



Cleator Mills, Cleator Proposed housing development

Preliminary Ecological Appraisal



A report by
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For Gleason Homes
30 July 2019

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1. Introduction

This is a preliminary ecological appraisal of proposals for a housing development of 136 homes on land in Cleator, Cumbria. The key objectives of this preliminary appraisal are to identify:

- the likely ecological constraints associated with the project;
- any mitigation measures which may be required;
- any additional surveys which might be required to inform an Ecological Impact Assessment; and
- any opportunities offered by the project to deliver ecological enhancements.

2. Methodology

2.1. Desk study

A desk study was carried out to identify any international, national or local nature conservation designations within or near to the Site and to obtain and evaluate any relevant existing ecological information. The study area for the desk study extended to 2km from the approximate centre of the Site (Grid Reference NY 0201 1389).

2.2. Phase 1 ecological habitats survey

Vegetation within the site was surveyed and mapped in accordance with the JNCC Phase 1 Habitat Survey Classification at a scale of 1:2,500. Vegetation boundaries were checked using Google Earth aerial photos. Written descriptions of the vegetation types is given, including the principal component species of the vegetation, together with an assessment of their abundance using the DAFOR (Dominant Abundant Frequent Occasional Rare) scale.

2.3. Bat Roost Potential

Table 1: Bat Roost Potential in Trees

Roost Potential	Criteria
High	Trees with many cracks and holes or other potential roost features, with some of them high up
Medium	Trees with a few potential roost features
Low	Trees with no suitable potential roost features
Roost features:	<ul style="list-style-type: none"> • Woodpecker holes • Rot holes where branches have been removed • Loose bark, trunk and branch splits, snags and cracks • Dense epicormic growth • Dense ivy and other dense climbers such as honeysuckle • Hollow sections of trunk, branches and roots • Cavities beneath old root buttresses and coppice stools • Bat or bird boxes

The bat roost potential of trees within the site were assessed for bat roost potential using the criteria detailed in Table 1.

2.4. Assessment

Assessment of ecological value and the significance of impacts follows the guidance given in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal, 2nd edition, 2017.

3. Baseline Conditions

3.1. Desk study

Designated sites

Figure 1 shows the designated sites present within 2km of the application boundary. The River Ehen (Ennerdale Water to Keekle Confluence) Site of Special Scientific Interest (SSSI) and River Ehen Special Area of Conservation (SAC) lies 17m east of the proposed development. The River Ehen SAC and SSSI are both designated for the river's population of freshwater pearl mussel *Margaritifera margaritifera*. Clints Quarry SSSI lies 1.49km south-west of the proposed development and is designated for its calcareous and neutral grassland and geological features.

There are four Cumbria Wildlife Sites (CWS) within two kilometres of the proposed development. The reasons for their designation are given in Table 2.

Table 2: Cumbria Wildlife Sites

Site Name	Description	Distance from Site
River Ehen Ponds	A series of ponds with tall fen vegetation.	1.52km
Longlands Lake	A flooded mine of importance for breeding birds.	856m
Birkhouse Pond	An area of marshy grassland, willow carr and a pond with surrounding fen.	1.36km
Parkside Pond	Species rich grassland.	1.74km

Rare and protected species

Records from the Cumbria Biodiversity Records Centre are shown in Map 2 and Table 3. Great crested newt are recorded from ponds in Clints Quarry and the River Ehen Ponds CWS. Both sites are over one kilometre from the proposed development. Common lizard and slow-worm are recorded from Clints Quarry.

A number of bat species are recorded from the general area, with several pipistrelle roosts present in houses to the south-west of the site. Otter are present along the River Ehen. Red squirrel are widely recorded from the general area, including from within Cleator and a number of records are from the last five years suggesting that red squirrel are still extant in the area despite the presence of grey squirrel. The only badger record is from the A5086 over 600m south-west of the proposals. There are a large number of records for hedgehog from within Cleator, including from the A5086 adjacent to the proposed development.

Freshwater pearl mussel are present along the length of the River Ehen.

The majority of bird records are tetrad (4km squares) records, those which are more specific are mainly from Longlands Lake and Clints Quarry, none are from the immediate vicinity of the proposals.

Legislation

Freshwater pearl mussel

Freshwater pearl mussel *Margaritifera margaritifera* and its habitat are fully protected by law, under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Annex 2 of the Habitats Directive.

