

HADRIAN'S CAMP, CENTURIONS WALK, HOUGHTON, CARLISLE



For

NORTH ASSOCIATES

## EXTENDED PHASE 1 HABITAT SURVEY

OCTOBER 2015

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## DOCUMENT CONTROL

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### Document

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FINAL	Extended Phase 1 Habitat Survey	05.11.15	PB	LC	DM, North Associates	06.11.15	

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A	Extended Phase 1 Habitat Survey	10.11.15	PB	LC	DM, North Associated	11.11.15	

## **NON-TECHNICAL SUMMARY**

In October 2015, Appletons was commissioned by North Associates to undertake an initial ecological appraisal of Hadrian's Camp, Houghton, Carlisle. To fulfill the brief an ecological desk study data search and a Phase 1 Habitat Survey were undertaken.

The ecological desk study identified that the site forms part of a County Wildlife Site (CWS), and is located within five SSSI Risk Impact Zones. Records of protected species were also identified including bats, otter, badger, red squirrel, common lizard and bird species. The Extended Phase 1 Habitat Survey was undertaken on 19<sup>th</sup> and 20<sup>th</sup> October 2015 by Paula Bateson ACIEEM, Project Ecologist. At the time of the survey, the site comprised a mosaic of mature, unmanaged habitats including broad-leaved woodland, scrub, neutral grassland, tall ruderal herb, marshy grassland and scattered trees.

The key ecological features on site are the presence of BAP quality habitats and mature trees, invasive flora and the potential presence of several protected species. In order to ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made:

- **Disused Campsite near Houghton CWS:** The design footprint of any future development should minimise fragmentation of connectivity for wildlife wherever possible. An appropriate habitat management plan to enhance retained areas of the CWS should be developed in consultation with the Local Planning Authority and/ or the local Wildlife Trust.
- **SSSI Risk Impact Zones:** The Local Planning Authority should be consulted prior to any works commencing.
- **Habitat Loss & Enhancement:** Impacts upon BAP habitats (running water, hedgerow and woodland), as well as habitats considered of local ecological value (mature trees, marshy grassland and unmanaged habitat mosaic) should be minimised wherever possible. Habitat loss should be compensated for by an appropriate habitat management plan.
- **Trees and Hedgerow:** An arboricultural survey should be undertaken and any trees and hedgerows retained as part of future development plans should be protected.
- **Protected Species:** Depending on the location of future development work on site, further survey work to establish the presence or absence of the following protected species is recommended: badger, roosting and foraging bats, nesting birds, white-clawed crayfish, water vole, otter, reptiles and orchids.
- **Invasive Species:** A Method Statement must be developed to ensure that works do not result in the spread of any invasive non-native species.

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## 1. INTRODUCTION

### PROJECT BACKGROUND

- 1.1 In October 2015, North Associates commissioned Appletons to undertake an ecological appraisal of a site known as Hadrian's Camp, Houghton, Carlisle. The purpose of the survey was to assess the ecological value of the site in relation to the potential allocation of the site for housing within the Local Plan, and identify potential impacts of future site development on protected species, habitats, conservation sites or invasive species.
- 1.2 To assess the ecological value of the site, an ecological desk study data search was undertaken and a Phase 1 habitat survey was completed on 19<sup>th</sup> and 20<sup>th</sup> October 2015.

### SITE DESCRIPTION

- 1.3 The site measures approximately 17.23 ha and is located north-east of Carlisle City Centre, south of the village of Houghton. The central National Grid Reference for the site is NY 415 588. The site is bound by Brunstock Beck to the east and north-east, residential housing of Houghton to the north-west and a residential construction site and police depot to the west. Along the south of the site, paddocks, fields and the residential street of Centurions Walk border the site. Within the wider area, land is dominated by farmland to the east, south and west, whilst the village of Houghton is located to the north. The M6 motorway is located within 20 metres of the site beyond Brunstock Beck to the east.
- 1.4 It is understood that the site area has been largely unmanaged for several decades, since its usage as an army barracks pre-1970. The overgrown foundations of former buildings were recorded throughout the centre of the site during the survey. It is now a popular dog walking area. At the time of the survey, the centre of the site area comprised a number of areas of mature, unmanaged vegetation, separated by pathways and disused roads, either side of a large open area of hardstanding, understood to have previously been a parades ground. To the north-east and south-west of this central area, further mosaics of mature, unmanaged habitats were included within the survey site. Habitats included broad-leaved woodland, scrub, neutral grassland, tall ruderal herb, marshy grassland and scattered trees. Excavation work was ongoing within the north of the site area at the time of the survey, understood to be associated with the drainage of an adjacent residential development site.

## 2. METHODOLOGIES

### ECOLOGICAL DESK STUDY

- 2.1 A desk top study was undertaken to determine the presence of any designated nature conservation sites and records of protected species within 1 km radius of the site survey boundary. Data was provided by Cumbria Biodiversity Data Centre, and the Natural England website 'MAGIC' (Multi Agency Geographical Information for the Countryside) was utilized to search locations of statutory nature conservation sites.

### PHASE 1 HABITAT SURVEY

- 2.2 A Phase 1 Habitat Survey was conducted following the methodology of the Joint Nature Conservation Committee (JNCC, 2010) and the Institute of Environmental Assessment (IEA, 1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. During the survey, the potential for the site to support protected species was assessed.
- 2.3 Whilst every effort is made to identify and map any invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended), it should be noted that this is not a specific survey for these species.

### 3. ECOLOGICAL DESK STUDY

A summary of relevant ecological data from the desk study search is provided within this section. Selected raw data is provided in Appendix 3.

#### NATURE CONSERVATION SITES

- 3.1 The data provided by the local biological records center and reference to the Natural England MAGIC website indicates that no statutory nature conservation sites and two non-statutory nature conservation sites occur within a 1 km radius of the survey area, summarized below.

Nature Conservation Site	Designation	Proximity to site	Description
Disused campsite near Houghton	CWS	Survey area forms part of CWS	A large disused campsite representing a significant area of semi-natural habitat including species-rich grassland, scrub and mature trees. Tall herbs are abundant including common knapweed ( <i>Centaurea nigra</i> ) and wood cranesbill ( <i>Geranium sylvaticum</i> ), and there are also some patches of heather ( <i>Calluna vulgaris</i> ). Birch ( <i>Betula pendula</i> ) are common, and scrub is dominated by willow ( <i>Salix</i> spp.). The area includes a section of orchid-rich grassland comprising turves relocated from the northern area which has been developed, and which is managed sympathetically by Carlisle City Council under agreement with Cumbria Wildlife Trust.
C3U(1)	SRV	170 m south-east	Roadside verge, no further description provided
<b>Key:</b> CWS: County Wildlife Site SRV: Special Roadside Verge			

**Table 3.1: Summary of Nature Conservation Sites within 1 km of Survey Area**

- 3.2 The site is located within 10 km of five Sites of Special Scientific Interest (SSSI). The site is therefore located within five SSSI Risk Impact Zones, which are utilised by Local Planning Authorities to assess planning applications for likely impacts on SSSIs. The closest SSSI is the River Eden, located 1.53 km south of the site. The stream long the east of the site is a tributary of the River Eden.
- 3.3 In addition to the designated nature conservation sites within Table 3.1, the desk study also identified Habitats of Principal Importance for Nature Conservation in England and Local BAP habitats within 1 km of the site, which included several areas of deciduous woodland, some of which were located within the survey site area, and an area of traditional orchard 440 m west of the site.

