatherum elatius*. Other species present include wild carrot, common vetch, common knapweed, cow parsley, teasel *Dipsacus fullonum*, yarrow *Achillea millefolium*, common toadflax, common bird's-foot-trefoil, kidney vetch *Anthyllis vulneraria*, dandelion spp. and dense-flowered mullein *Verbascum densiflorum*. Scattered emergent scrub species comprise birch sp., willow spp., hawthorn, dog rose and buddleia *Buddleja davidii*.	
20 **Sycamore trees**	A line of three early mature sycamore trees at the eastern edge of the cattle field (TN11), close to the site boundary.	
21 **River Keekle**	The River Keekle passes approximately 10m from the eastern site boundary, flowing broadly southwards. No evidence of otter *Lutra lutra* was recorded and the banks at this location are sharply sloped into the channel. Himalayan balsam *Impatiens glandulifera* is widespread on both banks.	

22 **r1 – standing open water and canals** **Pond 1**	A rain-fed, 'swampy' pond situated within the cattle pasture close to the River Keekle, extending to an area of approximately 120m^2. Water level fluctuates in accordance with antecedent rainfall. Vegetation dominated by soft rush and reed sweet grass *Glyceria maxima*. The pond is situated within 5m of the site boundary. HSI – 0.58 Category – Below average	
23 **r1 – standing open water and canals** **Pond 2**	A small, marshy pond extending to an area of approximately 50m^2. Situated approximately 80m north of the site boundary within cattle pasture, the pond is immediately surrounded by marshy vegetation including soft rush, reed sweet grass and common haircap moss *Polytrichum commune*. HSI – 0.55 Category – Below average	
24 **r1 – standing open water and canals** **Pond 3**	A shallow pond with a central island situated within grazing pasture south of the Montreal Place housing estate, approximately 80m south of the site boundary. The pond extends to an area of approximately 200m^2 and had flooded a nearby footpath at the time of survey. Common water plantain *Alisma plantago-aquatica* is common within the waterbody.	

	HSI – 0.78 Category - Good	
25 **r1 – standing open water and canals** **Pond 4**	A turbid pond situated close to Montreal Place, south of Pond 3. This pond is generally steep-sided and extends to an area of approximately 170m^2. Great reedmace *Typha latifoli* and common water plantain are present towards the eastern shore whereas the other banks are sparsely vegetated. HSI – 0.68 Category - Average	

APPENDIX 2

Badgers

Badgers and their setts are protected under the Protection of Badgers Act (1992), which consolidated and added to previous legislation. It is illegal to wilfully kill or injure a badger or to interfere with a sett, unless a license is granted. A license may be granted by Natural England for the purpose of development (amongst other reasons) as defined in Section 55 (1) of the Town and Country Planning Act 1990.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act (1981, as amended) and are also listed under Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC Act). They are protected by law against all of, but not limited to, the following:

- intentional or reckless killing, injuring, taking;
- damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection; and
- disturbance of animal occupying such a structure or place.

The conservation (Natural Habitats &c.) Regulations (1994) provide additional protection for the breeding sites and resting places of bats.

Red Squirrel

Red squirrels receive full protection under the Wildlife and Countryside Act 1981 (as amended).

Red squirrels and their resting places are fully protected in Britain; it is an offence to:

- deliberately, capture, injure or kill them;
- to damage, destroy or obstruct their breeding or resting places; and
- disturb them in their breeding or resting places.

Breeding Birds

Under the Wildlife & Countryside Act (1981), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to;

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- intentionally take or destroy the egg of any wild bird;
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- use traps or similar items to kill, injure or take wild birds;
- have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations;
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs of young, or disturb the dependent young of such a bird.

Rare species listed in Schedule 1 Part1 are given further protection, including special increased penalties under Subsection 1 (5) as amended by the Countryside and Rights of Way Act 2000. If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, or near containing eggs or young.