Great crested newt

The great crested newt *Triturus cristatus* is protected under the Wildlife and Countryside Act 1981 (as amended), and under The Habitats Regulations, 1994 (as amended). It is illegal to deliberately capture, injure or kill a great crested newt, to intentionally or recklessly disturb great crested newts, or to deliberately take or destroy the eggs of great crested newts. It is also illegal to damage, destroy or intentionally or recklessly obstruct access to a breeding or resting place used by a great crested newt. All life stages of great crested newts are afforded the same level of protection.

Reptiles

Adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*, are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against deliberate and/or intentional killing, injuring and trade.

Badgers

Badgers *Meles meles* and their setts are protected under the Protection of Badgers Act (1992). Licenses are required from Natural England to exclude badgers from a sett and to 'close' it if there will be a direct impact from development. Further to this, disturbance licences are likely to be required if the following activities occur closer to a badger sett than the distances specified below:

- Digging or scrub clearance within 10 m of an active sett;
- Use of light machinery (wheeled vehicles etc.) within 20 m of an active sett;
- Basic activities and heavy machines (such as JCBs) within 30 m of a sett;

Under the terms of the act a badger sett is defined as "any structure or place which displays signs indicating current use by a badger". Disturbance under licence can normally only be undertaken between July and November inclusive (outside of the breeding season).

Otter

The otter *Lutra lutra* is afforded legal protection both in Europe and the UK through the Habitats Regulations (1994, as amended) and the Wildlife & Countryside Act (1981, as amended). It is therefore, illegal to intentionally, deliberately or recklessly kill, injure, disturb or take an otter, or to deliberately damage, destroy or obstruct access to a place used for shelter or protection by an otter. Furthermore, under the Habitat Regulations the offence to deliberately disturb otters includes

disturbance in such a way that would affect the ability of any significant group of otters to survive, breed or nurture their young, or the local distribution or abundance of otters. The otter is listed as a priority species in the UK BAP.

Bats

It is illegal to deliberately capture, injure or kill a bat and to intentionally or recklessly disturb bats. It is also illegal to damage, destroy or intentionally or recklessly obstruct access to a breeding or resting place used by a bat. The legislation is contained with the Wildlife and Countryside Act 1981 (as amended) and The Habitats Regulations, 1994, (as amended).

Red squirrel

Red squirrels *Sciurus vulgaris* and their resting places are fully protected in Britain under the Wildlife and Countryside Act 1981 (as amended). It is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places. Finally it is an offence to disturb them in their breeding or resting places.

Birds

During the breeding season all wild birds, their nests, eggs and young are protected from harm under the Wildlife and Countryside Act (1981 as amended). Therefore the development proposals and clearance of any breeding habitat would need to take account of this legal requirement. Hen harrier is listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) and is afforded greater protection of its nest sites.

3.2. Site survey

The site was surveyed on 7th June 2019. Map 3 shows the ecological habitats present, whilst site notes are presented in Appendix 1. The entire site is improved grassland which at the time of survey was apparently unmanaged. The sward is composed of perennial rye-grass *Lolium perenne* and crested dog's-tail *Cynosurus cristatus* with abundant creeping buttercup *Ranunculus repens* and ribwort plantain *Plantago lanceolata* and frequent daisy *Bellis perennis*, white clover *Trifolium repens*, dandelion *Taraxacum officinale*, red fescue *Festuca rubra*, common bent *Agrostis capillaris*, sweet vernal-grass *Anthoxanthum odoratum*, red clover *Trifolium pratense*, common cat's-ear *Hypochaeris radicata* and common mouse-ear *Cerastium fontanum*, making it moderately herb-rich, though not species rich. Within this main sward there are areas of disturbed grassland with abundant cock's-foot *Dactylis glomerata*, rough meadow-grass *Poa trivialis*, meadow foxtail *Alopecurus pratensis*, chickweed *Stellaria media*, creeping thistle *Cirsium arvense*, broadleaved dock *Rumex obtusifolius*, greater plantain *Plantago major*, pineapple weed *Matricaria discoidea*.

Within the field there is a small length of remnant hedgerow (site note 1 and Photo 1) and several groups of mature trees. The trees at the southern end of the site are sycamores and have moderate potential to host bat roosts (Photo 6). In the centre of the site there are two mature oaks with high potential for bat roosts and a group of mature sycamores again with moderate potential for bat roosts (Photos 4 and 5). At the northern end there is a mature oak and horse chestnut both with high potential for bat roosts.

Along the south-west boundary of the site a small stream runs along the site boundary for 45m, later flowing into the River Ehen some 140m downstream of the site boundary. This stream has a silty unvegetated bed with steep banks, which to the west consist of stonework (site note 2 and Photo 3).

Along the A5086 boundary there is a bank below the road which supports bramble scrub with young ash and sycamore trees along part of its length and a short section of herb-rich grassland where the bramble has been cleared (site note 4 and Photo 8).