#### PROTECTED SPECIES

- 3.4 The following section provides a summary of protected species records identified by the desk study within a 1 km radius of the site. The absence of records should not be taken as confirmation

that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Legislation / Conservation Status
<b>Birds</b>				
Common crossbill <i>Loxia curvirostra</i>	2	2008	>270 m west #	WCA1i
Kingfisher <i>Alcedo atthis</i>	18	2012	Within the 10 km grid square in which the site exists #	WCA1i
Redwing <i>Turdus iliacus</i>	22	2012	1 km west	WCA1i
Green sandpiper <i>Tringa ochropus</i>	6	2009	>130 m east #	WCA1i
Bewicks swan <i>Cygnus columbianus</i>	2	1993	1 km south-west	WCA1i
Garganey <i>Anas querquedula</i>	1	1998	>840 m south #	WCA1i
Whooper swan <i>Cygnus cygnus</i>	25	2012	1 km south-west	WCA1i
Corncrake <i>Crex crex</i>	1	1981	>980 m north #	WCA1i
Greylag goose <i>Anser anser</i>	24	2010	1 km south-west	WCA1ii
<b>Reptiles</b>				
Common lizard <i>Zootoca vivipara</i>	1	1992	>500 m south #	WCA 5 S9(1) WCA 5 S9(5)
<b>Mammals [bats]</b>				
Unidentified bat <i>Myotis</i> sp.	1	2012	>500 m south #	ECH 2*, ECH 4, WCA 5, WCA 6
Noctule Bat <i>Nyctalus noctula</i>	1	1999	>130 m east #	ECH 4, WCA 5, WCA 6
Common pipistrelle <i>Pipistrellus pipistrellus</i>	2	2012	>130 m east #	ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	2	2012	975 m south-east	ECH 4, WCA 5, WCA 6
Brown Long-eared <i>Plecotus auritus</i>	2	2012	>130 m east #	ECH 4, WCA 5, WCA 6
<b>[other mammals]</b>				
Otter <i>Lutra lutra</i>	15	2013	15 m east	ECH 2, ECH 4, WCA 5, WCA 6
Badger <i>Meles meles</i>	7	2009	†	WCA 6, PBA
Red squirrel <i>Sciurus vulgaris</i>	12	2012	420 m south-east	WCA 5, WCA 6
<b>Key (Continues):</b> *: Species dependent #: Grid reference/s provided less than 6 figures				

**Table 3.2: Summary of Protected Species Records within 1 km of Survey Area (Continues)**

**Key (Continued):**

† Badger records are confidential and therefore proximity is not provided within the report.  
 ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.  
 ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.  
 PBA: Protection of Badgers Act 1992.  
 WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times.  
 WCA 1ii: Schedule 1 Part 2 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties during close season.  
 WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).  
 WCA 5 S9(1): Schedule 5 Section 9(1) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to intentional killing, injury or taking.  
 WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.  
 WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Table 3.2: Summary of Protected Species Records within 1 km of Survey Area (Continued)**

3.5 In addition to the protected species in Table 3.2, the desk study identified a number of records of Species of Principal Importance for Nature Conservation in England, including brown hare *Lepus europaeus* and hedgehog *Erinaceus europaeus*. Records of over one-hundred bird species were also identified including owls, gulls, wetland and woodland birds.

**INVASIVE SPECIES**

3.6 The following section provides a summary of invasive species records within a 1 km radius of the site. Absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Legislation / Conservation Status
<b>Flora</b>				
Himalayan balsam <i>Impatiens glandulifera</i>	1	2014	565 m south	WCA9
Japanese Knotweed <i>Fallopia japonica</i>	1	2011	1 km south-east	WCA9

**Table 3.3: Summary of Invasive Species Records within 1 km of Survey Area (Continues)**

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Legislation / Conservation Status
<b>Fauna</b>				
American mink <i>Mustela vison</i>	1	2012	1 km east	WCA9
Grey squirrel <i>Sciurus carolinensis</i>	28	2013	460 m north-east	WCA9
Tufted duck <i>Aythya fuligula</i>	7	2010	Within the 10 km grid square in which the site exists #	WCA9
<b>Key:</b> #: Grid reference/s provided less than 6 figures WCA9: Schedule 9 of Wildlife and Countryside Act 1981 (as amended). Invasive, non-native, plants and animals.				

**Table 3.3: Summary of Invasive Species Records within 1 km of Survey Area (Continued)**

## 4. PHASE 1 HABITAT SURVEY

### INTRODUCTION

- 4.1 This section provides the results of the Phase 1 Habitat Survey. A Phase 1 Habitat Survey Map is provided in Appendix 1, which illustrates the location and extent of all habitat types recorded on site. Any notable features or features too small to map are detailed using target notes. Photographs taken during the field survey are presented in Appendix 2.

The survey was carried out on 19<sup>th</sup> and 20<sup>th</sup> October 2015 by Paula Bateson BSc(Hons) ACIEEM, Project Ecologist.

### SURVEY CONSTRAINTS

- 4.2 October is not the optimum time of year for botanical surveys. As such a precautionary approach is adopted in relation to impacting upon habitats and habitats within the survey area which may support notable flora.

### SITE HABITATS

- 4.3 The following habitats were recorded on site during the survey:

- Amenity Grassland
- Bare Ground
- Ephemeral / Short Perennial
- Hardstanding
- Hedgerow
- Marshy Grassland
- Neutral Grassland
- Running Water
- Scattered Trees
- Scrub
- Semi-natural Broad-leaved Woodland
- Structures
- Tall Ruderal Vegetation
- Target Note Area 9: Dried Pond
- Target Note Area 10: Construction Site

#### Amenity Grassland

- 4.4 Narrow, mown grass verges were present along the roads within the south of the site. The

species composition was dominated by cock's-foot *Dactylus glomerata* and fescue *Festuca* sp., with forbs including yarrow *Achillea millefolium*, creeping buttercup *Ranunculus repens* and cow parsley *Anthriscus sylvestris*.

#### Bare Ground

- 4.5 An area of recently disturbed ground was present between the construction site within the north of the site and a culvert into Brunstock Brook (Culvert shown as Target Note 1 in Appendix 2).

#### Ephemeral / Short Perennial

- 4.6 An area of recently disturbed ground with establishing vegetation was present adjacent to the construction site within the north of the site. Vegetation included creeping buttercup, dandelion *Taraxacum officinale* and sow thistle *Sonchus* sp. Establishing rush, sedge *Carex* sp., yellow flag *Iris pseudacorus* and meadowsweet *Filipendula ulmaria* was also recorded within wet scrapes created by tracked machinery.

#### Hardstanding

- 4.7 A large rectangular area of hard standing was present within the centre of the site, which measured approximately 2.5 ha. Disused roads and walkways were also present throughout the site. The larger areas of hardstanding on site were devoid of vegetation, whilst species such as wavy bittercress *Cardamine flexuosa*, mosses, and stonecrop *Sedum* sp. were recorded along narrow pathways.

#### Hedgerow

- 4.8 A short section of hedgerow was present at the south-west of the site. This was unmanaged and dominated by elder *Sambucus nigra* with two mature sycamore *Acer pseudoplatanus* trees also present.

#### Marshy Grassland

- 4.9 A large area of marshy grassland dominated by rush was recorded within the north of the site, and a smaller patch was also identified within the south-west of the site. These habitat areas were dominated by hard rush *Juncus inflexus* and soft rush *Juncus effusus*, with species such as angelica *Angelica archangelica*, great burnet *Sanguisorba officinalis*, horsetail *Equisetum* sp., creeping thistle *Cirsium arvense*, silverweed *Argentina anserina*, vetch *Vicia* sp., bedstraw *Galium* sp. and common knapweed *Centaurea nigra* also recorded. Sparse scattered scrub within these habitat areas comprised broom *Cytisus scoparius*, dog rose *Rosa canina*, sycamore saplings and bramble *Rubus fruticosus* agg..

- 4.10 Significant areas of dense common reed *Phragmites australis* were recorded within the north-east of the site, where the site sloped gradually towards Brunstock Beck. A small area of dense common reed was also recorded within the south-west of the site on a short, steep embankment (Areas of reed shown as Target Note 2 in Appendix 1). Occasional, sparse tall ruderal species including creeping thistle and meadowsweet were recorded throughout these habitat areas.

