Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG1 NUNEATON - NORTH

Prepared by

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and

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Contents

Housing Site: HSG1 North of Nuneaton 3
Area: 215.2 HA 3
Overview 3
Key Features 4
Recommendations 4
Designated Sites: Local Sites 5
Phase 1 Habitat Distinctiveness 7
Target Notes 7
Biodiversity Units 13
Phase 1 Habitat Connectivity 17
Constraints Map 20

Housing Site: HSG1 North of Nuneaton

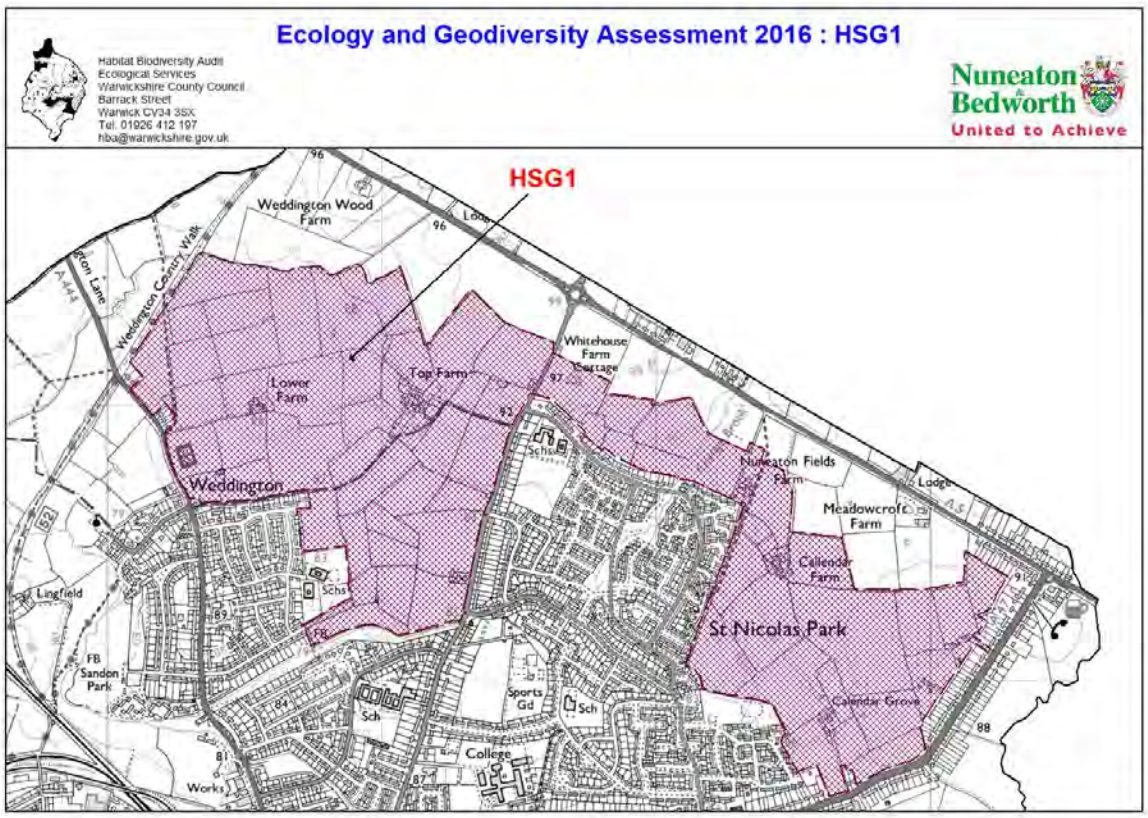


Figure 1 Location map

Area: 215.2 HA

Overview

HSG1 forms a large continuous section of proposed development extending across the northern part of Nuneaton close to the Leicestershire County Boundary. The compartment encompasses mixed arable and pasture farmland from the A47, The Long Shoot which meets the A5 in the East to Hungry Hill and the disused Nuneaton branch line of the Ashby and Nuneaton Joint Railway Line to the West. The southern boundary incorporates St Nicolas park and abounds the existing residential areas of Weddington and Milby particularly the farmsteads of Callendar Farm, Nuneaton Fields Farm and Top farm The development parcel encompasses development sections identified previously in the Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment 2014 as PDA1, PDA2 and PDA10. As such sections have been developed for housing directly behind Calendar Grove and the Recreation Ground off Buttermere Avenue, Baskerville Road and to the

upmost western extent to both the former Oaks Nurseries on the A5 Weddington Road and Lower Farm behind Grove Fields Road.

HSG1 totals 209.8 ha and comprises of 27 fields of arable farmland totalling 121.54 ha and 19 fields of improved grassland of 36.6 ha. Consequently, 75% of the development parcel comprises mixed farmland. 2 fields currently comprise of 2 ha of neutral semi-improved grassland, the most valuable grassland within the development parcel. Similarly, rank and tussocky poor semi-improved grassland comprises 11.3 ha.

Weddington Country Walk marks the western boundary and provides a very valuable corridor of scrub and trees for wildlife in the largely open arable landscape of north Nuneaton.

Key Features

- Weddington Country Walk Linear wildlife site and wildlife corridor
- Remnant hedgerows and trees

Recommendations

- Enhance the boundary and ecological function of the Weddington Country Walk LWS
- There is strong east-west connective along various hedgerows with the proposed area and these should be retained and enhanced to form green infrastructure throughout any proposals taken forward
- Veteran and standard trees within the mature boundary features should be retained.
- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.
- Protected species surveys will be required and their habitat requirements retained and connectivity enhanced within any development layout.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

Weddington Country Walk

This 8 hectare LWS directly abounds part of the development parcel's western boundary. The LWS comprises a 2km stretch of disused railway line situated on the northern outskirts of Nuneaton in the former parish of Weddington. The LWS runs from the mainline Nuneaton-Tamworth railway north-north-east to the A5 Watling Street and is on an embankment for the whole of this distance, but it includes a 300m long triangular basin at the southern end, south of the River Anker over which the railway passes. The whole stretch of LWS is now a public cycleway and footpath known as Weddington Country Walk, which was developed in the early 1980's. This links up with the adjoining Coventry Canal walk at the southern end.

The railway was opened in 1866 as the Ashby and Nuneaton Joint Railway, connecting the town with Ashby-de-la-Zouch in north-west Leicestershire. The last regular passenger service ceased in 1931 but the line continued to be used for freight until the last station closed in 1967.

The embankment is entirely made up from imported materials and is fairly calcareous in places, producing species-rich grassland unusual in the Nuneaton area.

Although less than 1km from the town centre at the southern end, the railway passes through an almost entirely rural landscape, with small pasture fields adjoining the suburb of Weddington and in the Anker valley, and larger arable fields to the west, as well as to the north of Weddington Lane. Most of these fields were also under pasture until the 1960's but have been largely ploughed up since then with the resulting loss of numerous hedgerows and field ponds.

At the northern end of the site adjacent to Watling Street, the railway formerly abutted the west side of a large ancient woodland (Weddington Wood) which was grubbed up in the late 19th century. The embankment here is well-wooded and still holds a number of woodland plant species.