The British Trust for Ornithology (BTO) has a list of birds that are Species of Conservation Concern. These birds are not legally protected but where they are found on site they should be given planning consideration. The criteria for birds listed as amber (medium conservation concern) include:

- Historical population decline during 1800-1995, but recovering: population has more than doubled over last 25 years;
- Moderate (25-49%) decline in UK breeding population over last 25 years;
- Moderate (25-49%) contraction of UK breeding range over last 25 years;
- Moderate (25-49%) decline in UK non breeding population over last 25 years;
- Species with unfavourable conservation status in Europe (Species of conservation Concern);
- Five year mean of breeding pairs in the UK;
- $\geq$50% of UK breeding population in 10 or fewer sites.
- $\geq$50% of UK non breeding population in 10 or fewer sites;

- ≥20% of European breeding population in UK;
- ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non breeding populations in UK.

Otter

Otters are fully protected by their inclusion in Annex II of the Habitats Directive (92/43/EEC) and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and it is therefore subject to the provisions of Section 9, which makes it an offence to:

- intentionally kill, injure or take an otter [Section 9 (1)];
- possess or control any live or dead specimen or anything derived from an otter [Section 9(2)];
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an otter [Section 9(4) (a)];
- intentionally or recklessly disturb an otter while it is occupying a structure or place which it uses for that purpose [Section 9 (4)(b)];
- sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell an otter.

A license is required from Natural England if the potential to commit an offence exists in order for the development to take place.

Reptiles

There are six species of native reptile in the UK. Only two species, smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are fully protected under UK and European Legislation. They are listed on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994. Under these legislations it is unlawful to:

- deliberately or intentionally kill, injure or take (capture) or disturb sand lizards and smooth snakes;
- deliberately take or destroy the eggs of sand lizards;
- damage or destroy a breeding site or resting place, or intentionally damage a place used for shelter and protection;
- intentionally obstruct access to places used for shelter; and
- keep, transport, sell or exchange, or offer for sale or advertising.