#### Neutral grassland

- 4.11 An open area of recently unmanaged grassland was present within the south of the site, adjacent to Centurians Walk. The species composition was dominated by false oat-grass *Arrhenatherum elatius* and Yorkshire fog *Holcus lanatus*, with red fescue *Festuca rubra*, creeping bent *Agrostis stolonifera*, speedwell *Veronica* sp., creeping buttercup, meadow foxtail *Alopecurus pratensis*, common sorrel *Rumex acetosa*, lady's-mantle *Alchemilla vulgaris* agg. and occasional hard and soft rush.
- 4.12 Areas of unmanaged neutral grassland with similar species compositions were present within habitat mosaics of grassland, tall ruderal vegetation and scrub throughout the site. Additional species recorded within these areas included silverweed, cranesbill *Geranium* sp., black medic *Medicago lupulina*, bedstraw, chickweed *Stellaria media*, self-heal *Prunella vulgaris*, spear thistle *Cirsium vulgare*, red dead-nettle *Lamium purpureum* and hawksbeard *Crepis* sp..

#### Running Water

- 4.13 Brunstock Beck formed the eastern boundary to the site. The stream measured from 2 m to 5 m in width, with a depth varying between 0.2 and 0.5 m. At the time of the survey the rate of flow was slow, and aquatic vegetation included patches of duckweed *Lemna minor* and floating sweet-grass *Glyceria fluitans*. The stream possessed vertical earth banks, with occasional overhanging root systems of mature trees and scrub. Bankside vegetation mainly comprised dense common nettle *Urtica dioica*, common reed and the invasive species Himalayan balsam *Impatiens glandulifera*. Stream substrate consisted of silt, rocks and occasional debris such as vehicle tyres.

#### Scattered Trees

- 4.14 Scattered trees were present throughout the site, in planted avenues alongside roads and scattered throughout habitat mosaics. Trees ranged from young to over-mature and species included birch *Betula* sp., sycamore, ash *Fraxinus excelsior*, crab-apple *Malus sylvestris*, wild cherry *Prunus avium*, horse chestnut *Aesculus hippocastanum*, oak *Quercus robur* and locust *Robinia pseudacacia*. Notable mature and over-mature trees are highlighted as Target Notes T4, 5 and 6 Appendix 1. Features such as rot holes, woodpecker holes, peeling bark and split

limbs were recorded on numerous mature trees.

### Scrub

- 4.15 Scrub habitats were present throughout the survey area, including large continuous areas and small pockets of dense scrub, underscrub within habitat mosaics and an area of mature grey willow *Salix cinerea*.
- 4.16 Areas of continuous dense scrub were present throughout the site, particularly in the west, which generally comprised bramble, grey willow, dog-rose, broom, birch saplings, and occasional hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. Pockets of dense scrub and scattered scrub within habitat mosaics on site included similar species. Underscrub within habitat mosaics was dominated by bramble.
- 4.17 An area of mature grey willow scrub was present within the north-east of the site (Target Note 3 in Appendix 1). Moderately sparse ground flora comprising cock's foot, broad-leaved dock *Rumex obtusifolius*, bramble, common nettle, creeping buttercup, angelica and broad-leaved helleborine *Epipactis helleborine* was recorded.

### Semi-natural Broad-leaved Woodland

- 4.18 Numerous areas of mature woodland were located throughout the site. Linear areas of woodland adjacent to Brunstock Brook were dominated by species indicative of moist ground including birch, goat willow *Salix caprea*, crack willow *Salix fragilis*, alder *Alnus* sp. and occasional ash, with a ground flora of fern *Dryopteris* sp., butterbur *Petasites hybridus*, common nettle, common hogweed *Heracleum sphondylium*, angelica and broad-leaved dock. The invasive species Himalayan balsam was recorded within the woodland adjacent to the brook.
- 4.19 The woodland adjacent to the northern site boundary comprised similar canopy species, with the addition of hazel *Corylus avellana* and oak. Areas of self-set ash and alder saplings were recorded, and the ground flora was dominated by tussock forming grasses such as cock's-foot and creeping soft-grass *Holcus mollis* and ruderals such as broad-leaved willowherb *Epilobium montanum* and common nettle. The invasive species montbretia *Crocsmia x crocosmiiflora* was also recorded within this woodland area (Target Note 7 in Appendix 1).
- 4.20 The remainder of the woodland habitat on site comprised small pockets of broad-leaved woodland, each with a structure of several mature, historically planted deciduous trees surrounded by self-set young to semi-mature trees. Although the mature trees on site were historically planted, the woodland patches were considered to qualify as semi-natural woodland

due to the maturity of the habitat (JNCC, 2010). Common canopy species included wild cherry, birch, oak, sycamore, horse-chestnut, alder, locust, goat willow and grey willow, whilst occasional hybrid black poplar *Populus x canadensis*, lombardy poplar *Populus nigra cv. Italica*, hornbeam *Carpinus betulus*, field maple *Acer campestre*, pine *Pinus* sp., laburnum *Laburnum anagyroides* and cherry plum *Prunus cerasifera* were also recorded. Common understory species included hawthorn, dog rose, fern, bramble, elder and birch saplings, and occasional snowberry *Symphoricarpos albus* and wild privet *Ligustrum vulgare* were also recorded. Shaded areas of woodland mostly comprised sparse ground flora of common nettle amongst a thick layer of leaf litter. In more open areas, bramble, fern and willowherb species were dominant, with tussocks of cock's-foot, red fescue and occasional wood avens *Geum urbanum* and cow parsley also recorded.

- 4.21 Notable mature and over-mature trees within woodland areas are highlighted as Target Notes 4, 5 and 6 in Appendix 2.

#### Structures

- 4.22 Two masts and an electricity substation were located on an area of hardstanding within the west of the site.

#### Tall Ruderal Herb

- 4.23 Tall ruderal vegetation was present across much of the site, including areas of continuous dense ruderal vegetation as well as small pockets of ruderal species within habitat mosaics. Dominant species included rosebay willowherb *Chamerion angustifolium* and common knapweed, and other species commonly recorded included great willowherb *Epilobium hirsutum*, broad-leaved dock, creeping thistle, broad-leaved willowherb, golden-rod *Solidago* sp., common ragwort *Jacobaea vulgaris*, common nettle, spear thistle, fern, foxglove *Digitalis purpurea* and hogweed.

#### Target Note 5: Construction site

- 4.24 A large bowl-shaped area of land was being excavated within the north of the site at the time of the survey, and was surrounded by Heras fencing. Fenced off tracks of bare ground connected this to the residential construction site immediately west of the site.

#### Target Note 9: Dried Pond

- 4.25 An area of waterlogged ground was present within the north of the site, colonized by dense great reedmace *Typha latifoli*. This was considered likely to be a pond in the final stages of succession.

- 4.26 A small circular area colonised by mosses with occasional cinquefoil *Potentilla* sp. and water crowfoot *Ranunculus aquatilis* was recorded within the marshy grassland on site. This was also considered to have previously been the location of a pond.

### **INVASIVE PLANT SPECIES**

- 4.27 Himalayan balsam was present throughout the south-west section of site, south of the police depot adjacent to the site. This species was also present within habitats adjacent to Brunstock Beck, along the eastern site boundary. Wall cotoneaster *Cotoneaster horizontalis* was also recorded on site (Target Note 5 in Appendix 1), along with Montbretia (Target Note 4 in Appendix 1). These species are listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended).

## 5. ECOLOGICAL EVALUATION

### SURVEY PURPOSE

- 5.1 The purpose of the survey was to assess the ecological value of the site in relation to the potential allocation of the site for housing within the Local Plan, and identify potential impacts of future site development on protected species, habitats, conservation sites or invasive species.

### NATURE CONSERVATION SITES

- 5.2 The desk study exercise identified no statutory nature conservation sites and two non-statutory nature conservation sites within a 1 km radius of the survey area. The significance of these sites to the proposed development is discussed below.