4. Ecological Constraints

There are two main ecological constraints to development of the site.

The stream on the south-west boundary flows in to the River Ehen SAC and SSSI only 150m downstream of the site boundary. This raises the potential for pollution impacts on the SAC either of sediment from excavation and earthmoving activities or via spillages of oils and lubricants. Either could have severe impacts upon the population of freshwater pearl-mussel downstream of the site.

The proposed layout for the housing scheme retains the mature trees present within the site within areas of public open space and gardens, however if any of these trees were to be felled there is potential to commit an offence if any of these trees were to be felled without a prior bat roost survey as bats and their roosts are fully protected under the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2010).

5. Likely Mitigation Measures

To prevent potential adverse pollution impacts upon the River Ehen SAC it is proposed that construction follows the good practice guidance of by *Guidance for Pollution Prevention 5: Works and maintenance in or near water*¹. Whilst strictly speaking this guidance applies to Scotland, Wales and Northern Ireland only, in the absence of similar guidance for England, it is considered to be the best currently available. In addition to following this guidance it is suggested that during construction a temporary bund or impermeable barrier should be erected along the length of this stream to remove the potential for pollution of the River Ehen.

6. Further Survey Requirements

Provided that the mature trees within the site are retained as part of the scheme landscaping no further surveys are required. If however one or more are to be felled then the trees to be felled will need to be surveyed for the presence of roosting bats by a suitably qualified ecologist prior to felling. If bats are found to be present in a tree then it can only be felled under the terms of a European Protective Species License issued by Natural England.

¹ Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency (NIEA) and Natural Resources Wales (NRW) 2018. *Works and maintenance in or near water: GPP 5 v1.2*.

<http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-pggs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/> [accessed 24th July 2019].

7. Opportunities for Biodiversity Enhancement

Biodiversity could be enhanced by the planting of a hedgerow along the eastern site boundary.

8. Photographs



Photo 1 Looking south along remnant hedgebank



Photo 2 Looking south across southern half of site



Photo 3 Beck along site boundary (site note 2)



Photo 4 Mature trees in centre of site



Photo 5 Main group of mature trees in centre of site



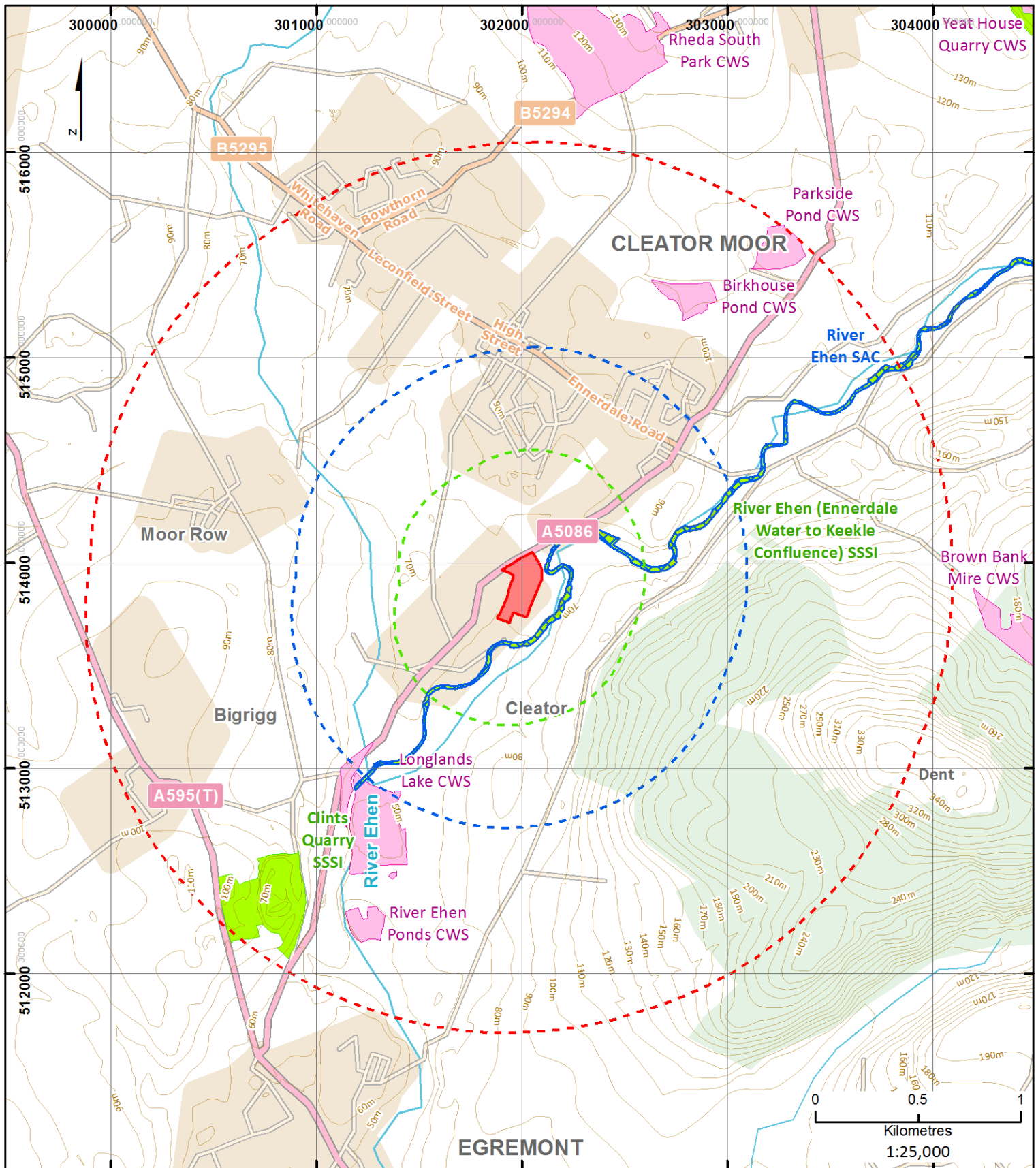
Photo 6 Mature sycamore on southern boundary