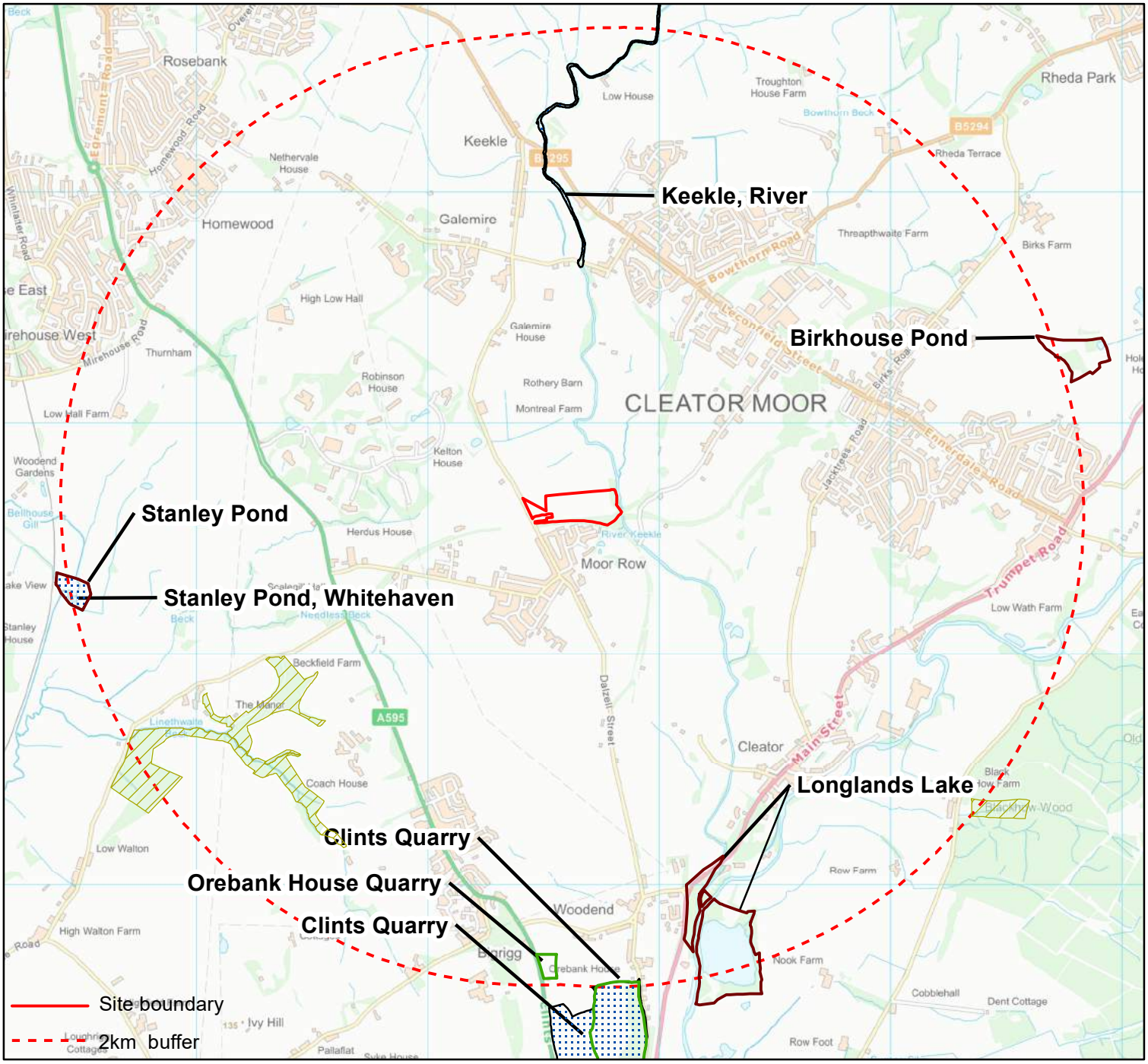
APPENDIX 3

Cumbria Biodiversity Data Centre (CBDC): Non-Statutory Sites Search

For: Joe Wiseman at SK Environmental Solutions Ltd

Site Name: Dalzell Street, Moor Row
Buffer: 2km
Search Date: 04/08/2022

N.B. Sites are displayed only if they exist within the search area



Key

- County Wildlife Sites
- Local Geological Sites
- Site of Invertebrate Significance
- Ancient Woodland

0 250 500 1,000 m

Any queries in the first instance contact:
Dr Moustafa Eweda
Biological Data Officer
Cumbria Biodiversity Data Centre (CBDC)

T. 01228 618770
E. dataofficer@cbdc.org.uk

APPENDIX 4

Appendix 3 – Cumbria Biodiversity Action Plan - Species List Updated 2009

Cumbria's Biodiversity Action Plan (CBAP) was designed to implement national biodiversity targets at a local level, but with a focus on local priorities. It has many functions, from seeking to raise awareness of the major issues facing nature conservation in Cumbria, guiding work of partners and promoting and protecting BAP species within Cumbria.

At it's inception the CBAP species list contained 40 species/grouped species, 21 of which had dedicated action plans with a further 19, without action plans, included in a Phase 2 list. It was originally envisaged that work on producing a further species action plans would continue apace to ensure that full recognition is given to the wide range of priority species that inhabit Cumbria. At the time of writing this means that over 200 UK BAP species are not included within Cumbria's plan. The failure to link UK and Local plans in this way means that it is not possible for all UK BAP species, present in Cumbria, to be fully conserved.

This partial list, currently in place, also presents a number of other issues. Two lists can be confusing for those not directly involved with the BAP process, not only the general public but also planners and conservation practitioners, providing mixed messages about those species considered important in Cumbria.