#### Non-Statutory Sites

- 5.4 *Disused Campsite near Houghton County Wildlife Site*  
The survey site forms part of Disused Campsite near Houghton County Wildlife Site (CWS). CWSs play a significant role in UK nature conservation by providing wildlife refuges, stepping-stones, corridors and buffers linking and protecting other designated sites and open spaces both in towns and the wider countryside. CWSs are not protected by law, however Local Authorities have a responsibility as part of their planning function to take account of CWSs.
- 5.5 Based on the Guidelines for the Selection of County Wildlife Sites in Cumbria (2008), the results of the Phase 1 Habitat Survey confirm that the vegetated areas of the site are County Wildlife Site quality, under the category of 'Habitat Mosaic'. Further botanical and species surveys would identify if the site also qualifies as a CWS through supporting rare flora and/or fauna.
- 5.6 The hardstanding on site was not considered CWS quality habitat, and was not considered to possess any ecological value.
- 5.7 In terms of the potential of the site being allocated for housing within the emerging Local Plan, an appropriate habitat management plan could enhance retained areas of the CWS in terms of ecological value, and should be developed in consultation with the Local Planning Authority and/or the local Wildlife Trust.
- 5.8 *C3U(1) Special Roadside Verge*  
A Special Roadside Verge (SRV) was identified by the desk study, 170 m from the boundary of the site. The M6 motorway separates the site from this SRV and as such no adverse impacts are anticipated upon the SRV from any future development works at Hadrian's Camp.

## 5.9 SSSI Risk Impact Zones

A recommendation is made in Section 6 in relation to the SSSI Risk Impact Zones.

### **SITE HABITATS**

- 5.10 The ecological importance of the habitats present on site is determined by their presence on the list of Habitats of Principal Importance in England and on the Local BAP, along with the intrinsic value of the habitat. The ecological value of the habitats on site is considered below.

#### Running Water

- 5.11 Running water is a Habitat of Principal Importance in England and a Local BAP habitat. A potential housing allocation on the site would need to consider Brunstock Beck and its protection from site run off and possible pollution. A recommendation in relation to this is made in Section 6.

#### Semi-Natural Broad-leaved Woodland

- 5.13 The woodland adjacent to Brunstock Beck may qualify as the BAP habitat wet woodland, however further survey work at an appropriate time of year for botanical assessments would be needed to confirm this. The remainder of the woodland on site, due to its species composition and maturity, qualifies as a Habitat of Principal Importance in England and a Local BAP habitat 'Lowland Mixed Deciduous Woodland'. The loss of woodland habitat should be minimized wherever possible and a recommendation in relation to this is made in Section 6.

#### Hedgerow

- 5.14 All hedgerows qualify as Habitats of Principal Importance in England and as such a recommendation in relation to the protection of hedgerow habitat on site is made in Section 6.

#### Marshy Grassland / Marginal Vegetation

- 5.15 The marshy habitats on site do not qualify as BAP habitats, however based on aerial imagery and the desk study analysis, these habitat types are not common within the local area, and as such were considered to possess a local level of ecological value. In the context of housing allocation, impacts upon these habitats should be minimized wherever possible. A management plan to mitigate for any loss of marshy grassland, and for the restoration/creation of ponds is recommended.

#### Scattered Trees

- 5.16 The mature trees on site were considered of high integral ecological value. Tree removal should be minimized wherever possible, and any retained trees should be protected. A

recommendation for an arboricultural survey is made in Section 6 to establish protection zones around notable specimens.

#### Remaining Habitats on Site

- 5.17 The UK BAP habitat of 'Open Habitat Mosaics on Previously Developed Land' refers to establishing and pioneer communities such as ephemeral vegetation and ruderals with bare ground. As such, the habitats on site do not qualify as this BAP habitat. However, due to the extent of unmanaged habitat, the mosaic of habitats on site was considered to possess a local level of ecological value. Recommendations are made in Section 6 in relation to habitat loss of vegetated areas and habitat enhancement.
- 5.18 The remaining habitats on site (amenity grassland, hard standing, bare ground, structures, ephemeral / short perennial, and the construction site) were all considered of negligible ecological value and no recommendations are made in relation to these habitats.

#### **PROTECTED SPECIES**

- 5.19 Species that have been identified by the desk study and those which potentially suitable habitat occurs within or adjacent to the site are considered within this section, in terms of the likely impact of any future development on site.

Species / Species Group	Species of Principal Importance	Local BAP Species	Summary of Potential Impacts
<b>Mammals</b>			
Badger	-	-	Loss / disturbance of sett building and foraging habitat
Bats	*	✓	Loss / disturbance of roosting & foraging habitat
Water Vole <i>Arvicola amphibius</i>	✓	✓	Loss / disturbance of habitat
Otter	✓	-	Loss / disturbance of habitat
Red squirrel	✓	✓	Loss / disturbance of habitat
<b>Birds</b>	*	*	Loss / disturbance of nesting & foraging habitat
<b>Herpetofauna</b>			
Reptiles	✓	-	Loss / disturbance of foraging / hibernation habitat
Amphibians	*	*	No impacts anticipated
<b>Crustaceans</b>			
White-clawed crayfish <i>Austropotamobius pallipes</i>	✓	-	Disturbance or pollution of habitat

**Table 5.1: Summary of Ecological Importance of Species and Impacts of Development (Continues)**

Species / Species Group	Species of Principal Importance	Local BAP Species	Summary of Potential Impacts
<b>Flora</b>			
Orchids <i>Orchidaceae</i>	*	*	Loss / disturbance of notable or protected species
Notable/protected woodland flora	*	*	Loss / disturbance of notable or protected species
<b>Key:</b> *: Species dependent Species of Principal Importance: Species of principal importance for nature conservation in England. Local BAP: Cumbria Biodiversity Action Plan			

**Table 5.1: Summary of Ecological Importance of Species and Impacts of Development (Continued)**

### Badger

- 5.20 The site provided potential sett building habitat for badgers, particularly within woodland and along embankments of tall or dense vegetation. Mammal trails were recorded throughout the site but it was not clear if these were caused by badger, fox or dogs. No evidence of badger was recorded during the survey, however a full badger survey would be required to confirm the presence or absence of badger setts prior to any future development requiring excavation.

### Water Vole

- 5.21 No records of water vole were identified by the ecological desk study, however Brunstock Beck was considered suitable habitat for water voles, due to the presence of marginal vegetation and steep earth banks for burrowing. Water voles are protected by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). If any future site development was to impact upon Brunstock Beck, or land within 10 m of the watercourse, a survey to determine the presence or absence of water vole would be required, for which a recommendation is made in Section 6.

### Otter

- 5.22 Fifteen records of otter were identified by the desk study, mostly located along Brunstock Beck, upstream from the site. One record from 2008 of otter roadkill on the M6 was located within 15m of the site, adjacent to Brunstock Beck. The marshy grassland on site may provide habitat for above ground otter couches, and mature scrub and woodland may provide features suitable for otter holts or lying up sites. Otters can use holts up to 500 m from water (SNH, 2015), and considering the potential noise, vibrations and disturbance of construction work, an otter survey of suitable habitats would be required for any potential development on site. A recommendation in relation to this is made in Section 6.

### Red squirrel

- 5.23 Twelve records of red squirrel were identified by the desk study within the 1 km search radius. As red squirrels are associated with coniferous forest or woodland dominated by oak and hazel (Forestry Commission, 2009), it is considered unlikely that the species is present within the site area and no recommendations are made in relation to this species.

### Bats

- 5.24 Several records of bat species were identified by the ecological desk study. Many of the mature trees on site were recorded to provide potential roosting features for bats, including woodpecker holes, rot holes and peeling bark. If any mature trees on site would be directly or indirectly impacted by proposed development works, further survey work will be needed to establish the presence or absence of roosting bats, for which a recommendation is made in Section 6.
- 5.25 The site as a whole provides excellent commuting and foraging habitat for a range of bat species, due to the presence of habitat edges, pockets of woodland, running water and open habitats including marshy grassland. The undisturbed and unlit nature of the site also renders it suitable for foraging bats, and adjacent residential areas nearby may provide nearby roosting opportunities for bats, which may commute onto site. If future development of the site would involve the removal or lighting of vegetated areas of the site, foraging bat surveys would be required, detailed in Section 6.