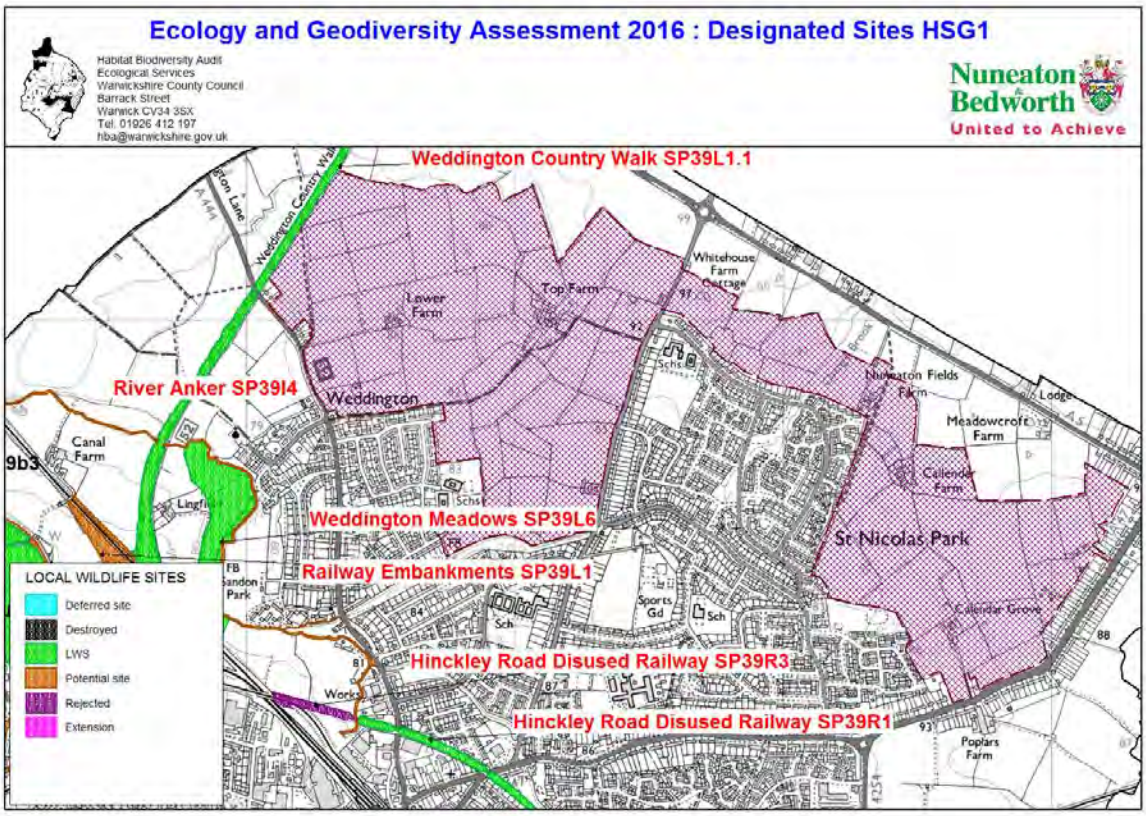


Figure 2 Site Designation Map

Phase 1 Habitat Distinctiveness

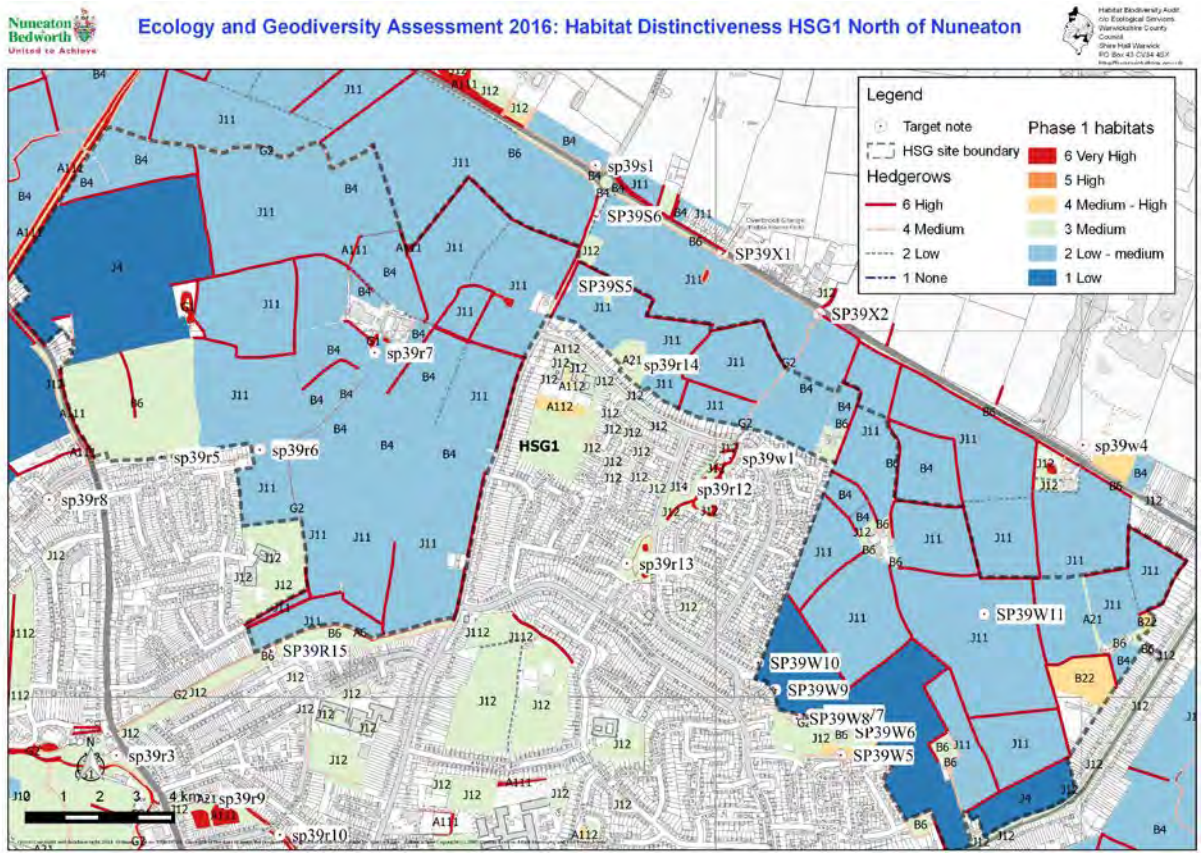


Figure 3 Phase 1 habitat disitnctiveness

Target Notes

Reference	Grid Reference	Location
SP39R12	**SP3791593562**	

Amenity grassland with a shallow stream of occasional great willowherb (Epilobium hirsutum), bittersweet (Solanum dulcamara), common nettle (Urtica dioica), brooklime (Veronica beccabunga), cock's-foot (Dactylis glomerata), false oat-grass (Arrhenatherum elatius), clover (Trifolium sp.) and soft rush (Juncus effusus).

SP39R13	**SP3775793359**

Enclosed area of poor semi-improved grassland with cat's ear (Hypochaeris radicata), dock (Rumex sp.), groundsel (Senecio vulgare), clover (Trifolium sp.), creeping buttercup (Ranunculus repens), cock's-foot (Dactylis glomerata), yarrow (Achillea millefolium), dandelion (Taraxacum officinale agg.), spear thistle (Cirsium vulgare), greater plantain (Plantago major), daisy (Bellis perennis), wild radish (Raphanus raphanistrum), oats (Helictotrichon spp.), common chickweed (Stellaria media) and shepherd's-purse (Capsella bursa-

pastoris). UPDATED 20/07/2011 Now a small patch of semi-natural broad-leaved woodland.

SP39R14 SP3777093902

Small semi-improved meadow with some scrub composed of blackthorn (Prunus spinosa), elder (Sambucus nigra), hawthorn (Crataegus monogyna) and bramble (Rubus fruticosus agg). Ground flora includes occasional spear thistle (Cirsium vulgare), ribwort plantain (Plantago lancelota), wild teasel (Dipsacus fullonum), dock (Rumex sp.), dandelion (Taraxacum officinale agg.), vetchling (Lathyrus sp.), cow parsley (Anthriscus sylvestris), common ragwort (Senecio jacobaea), common nettle (Urtica dioica), false oat-grass (Arrhenatherum elatius), creeping thistle (Cirsium arvense), weld (Reseda luteola) and cock's-foot (Dactylis

SP39R15 SP3678393121

Newly created patch of poor semi-improved neutral grassland, designated as a wildlife area beside a playground with species of common knapweed (Centaurea nigra), common bird's-foot trefoil (Lotus corniculatus), yarrow (Achillea millefolium) and ribwort plantain (Plantago lancelota).

SP39R3 SP3636292835

Poor semi-improved grassland with stream running through it with frequent cock's-foot (Dactylis glomerata), occasional common nettle (Urtica dioica), dock (Rumex spp.), a dead-nettle (Lamium sp.), creeping cinquefoil (Potentilla reptans), ribwort plantain (Plantago lancelota), dandelion (Taraxacum officinale agg.), yarrow (Achillea millefolium), cow parsley (Anthriscus sylvestris), bramble (Rubus fruticosus agg.) common couch (Elytrigia repens), common ragwort (Senecio jacobaea), false oat-grass (Arrhenatherum elatius), common bent (Agrostis capillaris). Riverside vegetation includes occasional dog-rose (Rosa canina), hawthorn (Crataegus monogyna), a clover (Trifolium spp.), vetchling (Lathyrus sp.), wild angelica (Angelica sylvestris), hairy willowherb (Epilobium hirsutum) and creeping thistle (Cirsium arvense). This piece of land will be opened up to the public by Nuneaton and Bedworth Borough Council as a nature reserve in the future.

SP39R4 SP3601393317 Weddington Meadows

Weddington Meadows comprises poor semi-improved grassland with occasional meadowsweet (Filipendula ulmaria), cow parsley (Anthriscus sylvestris), creeping thistle (Cirsium arvense), vetchling (Lathyrus sp.), meadow buttercup (Ranunculus acris), perennial rye-grass (Lolium perenne), common couch (Elytrigia repens), cock's-foot (Dactylis glomerata), common field speedwell (Veronica persica), ground-ivy (Glechoma hederacea), a sow thistle (Sonchus sp.) and timothy (Phleum pratense). Updated: 20/07/2011 Now improved grassland.

SP39R5 SP3648593650

Bridleway with scrub of elm (Ulmus sp.), blackthorn (Prunus spinosa) and hawthorn (Crataegus monogyna) with a ground flora comprising of occasional cleavers (Galium aparine), hedge bedstraw (Galium mollugo), dandelion (Taraxacum officinale agg.), cow parsley (Anthriscus sylvestris), bramble (Rubus fruticosus agg.), common nettle (Urtica dioica), an angelica (Angelica sp.), white dead-nettle (Lamium album), dog rose (Rosa canina), honesty (Lunaria annua), feverfew (Tanacetum parthenium), creeping cinquefoil (Potentilla reptans), snowberry (Symphoricarpos albus), common chickweed (Stellaria media), colt's-foot (Tussilago farfara), a vetchling (Lathyrus sp.), groundsel (Senecio vulgaris), cock's-foot (Dactylis glomerata), dwarf mallow (Malva neglecta) and common toadflax (Linaria vulgaris).

SP39R6 SP3675493669

Poor semi-improved grassland with tall ruderal herbs of dominant common nettle (Urtica dioica) and willowherb (Epilobium sp.). Updated 20/07/2011 Now improved grassland.

SP39R7 SP3706793935

Poor semi-improved grassland with occasional creeping thistle (Cirsium arvense), dock (Rumex sp.), an angelica (Angelica sp.) and common nettle (Urtica dioica). UPDATED 20/07/2011 Now improved grassland.