This is also true of funding bodies, which may consider exclusion of a species from the Cumbria list, as an admission of its relative lack of importance. Thus, those not on the list may be effectively excluded from conservation action, at a local level, when need or opportunity arise.

To address the issues identified above, it is proposed that all of the UK BAP species, that are present in Cumbria, and not already included in the CBAP be added and a new single CBAP species list created. This would increase the CBAP species list from its current level of 40 species/grouped species to a total of 268. By extending the list, we can properly reflect the importance of the county for this wide variety of priority species, highlight their importance to all stakeholders and facilitate conservation measures to protect them.

Note 1: Those species that are not UK BAP species but were contained within the CBAP will be retained in the revised 2009 list as Local BAP species. This will reinforce the local nature of the CBAP.

Note 2: The original Cumbria BAP Phase 2 (no action plan) species list included a moss or liverwort however the exact species had not been decided at the CBAP's incept. This has therefore been omitted from the revised 2009 list.

Note 3: The 248 UK BAP species are those present on the Biodiversity Evidence Database's Cumbria Key Species Designations table under the heading UK Priority Species/ NERC Act S4. This table is maintained by Tullie House Museum and is accessible at www.lakelandwildlife.co.uk.

Common Name	Scientific Name	UK BAP Species Recorded in Cumbria	2009 Cumbria BAP Species Updated List
FUNGI & LICHENS			
Olive Earth-tongue	*Microglossum olivaceum*	X	X
River Jelly Lichen	*Collema dichotomum*	X	X
a lichen	*Usnea florida*	X	X
a lichen	*Lobaria amplissima*		X

Purple Spindles	*Clavaria purpurea*	X	X
Bearded Tooth (fungus)	*Hericium erinaceum*	X	X
Big Blue Pinkgill	*Entoloma bloxamii*	X	X
Pink Waxcap	*Hygrocybe calyptraeformis*		X
Date-coloured Waxcap	*Hygrocybe spadicea*	X	X
Scaly Stalkball	*Tulostoma melanocyclum*	X	X
Totals		**8**	**10**
STONEWORTS			
Lesser Bearded Stonewort	*Chara curta*	X	X
Totals		**1**	**1**
MOSSES & LIVERWORTS			
Pitted Frillwort	*Fossombronia foveolata*	X	X
Veilwort	*Pallavicinia lyellii*	X	X
Waved Fork-moss	*Dicranum bergeri*	X	X
Brown Grimmia	*Grimmia elongata*	X	X
Carrion Moss	*Aplodon wormskjoldii*	X	X
Rugged Collar-moss	*Splachnum vasculosum*	X	X
Slender Thread-moss	*Orthodontium gracile*	X	X

Derbyshire Feather-moss	*Thamnobryum angustifolium*	X	X
Slender Green Feather-moss	*Hamatocaulis vernicosus*		X
Totals		**8**	**9**
VASCULAR PLANTS			
Marsh Clubmoss	*Lycopodiella inundata*	X	X
Pillwort	*Pilularia globulifera*	X	X
Oblong Woodsia	*Woodsia ilvensis*	X	X
Holly-fern	*Polystichum lonchitis*	X	X
Juniper	*Juniperus communis*	X	X
Corn Buttercup	*Ranunculus arvensis*	X	X
Upright Goosefoot	*Chenopodium urbicum*	X	X
Prickly Saltwort	*Salsola kali kali*	X	X
Marsh Stitchwort	*Stellaria palustris*	X	X
Annual Knawel	*Scleranthus annuus*	X	X
Small-flowered Catchfly	*Silene gallica*	X	X
Downy Willow	*Salix lapponum*	X	X
Yellow Bird's-nest	*Monotropa hypopitys/ssp. hypophegea*	X	X
Marsh Saxifrage	*Saxifraga hirculus*	X	X
a lady's mantle	*Alchemilla minima*	X	X