### Birds

- 5.26 Open unmanaged habitats often provide suitable nesting habitat for ground nesting birds. The regular use of the site by dog walkers may deter ground nesting birds, however there is a chance that ground nesting birds may utilise more isolated areas of the site away from footpaths. The woodland, scattered trees and scrub on site also provide suitable nesting habitat for garden and woodland birds. As all nesting or nest building birds are protected, a recommendation is made in Section 6 in relation to the timing of vegetation removal. Dependent on the nature and extent of vegetation removed as part of future development works, habitat loss should be compensated for within landscape proposals and an appropriate habitat management plan agreed.
- 5.27 The open habitats within the north and east of the site were considered to provide good hunting habitat for birds of prey such as barn owls. Removal of this habitat should be minimized wherever possible. Recommendations are made in Section 6 in relation to habitat loss and enhancement.

- 5.28 The desk study identified several records of kingfisher within the local area. The banks of Brunstock Beck were not considered to provide suitable habitat for nest burrows, due to their overgrown nature and low height, however the stream may provide suitable hunting habitat for kingfishers. Efforts should be made to retain an undisturbed wildlife corridor along the eastern site boundary, to ensure potential hunting territory for species such as kingfishers is not fragmented. A recommendation in relation to this is made in Section 6.
- 5.29 Records of crossbill, redwing and corncrake were also identified by the desk study. The crossbill is associated with mature coniferous forests and the redwing is an overwintering bird associated with farmland, parks and gardens. The corncrake is mainly found in moist hay meadows and occasionally marshy habitats. Vegetation that is taller than 0.5 m, or too dense to walk through is avoided by this species, and grassland which is not mown or grazed becomes too matted to be suitable for nesting. As such the site was considered unsuitable for these species. The remaining protected bird species identified by the desk study were wetland birds associated with habitats such as lakes and as such are unlikely to utilise the site.

#### Amphibians

- 5.30 Great crested newts *Triturus cristatus* are protected from harm by European and UK legislation. According to Ordnance Survey maps and aerial imagery, no ponds are present within 500 m of the site. The two former ponds on site did not hold standing water and as such were considered unsuitable breeding habitat for great crested newts. As such it is not considered that this species would be present on site and no recommendations are made.

#### Reptiles

- 5.31 One record of common lizard was identified by the desk study, over 500 m from the site. The habitat composition of the site was considered suitable for reptile species, and in particular for grass snake, due to the marshy habitats and the presence of Brunstock Beck as a commuting feature. The habitat structure of the site, dominated by habitat mosaics, is suitable for foraging reptiles, and areas of bare ground and hardstanding could provide basking habitat. The regular use of the site by dog walkers may decrease the likelihood of reptiles being present, however a survey would be needed to establish the presence or absence of reptile species if future development works would impact upon suitable areas of the site. A recommendation in relation to this is made in Section 6.

#### White clawed crayfish

- 5.32 White-clawed crayfish are protected by Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Brunstock Beck was

considered to provide suitable habitat for crayfish, due to the substrate of rocks and pebbles. If future development of the site would impact upon Brunstock Beck, either directly or indirectly through pollution and/or site run off, a white-clawed crayfish survey would be required to establish the presence or absence of the species. A recommendation for the further survey work is made in Section 6.

#### Notable/Protected Flora

- 5.33 The Phase 1 Habitat Survey was undertaken in October, which is a suboptimal time of year for completing botanical assessments. Broad-leaved hellebrone was recorded on site which is an indicator species for ancient woodland (Rose, 1999). Based on this, other notable and/or protected floral species associated with ancient woodland may be present.
- 5.34 The desk study citation for the County Wildlife Site identified the presence of orchid rich grassland, containing species that had been translocated from the adjacent development sites. Certain species of orchid are protected by Schedule 8 of Wildlife and Countryside Act 1981 (as amended), and others also receive protection from European legislation (Annex II and IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora). No orchids were recorded during the survey however the survey was undertaken outside of the orchid flowering season.
- 5.35 It is recommended that a further detailed botanical survey should be undertaken at an appropriate time of year, for which a recommendation is made in Section 6.

## 6. RECOMMENDATIONS

- 6.1 The following recommendations are made based on the potential allocation of the site for housing within the Local Plan, in relation to protected conservation sites, species, habitats, and invasive species.

### NATURE CONSERVATION SITES

#### Disused Campsite near Houghton County Wildlife Site (CWS)

- 6.2 The survey site forms part of Disused Campsite near Houghton County Wildlife Site (CWS). To minimize impacts upon the ecological value of the CWS, it is recommended that the design footprint of any future development should minimise fragmentation of connectivity for wildlife wherever possible.
- 6.3 In accordance with the provision of Chapter 11 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and Local Planning Policy, an appropriate Habitat Management Plan to enhance retained areas of the CWS in terms of ecological value should be developed in consultation with the Local Planning Authority and/ or the local Wildlife Trust.

#### SSSI Risk Impact Zones

- 6.4 The site lies within five SSSI Risk Impact Zones, and Brunstock Brook connects to River Eden SSSI downstream from the site. SSSI Risk Impact Zones are utilised by Local Planning Authorities to assess planning applications for likely impacts on SSSIs. As such, further consultation is recommended between the client and the Local Planning Authority for any future potential development of the site.

### HABITAT RECOMMENDATIONS

#### Habitat Loss and Enhancement

- 6.5 Loss of the habitat mosaics, marshy grassland and woodland on site should be minimized wherever possible as part of future development proposals.
- 6.6 The Habitat Management Plan (recommended in Section 6.3) should mitigate for any loss of BAP habitats, and enhance the ecological value of habitats retained. For example this could include woodland management, pond restoration or creation, recreation of lost nesting bird habitat and/or translocation of areas of grassland of floristic value.

### **Running Water**

- 6.7 All works should be undertaken in accordance with best practice, e.g. the Environment Agency's Pollution Prevention Guidelines, to ensure that the Brunstock Beck is not adversely impacted by the proposed works.

### **Trees, Hedgerows and Woodland**

- 6.8 The removal or disturbance of woodland and mature trees should be avoided wherever possible. Due to the maturity of a large number of the trees on site, an arboricultural survey should be undertaken. Arboricultural surveys can be undertaken at any time of the year.
- 6.9 Any trees and hedgerows on site, or overhanging the site, which would not to be removed as part of any future development should be protected in accordance with British Standard 5837: 2012 "*Trees in relation to design, demolition and construction - recommendations*". Protection should be installed on site prior to the commencement of any works on site.

### **PROTECTED / NOTABLE SPECIES RECOMMENDATIONS**

- 6.10 To ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made:

#### **Fauna dependent on Brunstock Beck:**

- 6.11 In the interest of best ecological practice, a buffer zone should be established from the beck, to allow the watercourse and valley to remain a potential wildlife corridor for species such as kingfisher, water vole, otter and bats.

#### **Badger:**

- 6.12 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), given the suitable habitat present within the survey area, it is recommended that a badger survey is undertaken to determine whether any setts are located on site or within 30 m of any development works. Should badger setts be identified a badger activity survey may be required. Badger surveys can be completed at any time of the year. Should a badger sett be identified that will be required to be disturbed or closed, works to the badger sett will require a license from Natural England. Badger setts can be closed between July and November inclusive.

#### **Bats:**

- 6.13 **Roosting:** To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), a daytime bat survey should be undertaken on the scattered trees on site which may be impacted by the proposed development works. Daytime bat surveys can be completed at any time of

year. Should this survey recommend that further activity surveys are required, these further surveys can be undertaken during suitable weather conditions between May and September (inclusive).

- 6.14 **Foraging:** In accordance with Bat Conservation Trust guidance for Landscape and Urban Design (2012), any lighting, either temporary or permanent, should be kept to a minimum and directed away from development site boundaries to maintain 'dark' corridors.
- 6.15 If vegetated habitats on site are to be directly or indirectly impacted, a foraging bat survey should be undertaken to determine bat use of the site. Foraging bat surveys can be completed in suitable weather in accordance with the Bat Conservation Trust Guidelines (Hundt, 2012).

#### **Nesting Birds:**

- 6.16 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), vegetation clearance should be undertaken outside of the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive. If this is not possible then any vegetation that is to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

#### **White-clawed Crayfish:**

- 6.17 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), if any disturbance to the stream is anticipated, including siltation or site run-off, a white-clawed crayfish survey should be undertaken. White-clawed crayfish surveys can be completed between May and October inclusive, depending on water temperature and survey methodology.