SP39R8 SP3617893533

Poor semi-improved grassland with occasional dandelion (Taraxacum officinale agg.), common nettle (Urtica dioica), wild teasel (Dipsacus fullonum), bramble (Rubus fruticosus agg.) creeping buttercup (Ranunculus repens), dock (Rumex spp.), willowherb (Epilobium spp.), cow parsley (Anthriscus sylvestris) and spurge (Euphorbia sp.) Updated 20/07/2011 Now destroyed by development.

SP39S1 SP3767194446

A5 Watling Street Road Verge with dominant cock's-foot (Dactylis glomerata), occasional mugwort (Artemisia vulgaris), yarrow (Achillea millefolium), ribwort plantain (Plantago lancelota), dandelion (Taraxacum officinale agg.), white dead-nettle (Lamium album), cat's-ear (Hypochaeris radicata), bramble (Rubus fruticosus agg.), creeping thistle (Cirsium arvense), dock and creeping cinquefoil (Potentilla reptans). Updated 20/07/2011 Now tall ruderal.

SP39S2 SP3697894768

Semi-improved grassland with frequent tall ruderals including spear thistle (Cirsium vulgare) and common nettle (Urtica dioica). UPDATED 20/07/2011 Now improved grassland.

SP39S3 SP3651894828

Weddington Country Walk LWS is the old disused Nuneaton Tamworth Railway Line with frequent cock's-foot (Dactylis glomerata) and wild carrot (Daucus carota) with

occasional black medick (Medicago lupulina), cat's-ear (Hypochaeris radicata), yarrow (Achillea millefolium), upright hedge-parsley; ladies bedstraw (Galium verum), clover (Trifolium spp.), ribwort plantain (Plantago lancelota), meadow vetchling (Lathyrus pratensis), hogweed (Heracleum sphondylium), common ragwort (Senecio jacobaea), perforate St. John's-wort (Hypericum perforatum), mugwort (Artemisia vulgaris), common knapweed (Centaurea nigra), weld (Reseda luteola), burnet saxifrage and Canadian fleabane. Edges of cutting lined with pedunculate oak (Quercus robur) trees, hawthorn (Crataegus monogyna) and dog-rose (Rosa canina). Updated 20/07/2011 :As described with meadow vetchling (Lathyrus pratensis), rosebay willowherb (Chamerion angustifolium), goat's-beard (Tragopogon pratensis), lords-and-ladies (Arum maculatum), common toadflax (Linaria vulgaris) and common bird's-foot-trefoil (Lotus corniculatus).

SP39S4 SP3625794733
Dried up pond which has been partially used for rubbish dumping. Has some clumps of common nettle (Urtica dioica) and is surrounded by hawthorn (Crataegus monogyna) and pedunculate oak (Quercus robur).

SP39S5 SP3759194117
Regularly managed hedge predominately of field maple (Acer campestre) with hawthorn (Crataegus monogyna), ash (Fraxinus excelsior), ivy (Hedera helix) and dog rose (Rosa canina). The associated ground flora comprises of cleavers (Galium aparine), groundsel (Senecio vulgare), dandelion (Taraxacum officinale agg.) and smooth sow-thistle (Sonchus arvensis).

SP39S6 SP3766994308

The hedge marking Whitehouse Farm to the Nuneaton Road/A5 roundabout includes hawthorn (Crataegus monogyna), cleavers (Galium aparine) and ash (Fraxinus excelsior).

SP39W1 SP3803993647 Milby Drive

Small stream with some scrub comprising of willow (Salix sp.), ash (Fraxinus excelsior), oak (Quercus robur), bramble (Rubus fruticosus agg.), blackthorn (Prunus spinosa) and dog rose (Rosa canina). Other plants present include horsetail (Equisetum sp.), great willowherb (Epilobium hirsutum), cock's-foot (Dactylis glomerata), field maple (Acer campestre) and cow parsley (Anthriscus sylvestris).

Updated 14/02/2014: The Change Brook flows under Milby Drive from the adjacent arable farmland with sections of marginal vegetation of bulrush (Typha latifolia) and scrub at the water's edge. The stream edge becomes woody with hawthorn (Crataegus monogyna), cleavers (Galium aparine), ash (Fraxinus excelsior), common nettle (Urtica dioica), bramble (Rubus fruticosus agg.), ivy (Hedera helix), dandelion (Taraxacum officinale agg.) and planted red-osier dogwood (Cornus sericea).

SP39W10 SP3811593088 Buttermere Avenue/Callendar Close

Flailed hedge marking a public footway between housing of Buttermere Avenue and Callender Close is predominately composed of blackthorn (Prunus spinosa) and hawthorn (Crataegus monogyna) with rare field maple (Acer campestre), ash (Fraxinus excelsior), ivy (Hedera helix), dog rose (Rosa canina) and elder (Sambucus nigra).

SP39W11 SP3873393220

Arable farmland currently sown with a cover crop of perennial rye-grass (Lolium perenne) bordered by intact but gappy hawthorn (Crataegus monogyna) hedges.

SP39W4 SP3900393682

Semi-improved grassland with strictly no access but from roadside appeared to be of moderate quality.

SP39W5 SP3834192835

Planted Lombardy poplars (Populus sp.) and Norway maple (Acer platanoides) mark the boundary between the adjacent housing.

SP39W6 SP3834692898

Spoil mound close to the play area (refurbished in 1995) was covered by poor semi-improved grassland of cock's-foot (Dactylis glomerata), common nettle (Urtica dioica), creeping thistle (Cirsium arvense), daisy (Bellis perennis), yarrow (Achillea millefolium) and occasional saplings of goat willow (Salix caprea).

SP39W7 SP3826192946

Linear scrub borders the amenity grassland of the Buttermere Avenue Recreation Ground consisting predominately of blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna), dog rose (Rosa canina), field maple (Acer campestre), and elder (Sambucus nigra). Larger trees of alder (Alnus glutinosa), sycamore (Acer pseudoplatanus), crab apple (Malus sylvestris), cherry (Prunus avium) and an ash tree standard with high bat potential accompany the scrub. The scrub is dominated by an associated ground flora of common nettle (Urtica dioica), great willowherb (Epilobium hirsutum), bramble (Rubus fruticosus agg), broad-leaved dock (Rumex obtustifolius), cow parsley (Anthriscus sylvestris), false oat-grass (Arrhenatherum elatius), cleavers (Galium aparine) and white dead-nettle (Lamium album). The scrub is accompanied by a dry ditch.

The scrub held a good number of potential breeding birds including great spotted woodpecker (Dendrocopos major), great tit (Parus major), greenfinch (Carduelis chloris), robin (Erithacus rubecula), dunnock (Prunella modularis), blackbird (Turdus merula), woodpigeon (Columba palumbus) and long-tailed tit (Aegithalos caudatus).

The accompanying amenity grassland held dandelion (Taraxacum officinale sp.), spear thistle (Cirsium vulgare), perennial rye-grass (Lolium perenne), red clover (Trifolium pratense) and ribwort plantain (Plantago lancelota).

SP39W8 SP3822292935

The shallow fast-flowing water of the storm drain was bordered by cock's-foot (Dactylis glomerata), timothy (Phleum pratense), creeping bent (Agrotis stolonifera), ribwort plantain (Plantago lancelota), creeping cinquefoil (Potentilla reptans) and sprawling bramble (Rubus fruticosus agg.).

SP39W9 SP3816393014 Longford Road

The arable field bordering scrub and housing held on its edge; garden spoil with germander speedwell (Veronica chamaedrys), cleavers (Galium aparine), hedge mustard (Sisymbrium officinale), cock's-foot (Dactylis glomerata), smooth sow-thistle (Sonchus arvense), petty spurge (Euphorbia peplus) and cow parsley (Anthriscus sylvestris).

Area of scrub close to the Longford Road consisting of blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna) and bramble (Rubus fruticosus agg.) with a ground flora including hogweed (Heracleum sphondylium) and common couch (Elytrigia repens).

SP39X2 SP3828394040 Change Brook

The Change Brook is bordered by wet woodland of alder (Alnus glutinosa), Lombardy poplars (Populus sp.) and hawthorn scrub (Crataegus monogyna).

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 4 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