Photo 7 Hedgebank along western boundary (site note 3)



Photo 8 Bank below A5086 (site note 4)



Cleator Mills, Cleator

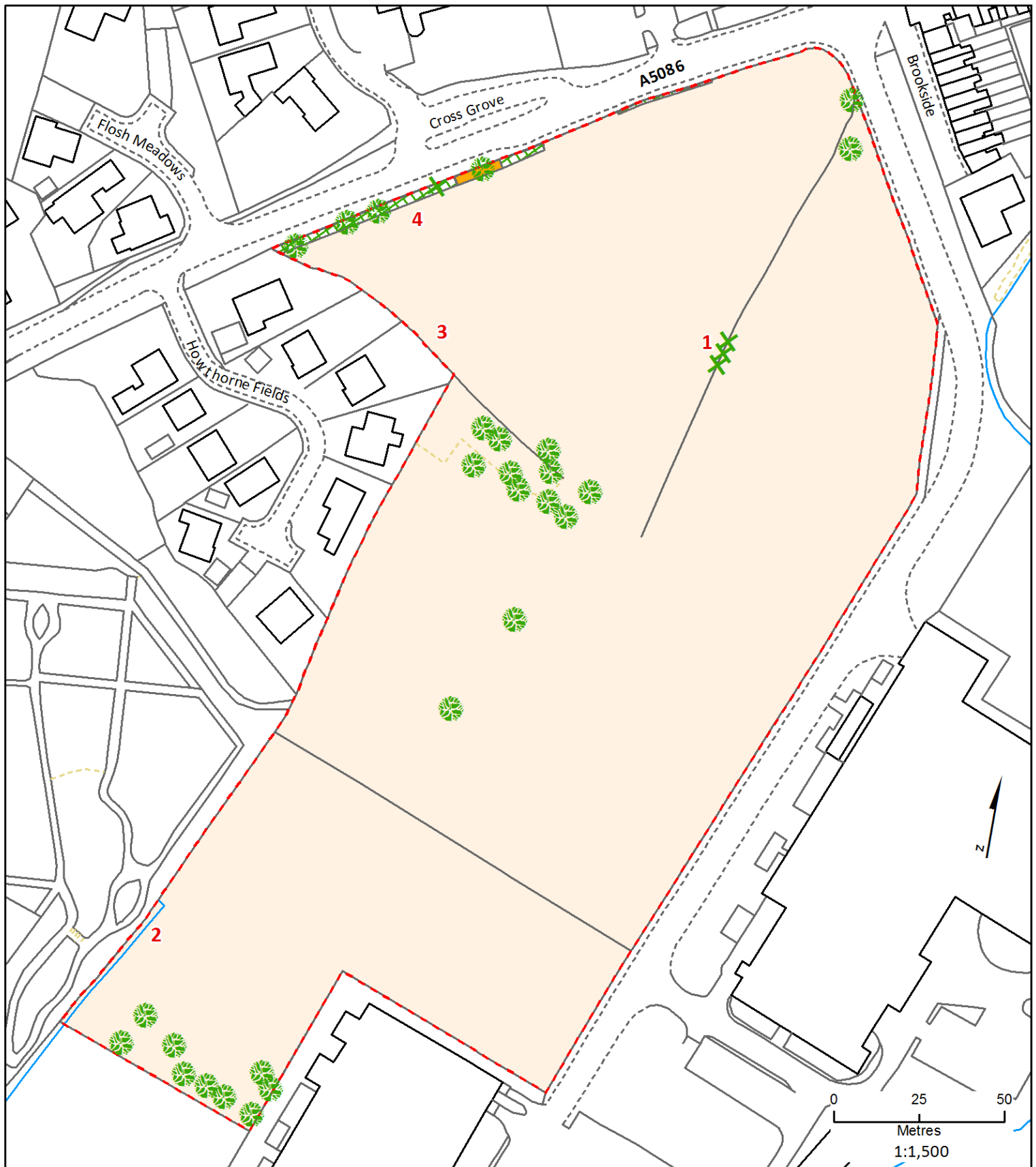
Map 1 Designated Sites

- Site boundary
- Special Areas of Conservation
- 2 km buffer
- Sites of Special Scientific Interest
- 1 km buffer
- Cumbria Wildlife Sites
- 500 m buffer

Drawn by R Jerram 21 June 2019










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Cleator Mills, Cleator

Map 3 Ecological Habitats

-  Boundary
-  Improved Grassland
-  Neutral Grassland
-  Scrub
-  Target note
-  Broadleaved Tree
-  Shrub

Survey by R Jerram 7 June 2019



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Table 3: Rare and Protected Species within 2km

Common Name	Scientific Name	No. Records	Year	Minimum Distance (km)	Habitats Directive	Birds Directive	Biodiversity Action Plan (2007)	Wildlife and Countryside Act	IUCN Red List post 2001	GB Red List post 2001	Birds of Conservation Concern 4	Biodiversity Lists - England	Conservation Regulations 2011	Cumbria LBAP	Other rarity
Fish															
Atlantic Salmon	Salmo salar	8	1997 - 2004	0.84	Annexes 2 & 5		Yes					Yes	Schedule 4	Yes	
Amphibians															
Common Toad	Bufo bufo	18	1987 - 2011	0.65			Yes	Schedule 5 sect 9.5a				Yes		Yes	
Great Crested Newt	Triturus cristatus	9	1988 - 2011	0.65	Annexes 2 & 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	
Reptiles															
Slow-worm	Anguis fragilis	1	2009	1.45			Yes	Schedule 5 sects 9.1(killing/injuring) & 9.5a				Yes		Yes	