#### **Water Vole:**

- 6.18 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), a water vole survey of Brunstock Beck should be undertaken if any proposed development work would come within 10 m of the watercourse, or indirectly pollute the stream. Depending on the scale of potential impact, this survey should include up to 500 m upstream and downstream of the proposed works area. Water vole surveys can be completed between March and October inclusive.

#### **Otter:**

- 6.19 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), an otter survey of Brunstock Brook would be required if any proposed development work comes within 250 m of

the watercourse. Depending on the scale of potential impact, this survey should include up to 500 m upstream and downstream of the proposed works area. Otter surveys can be completed at any time of year.

**Reptiles:**

- 6.20 A reptile survey should be undertaken of suitable habitats within the proposed development site. Reptile surveys can be completed in suitable weather conditions between April and September (inclusive).

**Notable / Protected Flora:**

- 6.21 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), a detailed botanical survey should be undertaken if future development works would impact vegetated habitats. This should be undertaken within the orchid survey season which generally lasts from mid-May to the end of June.

**INVASIVE PLANT SPECIES**

**Himalayan balsam, wall cotoneaster and Montbretia:**

- 6.22 To ensure compliance with the Wildlife and Countryside Act 1981 (as amended) proposed works must not cause wall cotoneaster, Himalayan balsam or montbretia to spread in the wild. A Method Statement must be developed for the proposed works to ensure that works do not result in the spread of any invasive non-native species. This method statement is to be agreed with the Environment Agency.

## 7 REFERENCES

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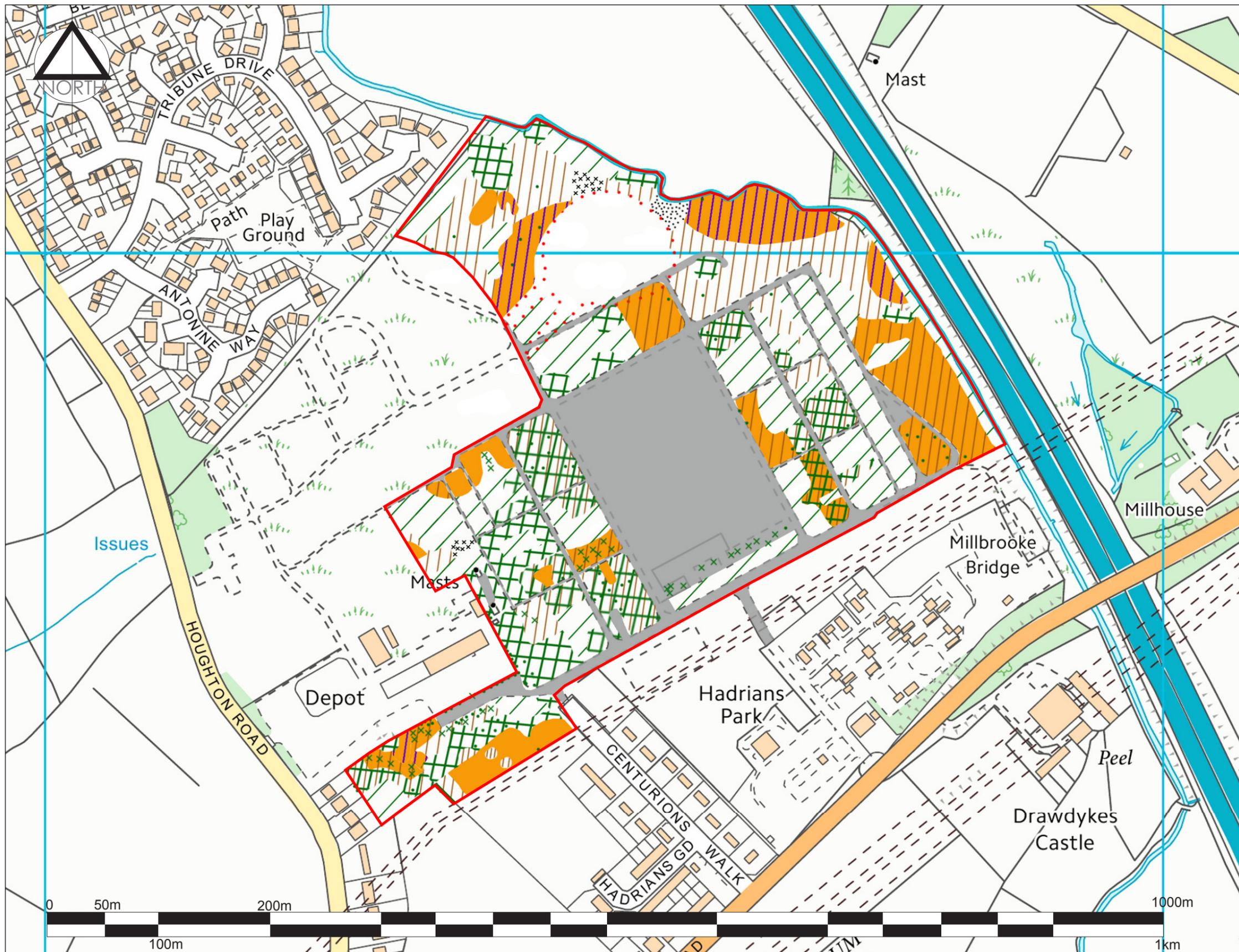
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**APPENDIX 1**



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# Hadrian's Camp, Centurion's Walk, Carlisle