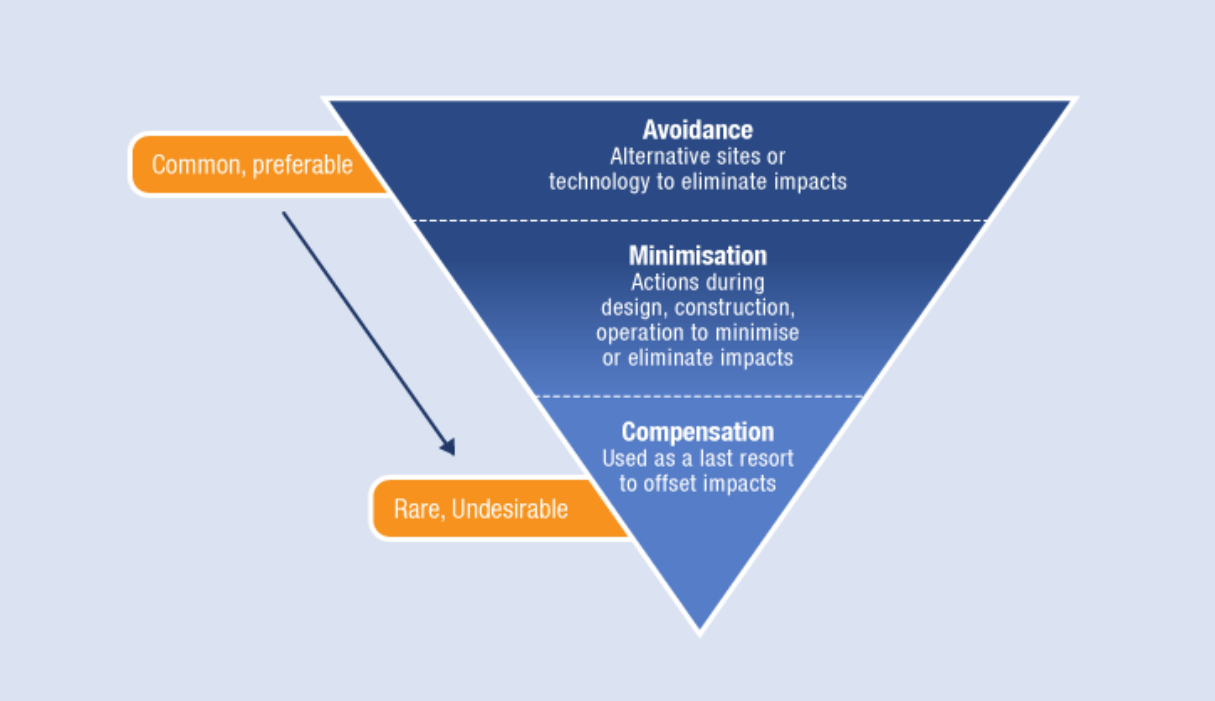


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

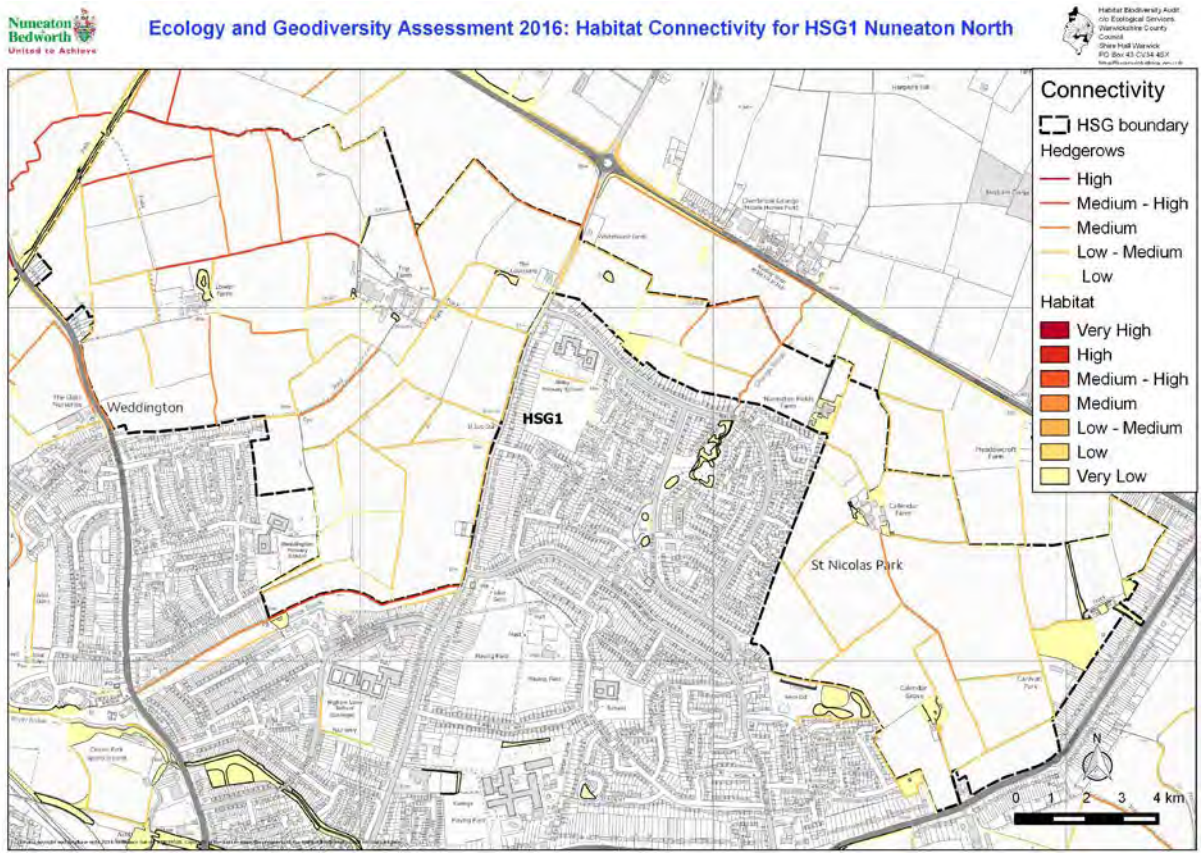
In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG1	Running water	0.01	6	3	0.26
HSG1	Improved grassland	1.91	2	1	3.82
HSG1	Standing water	0.00	6	3	0.02
HSG1	Arable	8.92	2	1	17.84
HSG1	Improved grassland	3.05	2	1	6.10
HSG1	Arable	5.37	2	1	10.73
HSG1	Dense/continuous scrub	0.06	3	2	0.34
HSG1	Amenity grassland	0.00	2	1	0.00
HSG1	Improved grassland	3.92	2	1	7.83
HSG1	Improved grassland	1.84	2	1	3.67
HSG1	Arable	4.29	2	1	8.58
HSG1	Standing water	0.03	6	3	0.49
HSG1	Improved grassland	2.43	2	1	4.85
HSG1	Improved grassland	9.96	2	1	19.91
HSG1	Running water	0.04	6	3	0.71
HSG1	Improved grassland	2.86	2	1	5.71
HSG1	Running water	0.00	6	3	0.07
HSG1	Improved grassland	4.26	2	1	8.52
HSG1	Semi-improved neutral grassland	0.48	4	3	5.79
HSG1	Improved grassland	3.33	2	1	6.67
HSG1	Improved grassland	2.65	2	1	5.31
HSG1	Broad-leaved semi-natural woodland	0.09	6	3	1.68
HSG1	Running water	0.00	6	3	0.00
HSG1	Running water	0.02	6	3	0.34
HSG1	Improved grassland	3.57	2	1	7.14
HSG1	Standing water	0.04	6	3	0.68
HSG1	Standing water	0.01	6	3	0.12
HSG1	Arable	1.01	2	1	2.03
HSG1	Running water	0.02	6	3	0.41
HSG1	Improved grassland	1.05	2	1	2.10
HSG1	Improved grassland	3.39	2	1	6.78
HSG1	Improved grassland	1.76	2	1	3.53
HSG1	Arable	2.66	2	1	5.32
HSG1	Running water	0.03	6	3	0.55
HSG1	Amenity grassland	0.00	2	1	0.01
HSG1	Improved grassland	0.33	2	1	0.67
HSG1	Improved grassland	2.78	2	1	5.56
HSG1	Improved grassland	4.04	2	1	8.08
HSG1	Improved grassland	2.68	2	1	5.36
HSG1	Improved grassland	3.10	2	1	6.20
HSG1	Running water	0.03	6	3	0.47
HSG1	Arable	3.86	2	1	7.72
HSG1	Arable	2.14	2	1	4.28
HSG1	Arable	3.53	2	1	7.06
HSG1	Improved grassland	3.47	2	1	6.94
HSG1	Broad-leaved semi-natural woodland	0.00	6	3	0.01
HSG1	Improved grassland	10.64	2	1	21.28
HSG1	Standing water	0.20	6	3	3.62
HSG1	Improved grassland	0.37	2	1	0.74

HSG1	Dense/continuous scrub	0.02	3	2	0.14
HSG1	Improved grassland	1.03	2	1	2.05
HSG1	Improved grassland	0.20	2	1	0.40
HSG1	Improved grassland	0.27	2	1	0.53
HSG1	Improved grassland	0.05	2	1	0.09
HSG1	Standing water	0.03	6	3	0.49
HSG1	Improved grassland	0.41	2	1	0.82
HSG1	Improved grassland	2.88	2	1	5.76
HSG1	Improved grassland	2.75	2	1	5.49
HSG1	Improved grassland	2.61	2	1	5.22
HSG1	Arable	8.47	2	1	16.95
HSG1	Improved grassland	6.61	2	1	13.21
HSG1	Improved grassland	0.93	2	1	1.86
HSG1	Arable	6.21	2	1	12.42
HSG1	Arable	3.09	2	1	6.18
HSG1	Arable	3.97	2	1	7.93
HSG1	Arable	2.74	2	1	5.48
HSG1	Arable	12.17	2	1	24.34
HSG1	Arable	0.00	2	1	0.01
HSG1	Arable	3.89	2	1	7.77
HSG1	Arable	3.32	2	1	6.64
HSG1	Improved grassland	0.66	2	1	1.32
HSG1	Arable	6.52	2	1	13.05
HSG1	Arable	4.52	2	1	9.04
HSG1	Improved grassland	0.84	2	1	1.68
HSG1	Arable	3.00	2	1	6.01
HSG1	Improved grassland	0.31	2	1	0.62
HSG1	Poor Semi-improved grassland	0.08	3	2	0.51
HSG1	Amenity grassland	0.04	2	1	0.08
HSG1	Poor Semi-improved grassland	0.08	3	2	0.46
HSG1	Poor Semi-improved grassland	0.06	3	2	0.33
HSG1	Standing water	0.01	6	3	0.12
HSG1	Dense/continuous scrub	0.04	3	2	0.24
HSG1	Improved grassland	3.34	2	1	6.69
HSG1	Running water	0.02	6	3	0.34
HSG1	Running water	0.01	6	3	0.26
HSG1	Arable	1.58	2	1	3.16
HSG1	Arable	2.20	2	1	4.39
HSG1	Arable	3.24	2	1	6.48
HSG1	Arable	2.24	2	1	4.48
HSG1	Semi-improved grassland	1.85	4	3	22.20
HSG1	Amenity grassland	0.00	2	1	0.01
HSG1	Arable	3.35	2	1	6.69
HSG1	Semi-improved grassland	0.15	4	3	1.77
HSG1	Poor Semi-improved grassland	0.12	3	2	0.70
HSG1	Dense/continuous scrub	0.01	3	2	0.08
HSG1	Dense/continuous scrub	0.18	3	2	1.06
HSG1	Improved grassland	0.52	2	1	1.03
HSG1	Poor Semi-improved grassland	0.42	3	2	2.54
HSG1	Allotments	0.11	2	1	0.23
HSG1	Standing water	0.00	6	3	0.08