Common Lizard	Zootoca vivipara	1	1988	2.06			Yes	Schedule 5 sects 9.1(killing/injuring) & 9.5a				Yes		Yes	
Mammals															
Bats	Chiroptera	3	1996 - 2011	0.66	Annexes 2 & 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	
West European Hedgehog	Erinaceus europaeus	40	1995 - 2016	0.12			Yes			Vulnerable		Yes		Yes	
European Otter	Lutra lutra	13	2002 - 2018	0.22	Annexes 2 & 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	
Eurasian Badger	Meles meles	1	2011	0.87											
Unidentified Bat	Myotis	1	2012	1.32	Annexes 2 & 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	
Daubenton's Bat	Myotis daubentonii	4	1996 - 2017	0.75	Annex 4			Schedule 5 sects 9.4b, 9.4c & 9.5a					Schedule 2	Yes	
Whiskered Bat	Myotis mystacinus	2	1991	0.78	Annex 4			Schedule 5 sects 9.4b, 9.4c & 9.5a		Data deficient			Schedule 2	Yes	
Natterer's Bat	Myotis nattereri	2	2017	0.75	Annex 4			Schedule 5 sects 9.4b, 9.4c & 9.5a					Schedule 2	Yes	
Noctule Bat	Nyctalus noctula	1	2011	1.32	Annex 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	
Pipistrelle Bat species	Pipistrellus	3	1986 - 1995	0.90	Annex 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a		Near threatened		Yes	Schedule 2	Yes	
Unidentified UK Pipistrelle	Pipistrellus pipistrellus	6	2002 - 2012	0.36	Annex 4			Schedule 5 sects 9.4b, 9.4c & 9.5a					Schedule 2	Yes	
Soprano Pipistrelle	Pipistrellus pygmaeus	5	2009 - 2017	0.59	Annex 4		Yes	Schedule 5 sects 9.4b, 9.4c & 9.5a				Yes	Schedule 2	Yes	