FIG 1  
 Phase 1 Habitat Plan  
 Scale: See Scale Bar





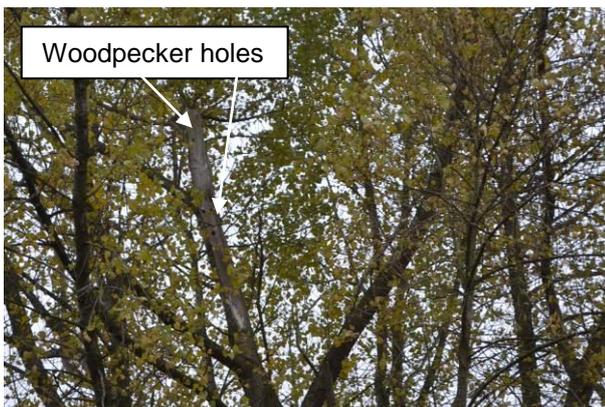
**APPENDIX 2**



Plate A.1: Neutral Grassland within SW of Site



Plate A.2: Pathway colonized by vegetation



Plates A.3 & A.4: Examples of potential roosting features within mature trees



Plate A.5: Dense scrub and tall ruderal Herb



Plate A.6: Building foundations within woodland



Plate A.7 & A.8: Habitat mosaics of grassland, tall ruderal herb and scrub



**Plate A.9: Central area of hardstanding**



**Plate A.10: Construction site**



**Plate A.11: Bare ground**



**Plate A.12: Mature grey willow scrub**



**Plate A.13: North of site, looking east – neutral grassland and tall ruderal vegetation**



**Plate A.14: Road of hardstanding with mown verge of amenity grassland**



**Plates A.15 & A.16: East of site, grassland and tall ruderal herb**



**Plate A.17: Area dominated by common reed within east of site**



**Plate A.18: Wall cotoneaster**



**Plate A.19: Montebria**



**Plate A.20: Brunstock Beck**



**Plate A.21: Ash overhanging Brunstock Beck**



**Plate A.22: Mature wild cherry trees**



**Plates 23 & 24: Former ponds**



**Plate A.25: Mature horse chestnut**



**Plate A.26: Mature hybrid black poplar**



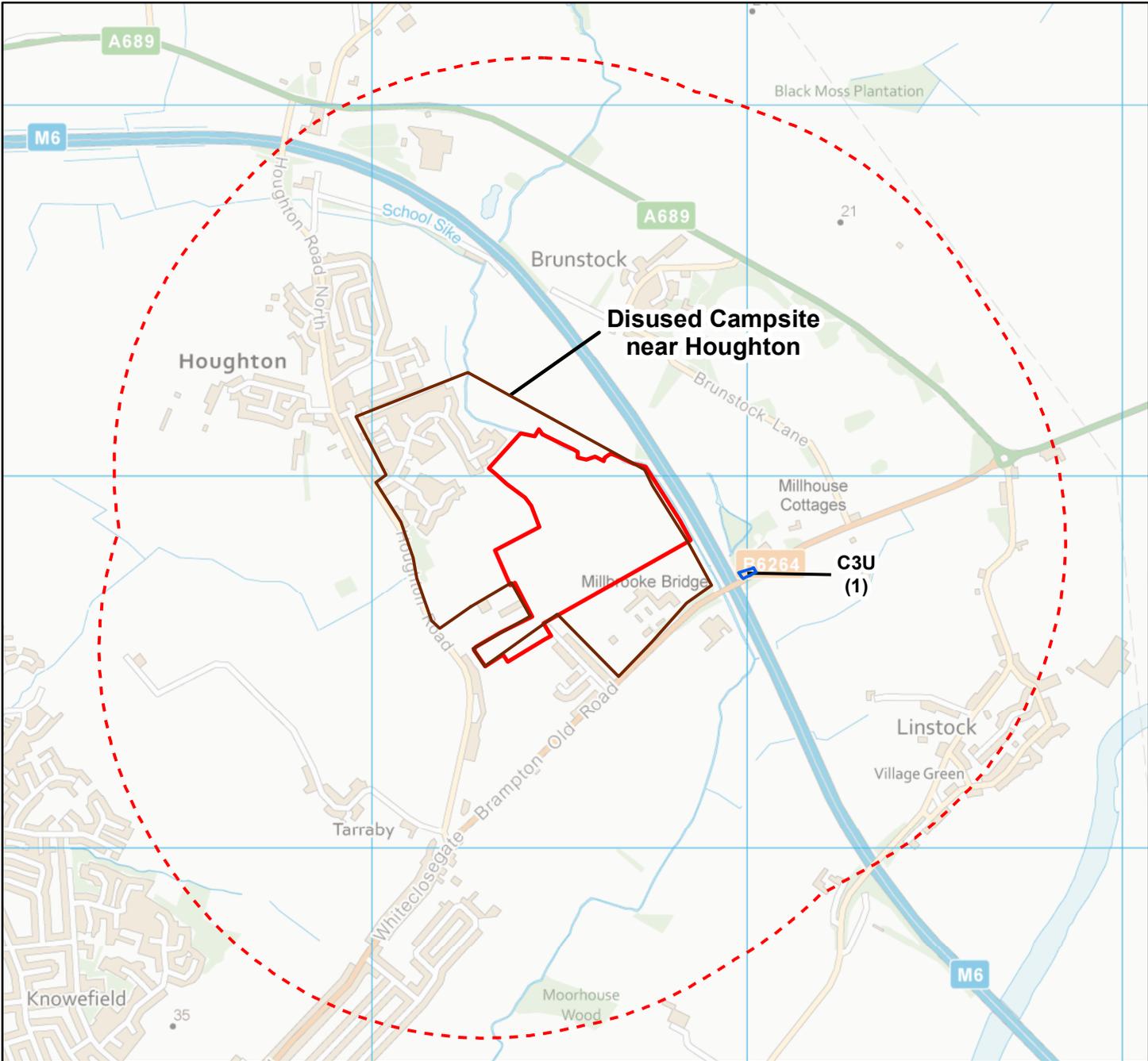
**APPENDIX 3**



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

**For: PAULA BATESON at APPLETONS**  
Centroid: NY41477 58814  
Site Name: Hadrian's Camp, Centurians Walk, Houghton, Carlisle  
Search Buffer: 1km  
Search Date: 15/10/2015

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



**Key**

- Site Boundary
- - - 1km Buffer

County Wildlife Sites

Special Roadside Verges



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](mailto:dataofficer@cbdc.org.uk)

## CUMBRIA COUNTY WILDLIFE SITES

<b>SITE NAME:</b>	Disused Campsite near Houghton	<b>SITE REF:</b>	CA-NY45-01
<b>Planning Authority</b>	Carlisle City Council	<b>District</b>	Carlisle
<b>Review Status</b>	Deferred	<b>Review Date</b>	
<b>Survey Status</b>	No Recent Survey (access permission refused)	<b>Survey Date</b>	
<b>Grid Reference</b>	NY 414 588	<b>Area (ha)</b>	43.34
<b>Site Description</b>			
<p>A large disused campsite representing a significant area of semi-natural habitat including species-rich grassland, scrub and mature trees. Tall herbs are abundant including common knapweed (<i>Centaurea nigra</i>) and wood cranesbill (<i>Geranium sylvaticum</i>), and there are also some patches of heather (<i>Calluna vulgaris</i>). Birch (<i>Betula pendula</i>) are common, and scrub is dominated by willow (<i>Salix</i> spp.). The area includes a section of orchid-rich grassland comprising turves relocated from the northern area which has been developed, and which is managed sympathetically by Carlisle City Council under agreement with Cumbria Wildlife Trust.</p>			
<p><b>This form may contain privileged and confidential information. Permission must be obtained from Cumbria Wildlife Trust before reproducing or divulging information contained on this form to any party not directly in receipt of the form from the copyright holders.</b></p>			
<b>Owner</b>	Private		
<b>Guidelines for Selection</b>			