Tubular Water-dropwort	*Oenanthe fistulosa*	X	X
Caraway	*Carum carvi*	X	X
Field Gentian	*Gentianella campestris*	X	X
Pyramidal Bugle	*Ajuga pyramidalis*	X	X
Basil Thyme	*Clinopodium acinos*	X	X
an eyebright	*Euphrasia rostkoviana montana*	X	X
an eyebright	*Euphrasia rivularis*	X	X
an eyebright	*Euphrasia ostenfeldii*	X	X
Northern Hawk's-beard	*Crepis mollis*	X	X
a hawkweed	*Hieracium subgracilentipes*	X	X
Floating Water-plantain	*Luronium natans*	X	X
Slender Naiad	*Najas flexilis*	X	X
Flat-sedge	*Blysmus compressus*	X	X
Rare Spring-sedge	*Carex ericetorum*	X	X
Glaucous Meadow-grass	*Poa glauca*	X	X
Narrow-leaved Helleborine	*Cephalanthera longifolia*	X	X
Lesser Butterfly-orchid	*Platanthera bifolia*	X	X
Small White Orchid	*Pseudorchis albida*		X
Frog Orchid	*Coeloglossum viride*	X	X

Fly Orchid	*Ophrys insectifera*	X	X
Totals		**33**	**34**
MOLLUSCS			
Mud Snail	*Omphiscola glabra*	X	X
Sandbowl Snail	*Quickella arenaria*	X	X
a whorl snail	*Vertigo geyeri*	X	X
a whorl snail	*Vertigo genesii*	X	X
Freshwater Pearl Mussel	*Margaritifera margaritifera*	X	X
Totals		**5**	**5**
LEECHES			
Medicinal Leech	*Hirudo medicinalis*		X
Totals		**0**	**1**
MAYFLIES			
Iron Blue Mayfly	*Nigrobaetis niger*	X	X
Totals		**1**	**1**
DRAGONFLIES			
Variable Damselfly	*Coenagrion pulchellum*		X
White-faced Dragonfly	*Leucorrhinia dubia*		X
Totals		**0**	**2**

BEETLES			
Northern Dune Tiger Beetle	*Cicindela hybrida*	X	X
Lesser Searcher	*Calosoma inquisitor*	X	X
a ground beetle	*Dyschirius angustatus*		X
a ground beetle	*Bembidion testaceum*	X	X
St. Bees Seed-Eater	*Harpalus honestus*	X	X
Oxbow Diving Beetle	*Hydroporus rufifrons*	X	X
Hairy Click Beetle	*Synaptus filiformis*	X	X
Black Oil-beetle	*Meloe proscarabaeus*	X	X
Violet Oil-beetle	*Meloe violaceus*	X	X
Zircon Reed Beetle	*Donacia aquatica*	X	X
Totals		**9**	**10**
CADDISFLIES			
a caddisfly	*Glossosoma intermedium*	X	X
Totals		**1**	**1**
BUTTERFLIES & MOTHS			
Ghost Moth	*Hepialus humuli*	X	X
Currant Shoot Borer	Lampronia capitella	X	X
The Forester	*Adscita statices*	X	X

Greenweed Flat-body Moth	*Agonopterix atomella*	X	X
White-spotted Sable Moth	*Anania funebris*	X	X
Dingy Skipper	*Erynnis tages*	X	X
White Letter Hairstreak	*Satyrium w-album*	X	X
Small Blue	*Cupido minimus*	X	X
Northern Brown Argus	*Aricia artaxerxes*	X	X
Duke of Burgundy	*Hamearis lucina*	X	X
Small Pearl-bordered Fritillary	*Boloria selene*	X	X
Pearl Bordered Fritillary	*Boloria euphrosyne*	X	X
High Brown Fritillary	*Argynnis adippe*	X	X
Marsh Fritillary	*Eurodryas aurinia*	X	X
Wall	*Lasiommata megera*	X	X
Mountain Ringlet	*Erebia epiphron*	X	X
Grayling	*Hipparchia semele*	X	X
Small Heath	*Coenonympha pamphilus*	X	X
Large Heath	*Coenonympha tullia*	X	X
Pale Eggar	*Trichiura crataegi*	X	X
Oak Hook-tip	*Watsonalla binaria*	X	X
Oak Lutestring	*Cymatophorima diluta*	X	X