Table 3: Rare and Protected Species within 2km

Common Name	Scientific Name	No. Records	Year	Minimum Distance (km)	Habitats Directive	Birds Directive	Biodiversity Action Plan (2007)	Wildlife and Countryside Act	IUCN Red List post 2001	GB Red List post 2001	Birds of Conservation Concern 4	Biodiversity Lists - England	Conservation Regulations 2011	Cumbria LBAP	Other rarity
Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	99	1990 - 2015	0.16			Yes	Schedule 5 sects 9.1(killing/injuring & taking), 9.2, 9.4a, 9.4b, 9.4c & 9.5a		Endangered		Yes		Yes	
Plants															
Bluebell	<i>Hyacinthoides non-scripta</i>	4	2009	1.30				Schedule 8							
Limestone Woundwort	<i>Stachys alpina</i>	2	2009	1.45				Schedule 8							NR-excludes
Beetles															
Amara praetermissa	<i>Amara praetermissa</i>	1	1985	2.06											Notable-B
Hygrotus quinquelineatus	<i>Hygrotus quinquelineatus</i>	1	1991	2.06											Notable-B, NS-excludes
Nebrioporus depressus	<i>Nebrioporus depressus</i>	1	2005	0.84						Near threatened					Notable-B
Orthochaetes setiger	<i>Orthochaetes setiger</i>	1	1982	2.00											Notable-B
Thamioocolus viduatus	<i>Thamioocolus viduatus</i>	2	1992 - 1998	1.20											Notable-B
Bloody-nosed Beetle	<i>Timarcha tenebricosa</i>	2	1999 - 2003	0.64											Nationally Rare
Tropiphorus terricola	<i>Tropiphorus terricola</i>	1	1982	1.78											Notable-B
Butterflies															
Small Pearl-bordered Fritillary	<i>Boloria selene</i>	1	1982	1.48			Yes			Near threatened		Yes		Yes	
Small Heath	<i>Coenonympha pamphilus</i>	29	1983 - 2016	1.57			Yes			Near threatened		Yes		Yes	
Dingy Skipper	<i>Erynnis tages</i>	44	1983 - 2016	1.58			Yes			Vulnerable		Yes		Yes	
Dingy Skipper	<i>Erynnis tages tages</i>	38	1998 - 2017	1.58			Yes			Vulnerable		Yes		Yes	
Grayling	<i>Hipparchia semele</i>	6	1987 - 1998	1.49			Yes			Vulnerable		Yes		Yes	
Wall	<i>Lasiommata megera</i>	42	1988 - 2016	0.79			Yes			Near threatened		Yes		Yes	
Dragonflies															
Emperor Dragonfly	<i>Anax imperator</i>	1	2017	2.00											Nationally Rare
Beautiful Demoiselle	<i>Calopteryx virgo</i>	1	1992	1.49											Nationally Rare
Golden-ringed Dragonfly	<i>Cordulegaster boltonii</i>	4	1999 - 2009	1.22											Nationally Rare
Keeled Skimmer	<i>Orthetrum coerulescens</i>	1	2007	1.01											Nationally Rare

Table 3: Rare and Protected Species within 2km

Common Name	Scientific Name	No. Records	Year	Minimum Distance (km)	Habitats Directive	Birds Directive	Biodiversity Action Plan (2007)	Wildlife and Countryside Act	IUCN Red List post 2001	GB Red List post 2001	Birds of Conservation Concern 4	Biodiversity Lists - England	Conservation Regulations 2011	Cumbria LBAP	Other rarity
Moths															
Latticed Heath	Chiasmia clathrata	2	2000 - 2002	1.66			Yes					Yes		Yes	
Scarce Grass-veneer	Crambus pratella	2	1995 - 2009	1.71											Notable-B
White Ermine	Spilosoma lubricipeda	1	1995	1.86			Yes					Yes		Yes	
Cinnabar	Tyria jacobaeae	9	1995 - 2015	0.70			Yes					Yes		Yes	
Bugs															
Dictyla convergens	Dictyla convergens	1	2007	1.55											Nationally Rare
Hairy Shieldbug	Dolycoris baccarum	6	1984 - 2017	1.86											Nationally Rare
Pachybrachius fracticollis	Pachybrachius fracticollis	1	1987	1.20											Nationally Rare
Green Shieldbug	Palomena prasina	1	2014	1.78											Nationally Rare
Scolopostethus grandis	Scolopostethus grandis	2	1990 - 1997	1.01											Nationally Rare
Flies															
Herina lugubris	Herina lugubris	2	1987 - 1991	1.80											Nationally Rare
Urophora cuspidata	Urophora cuspidata	1	1987	1.80											Notable
Molluscs															
Freshwater pearl mussel	Margaritifera margaritifera	3	1995	0.63	Annexes 2 & 5		Yes	Schedule 5 sects 9.1(killing/injuring & taking), 9.2, 9.4a, 9.4b, 9.4c & 9.5a	Endangered	Critical		Yes		Yes	
Birds															
Lesser Redpoll	Acanthis cabaret	8	2009	1.35			Yes				Red List	Yes		Yes	
Common (Mealy) Redpoll	Acanthis flammea	1	1998	1.33							Amber List				
Goshawk	Accipiter gentilis	1	2009	3.06				Schedule 1 pt 1							
Common Sandpiper	Actitis hypoleucos	4	1998 - 2009	1.33							Amber List				
Skylark	Alauda arvensis	11	1998 - 2010	1.33							Red List	Yes		Yes	
Kingfisher	Alcedo atthis	2	2000 - 2009	1.35		Annex 1		Schedule 1 pt 1			Amber List				
Shoveler	Anas clypeata	1	1998	1.35							Amber List				
Teal	Anas crecca	4	2008 - 2010	1.35							Amber List				
Mallard	Anas platyrhynchos	34	1995 - 2012	1.33							Amber List				
Gadwall	Anas strepera	1	2012	1.35							Amber List				
Greylag Goose	Anser anser	5	1999 - 2010	1.35				WACA-Sch1part2			Amber List				
Meadow Pipit	Anthus pratensis	15	1997 - 2009	1.33							Amber List				