**Print Date: 02/07/2010**



# Cumbria Biodiversity Data Centre (CBDC): UK Main Priority Habitats

For: PAULA BATESON at APPLETONS

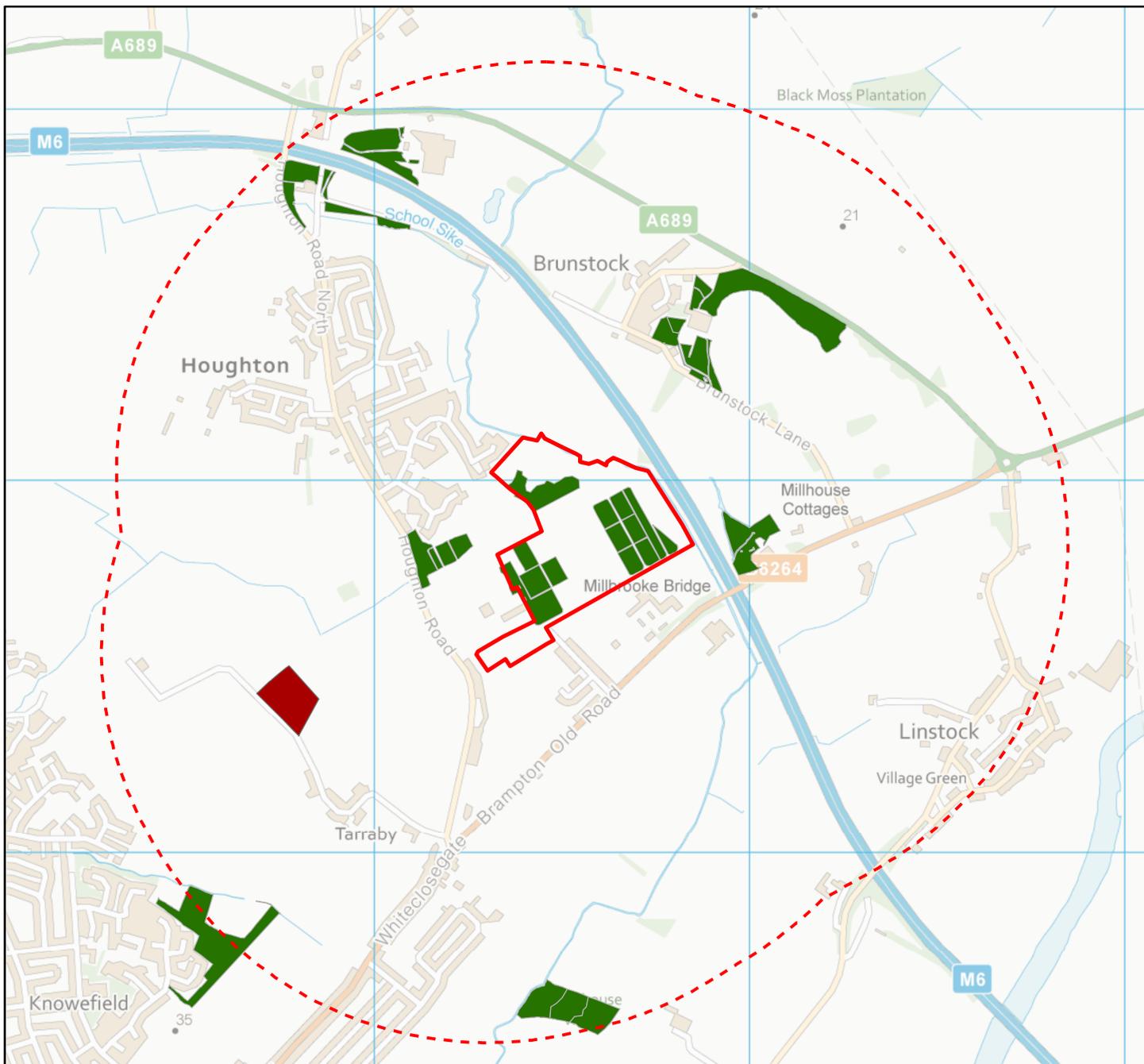
Centroid: NY41477 58814

Site Name: Hadrian's Camp, Centurians Walk, Houghton, Carlisle

Search Buffer: 1km

Search Date: 15/10/2015

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



**Key**

- Site Boundary
- - - 1km Buffer

- Traditional orchard
- Deciduous woodland

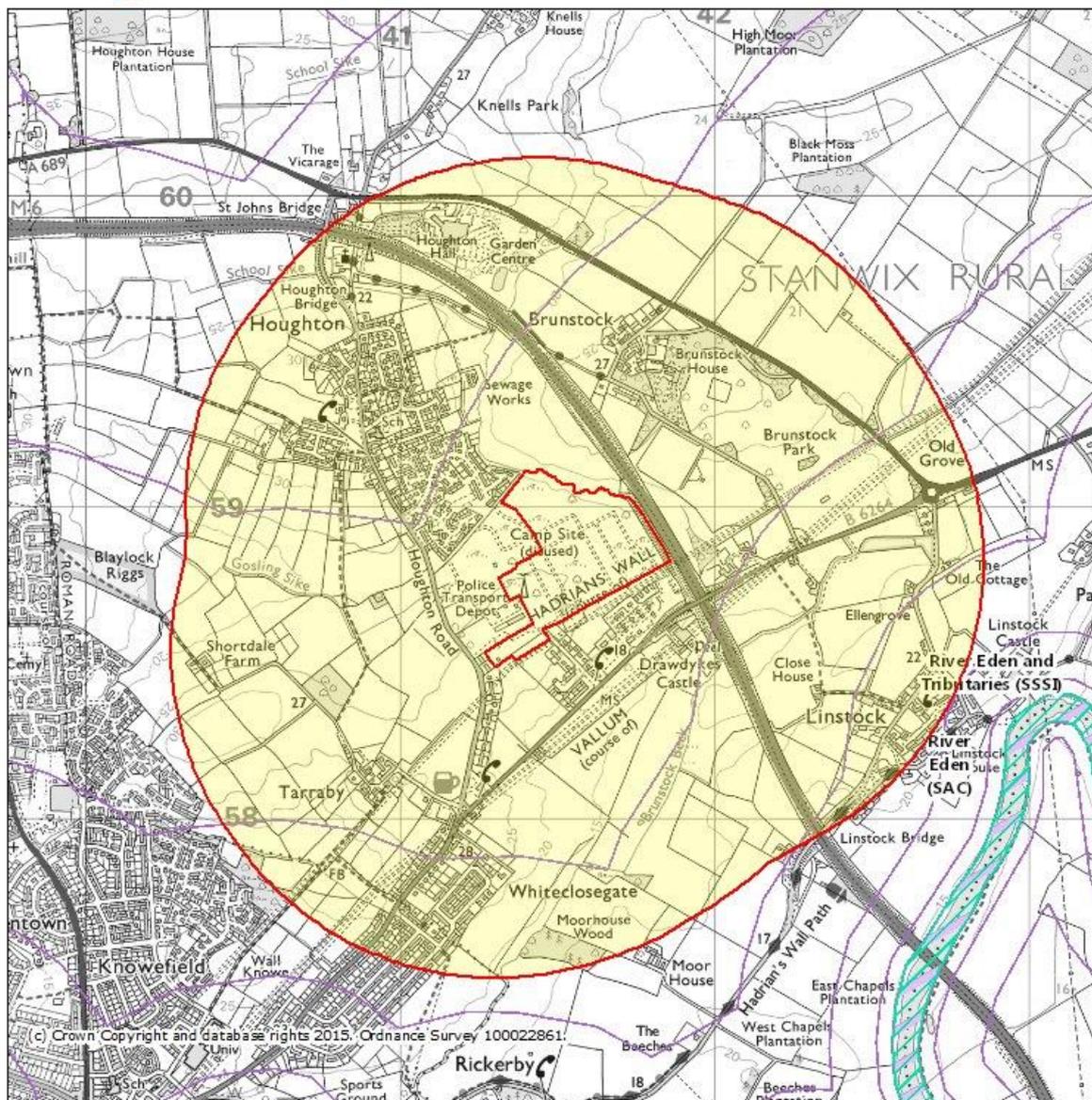
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Any queries in the first instance contact:  
Dr Moustafa Eweda  
Biological Data Officer  
Cumbria Biodiversity Data Centre (CBDC)

T. 01228 618770  
E. [dataofficer@cbdc.org.uk](mailto:dataofficer@cbdc.org.uk)





Legend

-  Local Nature Reserves (England)
-  National Nature Reserves (England)
-  Ramsar Sites (England)
-  Sites of Special Scientific Interest (England)

Projection = OSGB36

xmin = 339100

ymin = 557300

xmax = 343800

ymax = 560400

Map produced by MAGIC on 4 November, 2015.

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## MAGIC SITE CHECK RESULTS

Site Check Report Report generated on Tue Oct 27 2015

**You selected the location:** Centroid Grid Ref: NY415588

The following features have been found in your search area:

### **SSSI Impact Risk Zones – to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)**

#### **GUIDANCE – How to use the Impact Risk Zones**

[/Metadata for magic/SSSI IRZ User Guidance v2.3 MAGIC 14Aug2015.pdf](#)

#### **1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?**

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

#### **All Planning Applications**

##### **Infrastructure**

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

##### **Wind & Solar Energy**

Solar schemes with footprint > 0.5Ha, all wind turbines.

##### **Quarry**

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc.

##### **Rural Non Residential**

Large non residential developments outside existing settlements/urban areas where footprint exceeds 1Ha.

##### **Residential**

Residential development of 100 units or more.

##### **Rural Residential**

Any residential development of 50 or more houses outside existing settlements/urban areas.

##### **Air Pollution**

Pig & Poultry Units. Any other development/ industrial or commercial process that could cause AIR POLLUTION.

##### **Combustion**

General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment

##### **Waste**

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

##### **Composting**

Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

##### **Discharges**

Any discharge of water or liquid waste that is more than 2m<sup>3</sup>/day. The water needs to either be discharged to ground (ie to seep away) or to surface water, such as a beck or stream. Discharges to main

##### **Water Supply**

Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m<sup>2</sup> or any development needing its own water supply.

#### **Local Nature Reserves (England) - points**

No Features found

#### **Local Nature Reserves (England)**

No Features found

#### **National Nature Reserves (England) - points**

No Features found

#### **National Nature Reserves (England)**

No Features found

#### **Ramsar Sites (England) - points**

No Features found

#### **Ramsar Sites (England)**

No Features found

#### **Sites of Special Scientific Interest Units (England) - points**

No Features found

#### **Sites of Special Scientific Interest Units (England)**

No Features found

#### **Special Areas of Conservation (England) - points**

No Features found

#### **Special Areas of Conservation (England)**

No Features found

#### **Special Protection Areas (England) - points**

No Features found

#### **Special Protection Areas (England)**

No Features found