HSG1	Poor Semi-improved grassland	0.07	3	2	0.41
HSG1	Allotments	0.07	2	1	0.14
HSG1	Semi-improved neutral grassland	0.06	3	2	0.39
HSG1	Dense/continuous scrub	0.07	3	2	0.39
HSG1	Poor Semi-improved grassland	0.10	3	2	0.62
HSG1	Poor Semi-improved grassland	0.21	3	2	1.27
HSG1	Poor Semi-improved grassland	0.00	3	2	0.01
HSG1	Arable	4.06	2	1	8.12
				Biodiversity Units	**456.66**

Phase 1 Habitat Connectivity



Protected & Important Species

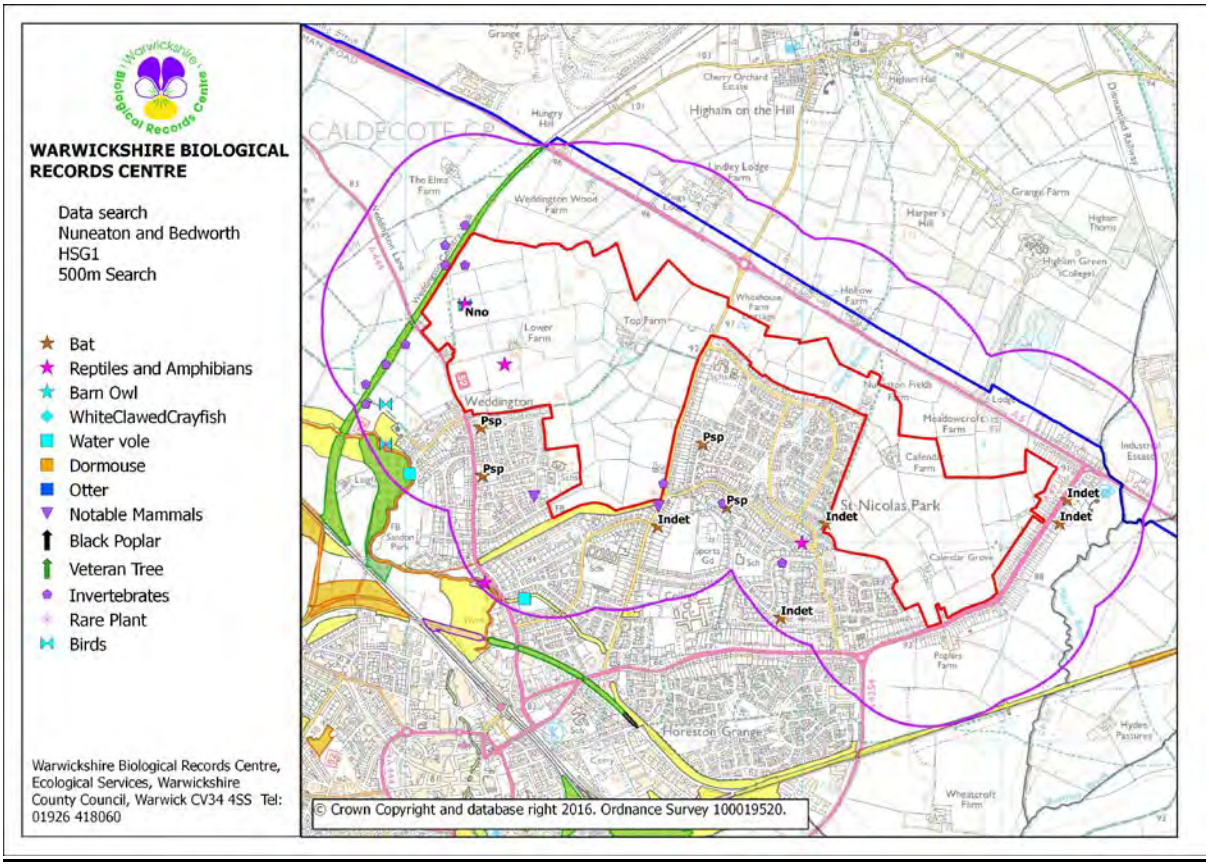
There are the following protected and/or important species[1] recorded within the proposed boundary:

- Badger
- Bats: *Myotis sp*, Daubentons, Noctule, Common Pipistrelle, Soprano Pipistrelle
- Birds: Skylark, yellowhammer, house sparrow.
- Reptiles & Amphibians: Great Crested Newt
- Invertebrates: Wall butterfly

There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate bats,
- Mammals: Water Vole, Hedgehog
- Invertebrates: Small Tiphia (wasp), Longitarsus agilis (beetle), Agrilus (Anambus) laticornis (beetle), Rustic (Moth)
- Birds: Cuckcoo, Lesser Spotted Woodpecker, Hobby, Herring Gull, Linnet, yellow wagtail, Spotted Flycatcher, Tree Sparrow, Grey Partridge, Willow Tit, Marsh Tit, Turtle Dove, Starling, Redwing, Song Thrush, Fieldfare and Lapwing,
- County Rare Plants: Corn Buttercup and Marsh Ragwort.

[1] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronical records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.


WARWICKSHIRE BIOLOGICAL RECORDS CENTRE
Data search
Nuneaton and Bedworth
HSG1
500m Search
Bat
Reptiles and Amphibians
Barn Owl
WhiteClawedCrayfish
Water vole
Dormouse
Otter
Notable Mammals
Black Poplar
Veteran Tree
Invertebrates
Rare Plant
Birds
Warwickshire Biological Records Centre, Ecological Services, Warwickshire County Council, Warwick CV34 4SS Tel: 01926 418060
Higham on the Hill
Weddington
St Nicolas Park
Horeston Grange
Nno
Psp
Indet
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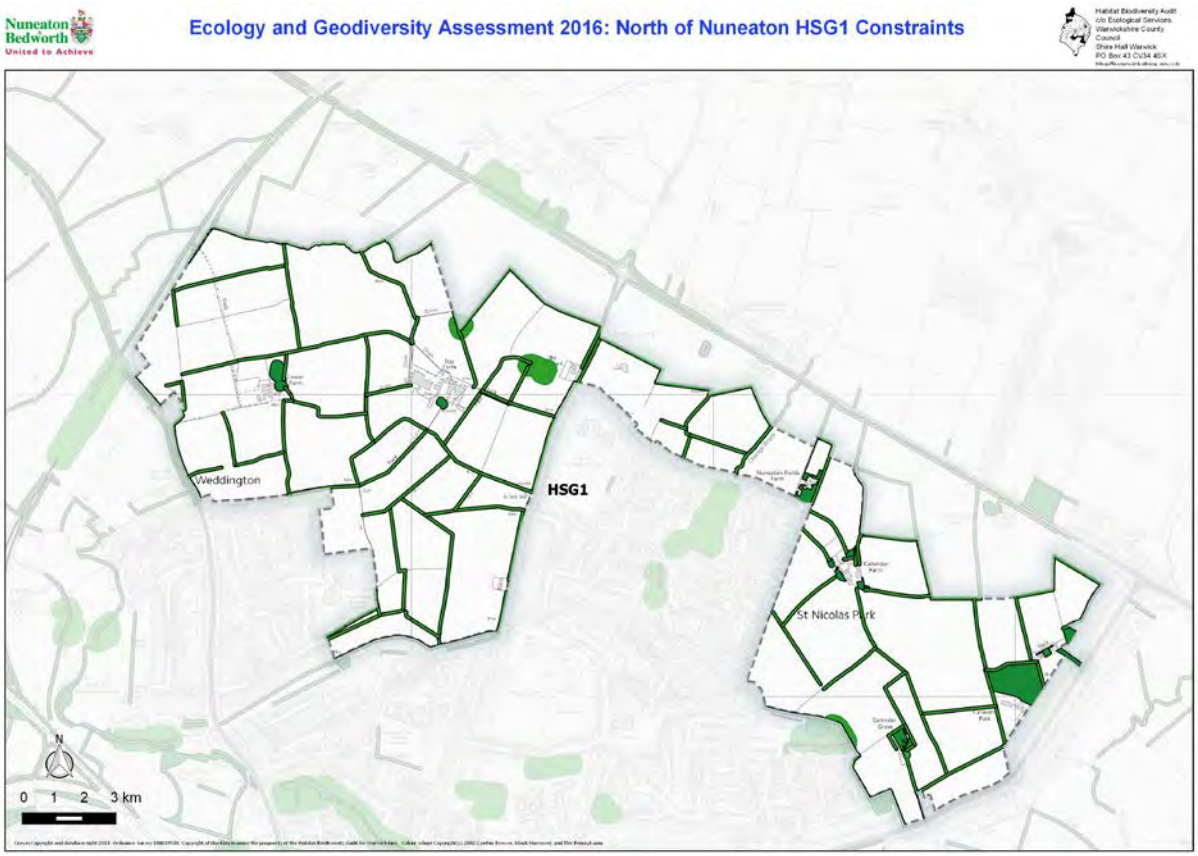
Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG2 ARBURY