Small Emerald	*Hemistola chrysoprasaria*	X	X
Mullein Wave	*Scopula marginepunctata*	X	X
Oblique Carpet	Orthonama vittata	X	X
Red Carpet	*Xanthorhoe decoloraria*	X	X
Dark-barred Twin-spot Carpet	*Xanthorhoe ferrugata*	X	X
Shaded Broad-bar	*Scotopteryx chenopodiata*	X	X
Galium Carpet	*Epirrhoe galiata*	X	X
Grey Mountain Carpet	*Entephria caesiata*	X	X
Dark Spinach	*Pelurga comitata*	X	X
The Spinach	*Eulithis mellinata*	X	X
Small Phoenix	*Ecliptopera silaceata*	X	X
Netted Carpet	*Eustroma reticulata*	X	X
Pretty Chalk Carpet	*Melanthia procellata*	X	X
Argent and Sable	*Rheumaptera hastata*	X	X
Grass Rivulet	*Perizoma albulata albulata*	X	X
The Streak	*Chesias legatella*	X	X
Barred Tooth-striped	*Trichopteryx polycommata*	X	X
Latticed Heath	*Chiasmia clathrata*	X	X
V-moth	*Macaria wauaria*	X	X

August Thorn	*Ennomos quercinaria*	X	X
Dusky Thorn	*Ennomos fuscantaria*	X	X
September Thorn	*Ennomos erosaria*	X	X
Figure of Eight	*Diloba caeruleocephala*	X	X
Garden Tiger	*Arctia caja*	X	X
White Ermine	*Spilosoma lubricipeda*	X	X
Buff ermine	*Spilosoma luteum*	X	X
The Cinnabar	*Tyria jacobaeae*	X	X
Garden Dart	*Euxoa nigricans*	X	X
Double Dart	*Graphiphora augur*	X	X
Autumnal Rustic	*Eugnorisma glareosa*	X	X
Small Square-spot	*Diarsia rubi*	X	X
Northern Dart	*Xestia alpicola alpina*	X	X
Neglected Rustic	*Xestia castanea*	X	X
Heath Rustic	*Xestia agathina*	X	X
Dot Moth	*Melanchra persicariae*	X	X
Broom Moth	*Melanchra pisi*	X	X
Hedge Rustic	*Tholera cespitis*	X	X
Feathered Gothic	*Tholera decimalis*	X	X

Powdered Quaker	*Orthosia gracilis*	X	X

Shoulder-striped Wainscot	*Mythimna comma*	X	X
Minor Shoulder-knott	*Brachylomia viminalis*	X	X
The Sprawler	*Asteroscopus sphinx*	X	X
Brindled Ochre	*Dasypolia templi*	X	X
Deep-brown Dart	*Aporophyla lutulenta*	X	X
Green-brindled Crescent	*Allophyes oxyacanthae*	X	X
Dark Brocade	*Blepharita adusta*	X	X
Flounced Chestnut	*Agrochola helvola*	X	X
Brown-spot Pinion	*Agrochola litura*	X	X
Beaded Chestnut	*Agrochola lychnidis*	X	X
Centre-barred Sallow	*Atethmia centrago*	X	X
The Sallow	*Xanthia icteritia*	X	X
Dusky-lemon Sallow	*Xanthia gilvago*	X	X
Grey Dagger	*Acronicta psi*	X	X
Knott Grass	*Acronicta rumicis*	X	X
Mouse Moth	Amphipyra tragopoginis	X	X
Dusky Brocade	*Apamea remissa*	X	X