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Tree Pipit	Anthus trivialis	5	1998 - 2010	1.33			Yes				Red List	Yes		Yes	
Swift	Apus apus	19	1997 - 2010	1.33							Amber List				
Pochard	Aythya ferina	9	1999 - 2012	1.35							Red List				
Goldeneye	Bucephala clangula	6	2007 - 2010	1.35				WACA-Sch1part2			Amber List				
Black-headed Gull	Chroicocephalus ridibundus	17	2008 - 2012	1.35							Amber List				
Dipper	Cinclus cinclus	28	1997 - 2012	1.30							Amber List				
Stock Dove	Columba oenas	2	1998 - 2009	1.35							Amber List				
Cuckoo	Cuculus canorus	6	1998 - 2009	0.74			Yes				Red List	Yes		Yes	
Whooper Swan	Cygnus cygnus	2	2010 - 2011	1.35		Annex 1		Schedule 1 pt 1			Amber List				
Mute Swan	Cygnus olor	15	1998 - 2012	1.30							Amber List				
House Martin	Delichon urbicum	13	1997 - 2010	1.35							Amber List				
Yellowhammer	Emberiza citrinella	15	1997 - 2010	1.33			Yes				Red List	Yes		Yes	
Reed Bunting	Emberiza schoeniclus	17	1997 - 2012	1.33			Yes				Amber List	Yes		Yes	
Peregrine	Falco peregrinus	5	1995 - 2008	1.35		Annex 1		Schedule 1 pt 1							
Kestrel	Falco tinnunculus	20	1995 - 2010	1.33							Amber List				
Pied Flycatcher	Ficedula hypoleuca	1	1998	1.35							Red List				
Brambling	Fringilla montifringill	4	2008 - 2011	1.35				Schedule 1 pt 1							
Snipe	Gallinago gallinago	4	2008 - 2010	1.35							Amber List				
Oystercatcher	Haematopus ostralegus	3	1998 - 2010	1.35							Amber List				
Herring Gull	Larus argentatus	51	1999 - 2012	1.33							Red List				
Common Gull	Larus canus	3	2009 - 2010	1.48							Amber List				
Lesser Black-backed Gull	Larus fuscus	6	2008 - 2010	1.48							Amber List				
Linnet	Linaria cannabina	15	1997 - 2010	1.33							Red List			Yes	
Grasshopper Warbler	Locustella naevia	3	1997 - 2010	1.33			Yes				Red List	Yes		Yes	
Common Crossbill	Loxia curvirostra	3	2008 - 2010	1.33				Schedule 1 pt 1							
Grey Wagtail	Motacilla cinerea	16	1995 - 2009	1.33							Red List				
Spotted Flycatcher	Muscicapa striata	8	1998 - 2009	1.33			Yes				Red List	Yes		Yes	
Curlew	Numenius arquata	14	1997 - 2010	1.33			Yes		Near threatened		Red List	Yes		Yes	
Whimbrel	Numenius phaeopus	1	2009	3.07				Schedule 1 pt 1			Red List				
House Sparrow	Passer domesticus	54	1997 - 2011	1.33			Yes				Red List	Yes		Yes	
Tree Sparrow	Passer montanus	5	2009 - 2010	1.50			Yes				Red List	Yes		Yes	
Grey Partridge	Perdix perdix	3	1998 - 2009	1.35			Yes				Red List	Yes		Yes	
Wood Warbler	Phylloscopus sibilatrix	1	1998	1.35			Yes				Red List	Yes		Yes	
Willow Warbler	Phylloscopus trochilus	39	1995 - 2011	1.33							Amber List				
Duncock	Prunella modularis	65	1995 - 2011	1.33							Amber List			Yes	
Bullfinch	Pyrrhula pyrrhula	21	1995 - 2010	1.33							Amber List			Yes	
Tawny Owl	Strix aluco	3	1995 - 1998	1.33							Amber List				
Starling	Sturnus vulgaris	51	1997 - 2011	1.33							Red List			Yes	