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG2 Arbury 3
Area: 85 HA 3
Overview 3
Key Features 4
Recommendations 4
Opportunities 5
Designated Sites: Local Sites and SSSI 6
Potential Local Wildlife Sites 7
Phase 1 Habitat Distinctiveness 8
Target Notes 8
Biodiversity Units 14
Phase 1 Habitat Connectivity 16
Protected & Important Species 17
Constraints Map 19

Housing Site: HSG2 Arbury

Area: 85 HA

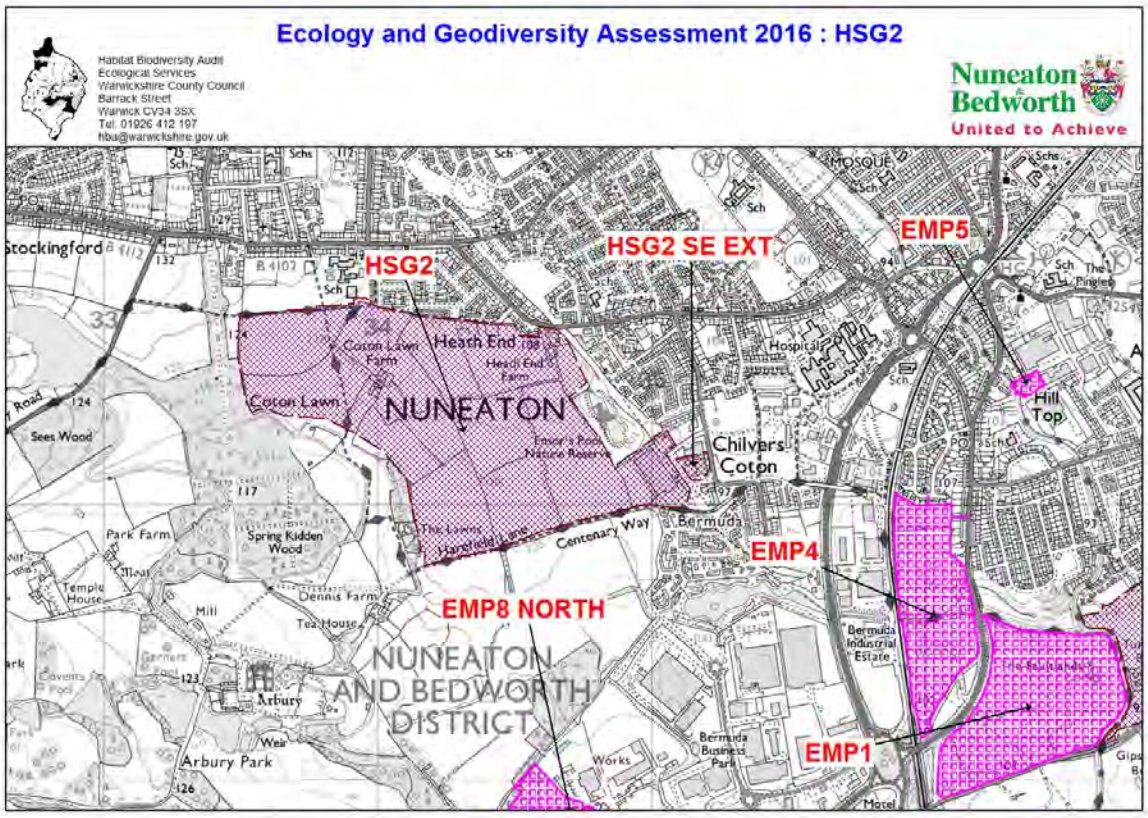


Figure 1 Location amp

Overview

This large development parcel in the majority comprises of arable farmland totalling 75.3 ha within 12 field allotments in addition to 7.5 ha of improved grassland within 6 field parcels of varying size with fragmented plots of semi-natural broad leaved woodland (A111).

The development parcel is surrounded by notable ecological features designated as sites of ecological interest. Ensor's Pool SSSI, SAC and LNR immediately abuts the eastern central belt of the development and comprises of open water alongside scattered scrub of hawthorn (Crataegus monogyna) and goat willow (Salix caprea) becoming woody in places with oak (Quercus robur) and ash (Fraxinus excelsior) alongside marginal vegetation of bulrush (Typha latifolia) and patches of neutral semi-improved grassland. Likewise, the development plot contains Heath End Farm Meadows potential LWS in the north-eastern corner and Bermuda Clay Pits A potential LWS in the south-eastern corner. The development site extends beyond potential LWS to encompass industrial units within Hazell Way Industrial Estate. The

northern boundary sits on the hamlet of Heath End immediately adjacent to Heath End Road, Atholl Crescent and Charnwood Avenue. The north-western corner adjoins the grounds of The Nuneaton Academy. The southern boundary is marked by species-rich hedgerows of Harefield Lane potential LWS and woodland named locally as The Lawns on the eastern boundary. Copses of broad-leaved semi-natural woodland provide important woodland cover in conjunction with a hedgerow network largely within an arable landscape. Harefield Lane connects the Bermuda Estate with Dennis Farm , part of the Arbury Estate. The development plot borders Spring Kidden Wood separated by a brook on the periphery of a section of the north-western border. The potential development encompasses the farmsteads of Heath End Farm and Coton Lawn Farm.

Key Features

- Species-rich Hedgerows
- Hedgerows with Trees
- Broad-leaved Semi-natural Woodland
- Ponds

Recommendations

- To maintain and enhance the connectivity between the existing woodland blocks and Ensor's Pool SAC, Bermuda Clay Pits A as well as Heath Farm Meadows on the eastern boundary. This should be achieved through:
    - Retention and enhancement of Harefield Lane on the southern boundary is a significant corridor providing links to Spring Kidden Wood and The Lawns.
    - Retention and strengthening of the existing hedgerow network to create additional wooded copses and species-rich hedges with trees.
- Ensors Pool should have a minimum buffer zone of 100 metres as well as any appropriate mitigation measures to ensure that the hydrological pathways to the pool are not compromised.
- Broadleaved woodland should have a minimum buffer of 30 metres of appropriate habitat to safeguard their integrity from imposed health and safe management (tree fall), garden floral escapes and garden refuse tipping.
- Neighbouring potential LWS's should be surveyed according to LWS criteria to determine their exact biodiversity value to assist in green infrastructure provision.
- All ponds within the development should be subject to an LWS survey in co-ordination with great crested newts, white clawed crayfish and water vole surveys. Additionally, protected species surveys for bats, hedgehog, lizards and grass snake plus surveys for birds and important invertebrates and plants.

- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Opportunities

- To enhance the footpath along Harefield Lane towards Seeswood Pool
- To create a footpath link to Ensor's from Harefield Lane
- To create a significant area of grassland habitat between Ensor's Pool, Bermuda Clay Pits to strengthen a south-north national flow around the west Nuneaton.