Rosy Minor	*Mesoligia literosa*	X	X
Least Minor	*Photedes captiuncula*		X
Ear Moth	*Amphipoea oculea*	X	X
Rosy Rustic	*Hydraecia micacea*	X	X
Haworth's Minor	Celaena haworthii	X	X
The Crescent	*Celaena leucostigma*	X	X
The Rustic	*Hoplodrina blanda*	X	X
Mottled Rustic	Caradrina morpheus	X	X
The Anomalous	*Stilbia anomala*	X	X
Totals		**86**	**87**
FLIES			
River-shore Cranefly	*Rhabdomastix japonica*	X	X
Scottish Yellow Splinter	*Lipsothrix ecucullata*	X	X
Northern Yellow Splinter	*Lipsothrix errans*	X	X
Scarce Yellow Splinter	*Lipsothrix nigristigma*	X	X
Southern Silver Stiletto-fly	*Cliorismia rustica*	X	X
Northern Silver Stiletto-fly	*Dyschirius angustatus*		X

Phantom Hoverfly	*Dorus profuges*		X
Totals		**5**	**7**
BEES, WASPS & ANTS			
Shining Guest Ant	*Formicoxenus nitidulus*	X	X
Red Wood Ant	*Formica rufa*		X
The Northern Colletes	*Colletes floralis*	X	X
Tormentil Mining Bee	*Andrena tarsata*	X	X
Wall Mason Bee	*Osmia parietina*	X	X
Moss Carder-bee	*Bombus muscorum*	X	X
Totals		**5**	**6**
CRUSTACEANS			
Freshwater Crayfish	*Austropotamobius pallipes*	X	X
Totals		**1**	**1**
SPIDERS			
Sedge Jumper	*Sitticus caricis*	X	X
Broad Groove-head Spider	*Monocephalus castaneipes*	X	X
Cloud-living Spider	*Semljicola caliginosus*	X	X

Triangle Hammock-spider	*Saaristoa firma*	X	X
Totals		**4**	**4**
FISH			
Sea Lamprey	*Petromyzon marinus*	X	X
River Lamprey	*Lampetra fluviatilis*	X	X
Basking Shark	*Cetorhinus maximus*	X	X
Allis Shad	*Alosa alosa*	X	X
Twaite Shad	*Alosa fallax*	X	X
Atlantic Salmon	*Salmo salar*	X	X
Trout	*Salmo trutta*	X	X
Arctic Charr	*Salvelinus alpinus*	X	X
Schelly	*Coregonus lavaretus*	X	X
Vendace	*Coregonus albula*	X	X
Sparling (Smelt)	*Osmerus eperlanus*	X	X
Eel	*Anguilla anguilla*	X	X
Plaice	*Pleuronectes platessa*	X	X
Lesser Sand Eel	*Ammodytes marinus*		

Ling	*Molva molva*	X	X
Whiting	*Merlangius merlangus*	X	X
Cod	*Gadus morhua*	X	X
Herring	*Clupea harengus*	X	X
Sole	*Solea solea*	X	X
Totals		**18**	**18**
AMPHIBIANS			
Great Crested Newt	*Triturus cristatus*	X	X
Common Toad	*Bufo bufo*	X	X
Natterjack Toad	*Bufo calamita*	X	X
Totals		**3**	**3**
REPTILES			
Leatherback Turtle	*Dermocheles coriacea*	X	X
Loggerhead Turtle	*Caretta caretta*	X	X
Viviparous Lizard	*Zootoca vivipara*	X	X
Slow-worm	*Anguis fragilis*	X	X
Grass Snake	*Natrix natrix*	X	X