Table 3: Rare and Protected Species within 2km

Common Name	Scientific Name	No. Records	Year	Minimum Distance (km)	Habitats Directive	Birds Directive	Biodiversity Action Plan (2007)	Wildlife and Countryside Act	IUCN Red List post 2001	GB Red List post 2001	Birds of Conservation Concern 4	Biodiversity Lists - England	Conservation Regulations 2011	Cumbria LBAP	Other rarity
Redshank	<i>Tringa totanus</i>	1	1999	1.35							Amber List				
Redwing	<i>Turdus iliacus</i>	8	1995 - 2009	0.66				Schedule 1 pt 1			Red List				
Song Thrush	<i>Turdus philomelos</i>	49	1995 - 2010	1.33							Red List			Yes	
Fieldfare	<i>Turdus pilaris</i>	16	2007 - 2009	1.33				Schedule 1 pt 1			Red List				
Mistle Thrush	<i>Turdus viscivorus</i>	28	1997 - 2011	1.33							Red List				
Barn Owl	<i>Tyto alba</i>	7	1993 - 2010	1.35				Schedule 1 pt 1						Yes	
Lapwing	<i>Vanellus vanellus</i>	2	1998 - 1999	1.35			Yes				Red List	Yes		Yes	

9. Appendix 1

Site Notes

1. Three mature hawthorn bushes and an elder on a former field boundary marked by the remains of a hedge bank. nettle *Urtica dioica* is abundant on the dyke below the trees along with frequent broadleaved dock *Rumex obtusifolius*, greater plantain *Plantago major*, creeping buttercup *Ranunculus repens*, wood avens *Geum urbanum*, cock's-foot *Dactylis glomerata*, rough meadow-grass *Poa trivialis* and cleavers *Galium aparine*.
2. Small beck running along the south-west boundary of the site. The channel is 1.5m wide with steep more-or-less vertical banks, the western bank being stonework. The bed is silty and has no aquatic vegetation. The banks have frequent male fern *Dryopteris filix-mas*, broad buckler-fern *Dryopteris dilatata*, hart's-tongue fern *Phyllitis scolopendrium*, bramble *Rubus fruticosus*, creeping buttercup *Ranunculus repens* and herb Robert *Geranium robertianum*. The upper (northern) two thirds of the ditch is dry with abundant creeping buttercup *Ranunculus repens*, nettle *Urtica dioica* over bare soil with occasional cock's-foot *Dactylis glomerata*, rough meadow-grass *Poa trivialis*, hedge woundwort *Stachys sylvatica*, red campion *Silene dioica* and northern dock *Rumex longifolius*.
3. Former hedgerow on dyke forming site boundary with mature hawthorn and elder with semi-mature sycamore and ash trees over nettle *Urtica dioica*, red campion *Silene dioica*, cleavers *Galium aparine*, herb Robert *Geranium robertianum*, creeping buttercup *Ranunculus repens* and cock's-foot *Dactylis glomerata*.
4. 1.5m high bank below A5086. The southern end has young elder, ash, sycamore and hawthorn over abundant bramble *Rubus fruticosus*, nettle *Urtica dioica* and cleavers *Galium aparine* whilst to the north there are no trees and bramble *Rubus fruticosus* and nettle *Urtica dioica* predominate except for a section where the bramble has been removed to expose the stonework and there is abundant oxeye daisy *Leucanthemum vulgare* and common cat's-ear *Hypochaeris radicata* in the joints with frequent field horsetail *Equisetum arvense*, red clover *Trifolium pratense*, common bent *Agrostis capillaris*, sweet vernal-grass *Anthoxanthum odoratum*, common knapweed *Centaurea nigra*, germander speedwell *Veronica chamaedrys* and ribwort plantain *Plantago lanceolata*.