Designated Sites: Local Sites and SSSI

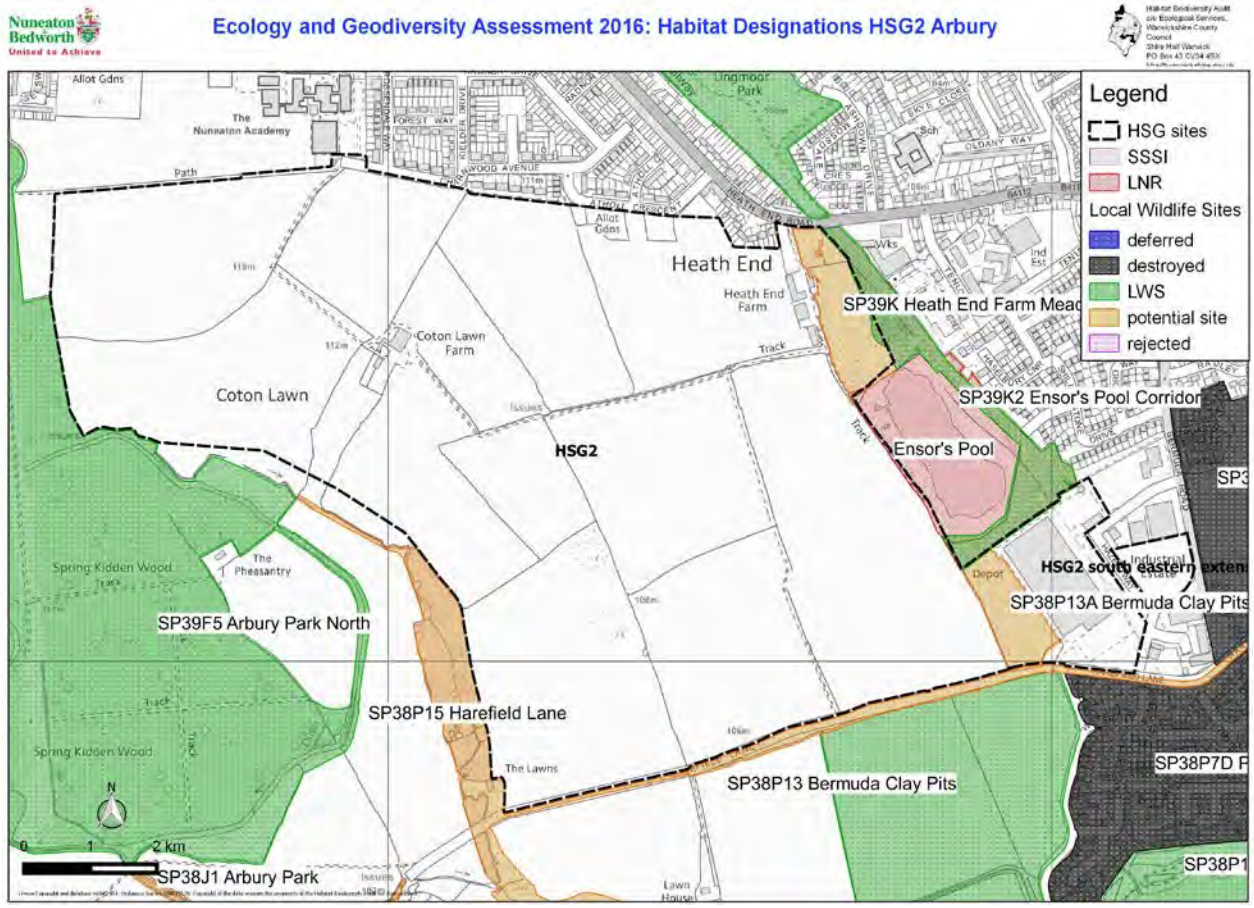


Figure 2 Site Designation Map

Ensor's Pool SSSI and Local Nature Reserve (LNR)

Nuneaton's Ensor's Pool was once a clay pit serving brick works and a nearby colliery. Rare white-clawed crayfish breed. It is a Site of Special Scientific Interest and was designated a Special Area of Conservation in 2005.

Arbury Park North SP39F5 [1]

This is a very large Local Wildlife Site situated in the northern part of Arbury Park, extending from near Arbury Hall at the southern end up to the B4102 at Stockingford in the north, with Seeswood Pool LWS situated directly across this road to the north-west. Although situated just 2.5km south-west of Nuneaton town centre, the park in which it is situated is entirely rural in character and includes a rich tapestry of partly

[1] Arbury Park North LWS 29/04/2015 LWSP

replanted ancient woodlands, wetlands, parkland and farmland, which includes further woodland LWS complexes 1km to the south around Cowley Wood and 1km south-east around Coventry Wood. The present LWS is mostly composed of mainly replanted ancient woodland, including Spring Kidden, North and Sees Woods, but also includes areas of rush pasture, marsh, swamp, wet woodland rides and open water.

Bermuda Balancing Lake SP38P1 [2]

Bermuda Balancing Lake is a large lake surrounded by gently sloping semi-improved grassland and scrub located to the south of Nuneaton. Much of the western area is of recent origin and the grasslands here have been artificially seeded. Surrounding land uses to the site include industrial, residential, roads and rough grassland. The site is an area of public open space and has surfaced paths running round the site and entrances at several points.

Ensor's Pool Corridor SP39K2[3]

The LWS comprises a 1km section of the disused Griff Branch Railway situated on the south-western outskirts of Nuneaton, between Bermuda Industrial Estate at the south-east end and the B4102 Croft Road at the north-west end. Heath End Road crosses the site half way along and divides the LWS into two sections. The LWS includes some adjoining post-industrial land that partly encircles Ensor's Pool SSSI at the southern end, which was designated for its population of the native White-clawed Crayfish. In recognition of the presence of this internationally threatened species, the pool was also designated as a SAC (Special Area of Conservation) in 2005. At the northern end of the LWS, the old cutting is part of the small Lingwood Park, all of which forms part of the LWS due to the recent establishment of semi-improved wildflower grassland.

Most of the LWS south of Heath End Road was designated as a Local Nature Reserve in 1997

Potential Local Wildlife Sites

- Harefield Lane SP38P15
- Heath End Farm Meadows SP30K6
- Bermuda Clay Pits SP38P13a

[2] Bermuda Balancing Lake Sp38P1 29/10/2002 LWSP

[3] Ensor's Pool Corridor SP39K2 21/01/2014 LWSP

Phase 1 Habitat Distinctiveness

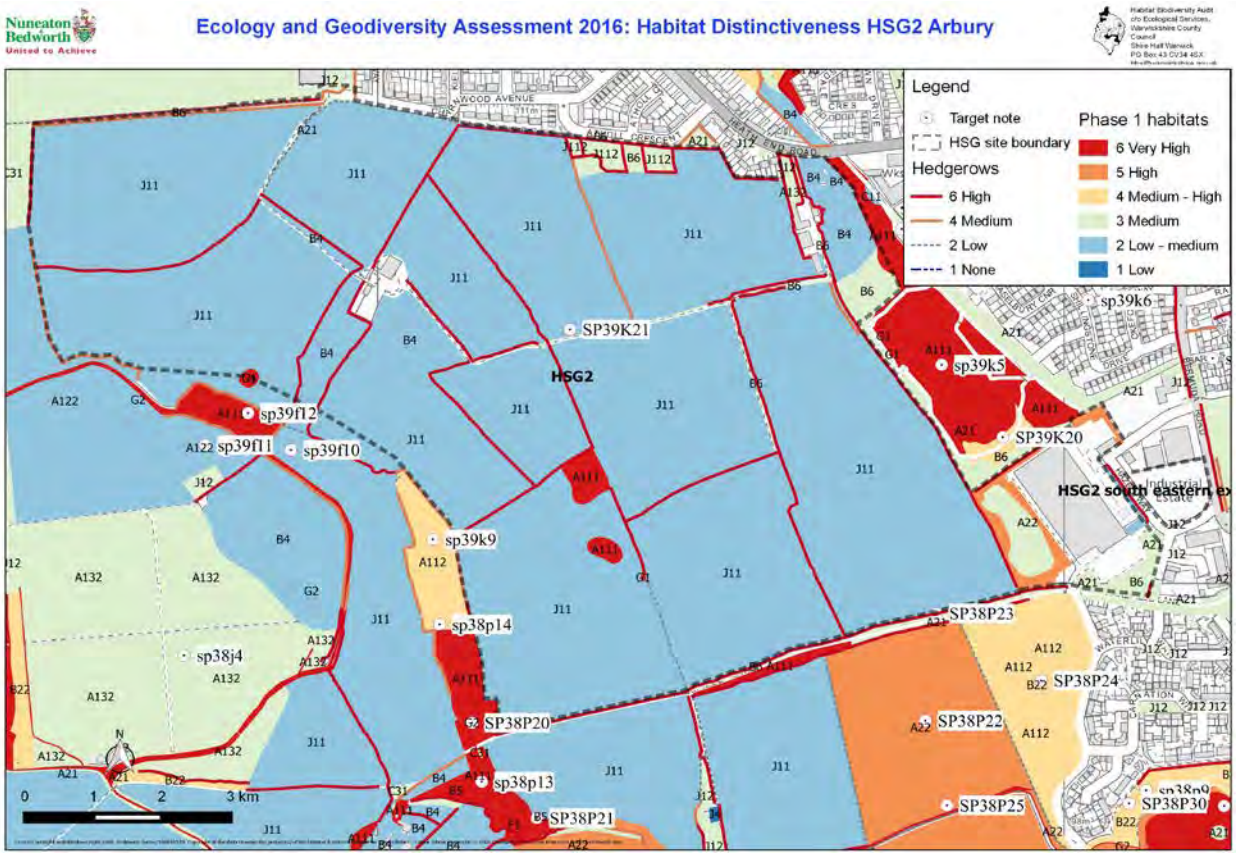


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference	Location
sp39f10	**SP3387490194**	**Arbury Park North**

Disused canal feeder which is overgrown with alder (Alnus glutinosa), elder (Sambucus nigra) and willow (Salix sp.) but also contains remote sedge (Carex remota), pendulous sedge (Carex pendula), soft-rush (Juncus effuses) and gypsywort (Lycopus europaeus). Scattered but mature ash (Fraxinus excelsior) and oak (Quercus robur) occur along the top of a raised bank. The disused canal-feeder dries up completely further south

sp39k5	**SP3482190322**	**Ensors Pool SSSI**

Ensors pool SSSI - Deep flooded clay pit with submerged canadian waterweed (Elodea canadensis) dominating around the edges of the pool with some emergent bulrush (Typha latifolia) and common spike-rush (Eleocharis palustris). The pool is

mostly surrounded by dense hawthorn (Crataegus monogyna) with frequent dog rose (Rosa canina), silver birch (Betula pendula) and oak (Quercus robur). Some banks contain patches of grassland with abundant false oat-grass (Arrhenatherum elatius), common knapweed (Centaurea nigra) with yarrow (Achillea millefolium) colt's-foot (Tussilago farfara) and weld (Reseda luteola). On the more open areas to the south; the sward is much shorter and heavily grazed by rabbits. Large patches of common sedge (Carex flacca) and autumn hawkbit (Leontodon autumnalis) do occur with jointed rush (Juncus articulatus), soft rush (Juncus effusus) and wild angelica (Angelica sylvestris) near the waters edge. Small patches of marsh occur due to poor drainage and contain carpets of pointed spear-moss (Calliergon cuspidatum) with soft rush (Juncus effusus), hard rush (Juncus inflexus) and creeping bent (Agrostis stolonifera). A rectangle of land to the far south has been rabbit fenced and planted with broad-leaf trees and gives a better indication of the richness of the grassland. The pool is particularly noted for its white-clawed crayfish (Austropotamobius pallipes) population. Updated 04/11/2016:

The former coalpit holding ha of water is surrounded in parts by wet broad-leaved woodland, both scattered and continuous scrub, poor semi-improved grassland and amenity grassland which accompanies various gravel and dirt paths that criss-cross the SSSI reserve. Developing woodland and scrub holds species of ash (Fraxinus excelsior), pedunculate oak (Quercus robur), elder (Sambucus nigra), hawthorn (Crataegus monogyna), bramble (Rubus fruticosus agg.), goat willow (Salix caprea), and silver birch (Betula pendula). Beneath the developing scrub and woodland, male fern (), red campion (Silene dioica), both hedge (Calystegia sepium) and large bindweed (C. silvatica) are present in a ground flora dominated by coarse and common plants that favour shady conditions.