Adder	*Vipera berus*	X	X
Totals		**6**	**6**
BIRDS			
Black-throated Diver	*Gavia arctica*	X	X
Bittern	*Botaurus stellaris*	X	X
Tundra Swan	*Cygnus columbianus bewickii*	X	X
Greater Scaup	*Aythya marila*	X	X
Common Scoter	*Melanitta nigra*	X	X
Hen Harrier	*Circus cyaneus*	X	X
Red Grouse	*Lagopus lagopus*	X	X
Black Grouse	*Tetrao tetrix*	X	X
Grey Partridge	*Perdix perdix*	X	X
Northern Lapwing	*Vanellus vanellus*	X	X
Black-tailed Godwit	*Limosa limosa limosa*	X	X
Eurasian Curlew	*Numenius arquata*	X	X
Arctic Skua	*Stercorarius parasiticus*	X	X
Herring Gull	*Larus argentatus argenteus*	X	X
Common Cuckoo	*Cuculus canorus*	X	X

Barn Owl	*Tyto alba*		X
Nightjar	*Caprimulgus europaeus*	X	X
Lesser Spotted Woodpecker	Dendrocopos minor	X	X
Skylark	*Alauda arvensis*	X	X
Tree Pipit	*Anthus trivialis*	X	X
Yellow Wagtail	*Motacilla flava flavissima*	X	X
Hedge Accentor (Dunnock)	*Prunella modularis*	X	X
Ring Ouzel	*Turdus torquatus*	X	X
Song Thrush	*Turdus philomelos*	X	X
Grasshopper Warbler	*Locustella naevia*	X	X
Wood Warbler	*Phylloscopus sibilatrix*	X	X
Spotted Flycatcher	*Muscicapa striata*	X	X
Marsh Tit	*Parus palustris*	X	X
Willow Tit	*Parus montanus*	X	X
Common Starling	*Sturnus vulgaris*	X	X
House Sparrow	*Passer domesticus*	X	X
Tree Sparrow	*Passer montanus*	X	X
Linnet	*Carduelis cannabina*	X	X

Twite	*Carduelis flavirostris*	X	X
Lesser Redpoll	*Carduelis cabaret*	X	X
Bullfinch	*Pyrrhula pyrrhula*	X	X
Hawfinch	*Coccothraustes coccothraustes*	X	X
Yellowhammer	*Emberiza citrinella*	X	X
Reed Bunting	*Emberiza schoeniclus*	X	X
Corn Bunting	*Miliaria calandra*	X	X
Totals		**39**	**40**
MAMMALS			
Hedgehog	*Erinaceus europaeus*	X	X
Whiskered Bat	*Myotis mystacinus*		X
Brandt's Bat	*Myotis brandtii*		X
Natterer's Bat	*Myotis nattereri*		X
Daubenton's Bat	*Myotis daubentonii*		X
Noctule	*Nyctalus noctula*		X
Common Pipistrelle	*Pipistrellus pipistrellus*		X
Soprano Pipistrelle	*Pipistrellus pygmaeus*	X	X
Brown Long-eared Bat	*Plecotus auritus*		X

Brown Hare	*Lepus europaeus*	X	X
Red Squirrel	*Sciurus vulgaris*	X	X
Water Vole	*Arvicola terrestris*	X	X
Harvest Mouse	*Micromys minutus*	X	X
Hazel Dormouse	*Muscardinus avellanarius*	X	X
Bottle-nosed Dolphin	*Tursiops truncatus*	X	X
Common Dolphin	*Delphinus delphis*	X	X
Harbour Porpoise	*Phocoena phocoena*	X	X
Long-finned Pilot Whale	*Globicephala melas*	X	X
Polecat	*Mustela putorius*	X	X
Otter	*Lutra lutra*	X	X
Common Seal	*Phoca vitulina*	X	X
Totals		**14**	**21**
Overall Species Totals		**248**	**268**

Note: The original Cumbria BAP Phase II (no action plan) species list included a moss or liverwort however the exact species had not been decided at the time of writing. This has therefore been omitted from the revised 2009 list.