The stretch of linear scrub that separates an arable field from Ensor's Pool encompasses species of blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna), goat willow (Salix caprea), field maple (Acer campestre) and bracken (Pteridium aquilinum).

SP39k7 SP3476390526 Ensors Pool Corridor

Marshy grassland containing abundant tufted hair-grass (Deschampsia caespitosa), hard rush (Juncus inflexus) and great willowherb (Epiliobium hirsutum) with locally frequent wild angelica (Angelica sylvestris). This gives way to banking in the north dominated by bracken (Pteridium aquilinum) with common nettle (Urtica dioica) and bramble (Rubus fruticosus agg.). A small water course runs along the base of the bank and allows further wetland features to occur with species including abundant nettle and great willowherb. The area also contains frequent wild angelica and a

small patch of bulrush (Typha latifolia) swamp. Updated 30/06/2011 As described, with abundant meadow vetchling (Lathyrus pratensis), tufted vetch (Vicia cracca) and pendulous sedge (Carex pendula).

SP39K20 SP3491090214 Ensors Pool SSSI

Rabbit (Oryctolagus cuniculus) grazed semi-improved neutral grassland next to Ensor's Pool SSSI. Abundant common bird's-foot trefoil (Lotus corniculatus), selfheal (Prunella vulgaris), common centaury (Centaurium erythraea), common knapweed (Centaurea nigra), red (Trifolium pratense) and white clover (T. repens), great burnet (Sanguisorba officinalis), tufted vetch (Vicia cracca), perforate St John's-wort (Hypericum perforatum) and meadow vetchling (Lathyrus pratensis).

UPDATE 04/11/2016 GP

In more open areas Perforate St John's-wort () and weld (Reseda luteola) are present along the short grassland which border paths. Grassland of varying sward height predominately composed of grasses of tufted hair-grass (Deschampsia cespitosa), common bent (Agrostis capillaris), crested dog's-tail (Cynosaurus cristatus) and cock's-foot (Dactylis glomerata) holds common ragwort (Senecio jacobaea), glaucous sedge (Carex flacca), common knapweed (Centaurea nigra), creeping buttercup (Ranunculus repens) and ribwort plantain (Plantago lancelota).

SP39K21 SP3428090376 Arbury

Semi-improved neutral grassland verge with betony (Stacys officinalis), great burnet (Sanguisorba officinalis), meadowsweet (Filipendula ulmaria), tufted vetch (Vicia cracca), lady's bedstraw (Galium verum) and meadow vetchling (Lathyrus pratensis).

SP39k9 SP3408090060 Harefield Lane pLWS

Young broad-leaved plantation over tall rank grassland with tall ruderal vegetation in the south. The whole area is surrounded by tall scrub and mature trees. Updated 04/10/2016: Linear broad-leaved woodland named locally as The Lawns follows a brook originating terminating at Bermuda Balancing Lake with a section replanted with aspen (Populus tremula).

sp38p13 SP3415189696 Harefield Lane pLWS

Small dense wet woodland with abundant oak (Quercus robur), ash (Fraxinus excelsior) and alder (Alnus glutinosa).The ground flora is dominated by bramble (Rubus fruticosus agg.) and common nettle (Urtica dioica).

SP38p14 SP3409089932 Harefield Lane pLWS

Young broad-leaved plantation over tall rank grassland with tall ruderal vegetation to the south. The whole area is surrounded by tall scrub and mature trees. Japanese knotweed (Fallopia japonica) has become well-established in an area of neglected buildings.

UPDATE 08/10/2009

Broad-leaved plantation contains Lombardy poplar subsp Italica (Populus sp.), silver birch (Betula pendula) and coppiced hazel (Corylus avellana). The neglected building is now completely overgrown with ivy (Hedera helix) and the surrounding trees form a cleared canopy. Japanese knotweed is still present but steadily being shaded out by elder (Sambucus nigra), hawthorn (Crataegus monogyna) and holly (Ilex aquifolium).

SP38P20 SP3413789785 Harefield Lane pLWS

Mature woodland with field maple (Acer campestre), ash (Fraxinus excelsior), horse chestnut (Aesculus hippocastanum), sycamore (Acer pseudoplatanus), elder (Sambucus nigra), hawthorn (Crataegus monogyna), ground ivy (Glechoma hederacea), bramble (Rubus fruticosus agg.), lesser celandine (Ranunculus ficaria), dog rose (Rosa canina), holly (IIex aquifolium), herb-Robert (Geranium robertianum) and male fern (Dryopteris filix-mas). Updated 04/10/2016:
Linear broad-leaved woodland named locally as The Lawns follows a brook originating terminating at Bermuda Balancing Lake with a section replanted with aspen (Populus tremula). The native broad-leaved woodland is composed of ash (Fraxinus excelsior), alder (Alnus glutinosa), horse-chestnut (Aesculus hippocastanum) and hazel (Corylus avellana) with a ground flora of wood avens (Geum urbanum), common nettle (Urtica dioica), bramble (Rubus fruticosus agg.) Darwin's barberry (Berberis darwinii) and pendulous sedge (Carex pendula). An ash tree with woodpecker hole with high bat potential.

SP38P21 SP3423289641 Harefield Lane pLWS

Swamp surrounded by goat willow (Salix caprea), ash (Fraxinus excelsior), oak (Quercus robur) and alder (Alnus glutinosa). Swamp contains bulrush (Typha

latifolia), water forget-me-not (Myosotis scorpioides), fool's-watercress (Apium nodiflorum), great willowherb (Epiliobium hirsutum), common nettle (Urtica dioica) and creeping thistle (Cirsium arvense).

SP38P23 SP3481489949 Harefield Lane

Harefield Lane lies between two species-rich hedgerows which contain old oak (Quercus robur) and ash (Fraxinus excelsior) trees. The hedgerow margins contain occasional meadow vetchling (Lathyrus pratensis), field horsetail (Equisetum arvense) and burnet-saxifrage (Pimpinella saxifraga). Many bird species, shelter and feed within the hedgerows including jackdaw (Corvus monedula), carrion crow (Corvus corone), pheasant (Phasianus colchicus), great tit (Parus major), woodpigeon (Columba palumbus), chaffinch (Phylloscopus collybita), blue-tit (Cyanistes caeruleus), magpie (Pica pica), robin (Erithacus rubecula), buzzard (Buteo buteo), blackbird (Turdus merula), long-tailed tit (Aegithalos caudatus) and grey partridge (Perdix perdix). Fly tipping occurs along track.

Updated 04/10/2016: Harefield Lane is bordered by a mosaic of linear scrub and intact species-rich hedgerows with trees varying in species and density along much of its entire length. The canopy component of linear scrub and adjoining hedges is composed of field maple (Acer campestre), ash (Fraxinus excelsior), pedunculate oak (Quercus robur), bird cherry (Prunus padus) and one turkey oak sapling (Querus cerris). The shrub layer is composed of hazel (Corylus avellana), blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna), dog-rose (Rosa canina), field rose (Rosa arvensis) and elder (Sambucus nigra).

The ground flora contains common nettle (Urtica dioica), raspberry (Rubus ideaus), bramble (R. fruticosus agg.), hogweed (Heracleum sphondylium), cow parsley (Anthriscus sylvestris), nipplewort (Lapsana communis), dandelion (Taraxacum officinale agg.), ivy (Hedera helix), broad-leaved dock (Rumex acetosa), cleavers (Galium aparine), greater plantain (Plantago major), bracken (Pteridium aquilinum), common figwort (Scrophularia nodosa), dog’s-mercury (Mercuralis perennis), lesser burdock (Arctium minus), mugwort (Artemisia vulgaris), hedge woundwort (Stachys sylvatica) and grasses of cock’s-foot (Dactylis glomerata) false-oat grass (Arrhenatherum elatius) and creeping bent (Agrostis stolonifera).

The linear scrub dissipates in parts down its length becoming a flailed hedge of predominately holly (Ilex aquifolium) and hawthorn (Crataegus monogyna) with an associated ditch filled with pendulous sedge (Carex pendula), hazel (Corylus avellana) and wych elm (Ulmus glabra). The ground flora comprises of creeping cinquefoil (Potentilla reptans), creeping thistle (Cirsium arvense) and hedge woundwort (Stachys sylvatica).

A species-rich hedge continues along a gravel track towards Dennis Farm after the track divides towards Lawn House. This hedge comprises of wych elm (Ulmus), bramble (Rubus fruticosus agg.), hawthorn (Crataegus monogyna), Midland hawthorn (Crataegus laevigata) dog-rose (Rosa canina), Atlantic ivy (Hedera hibernica), oak standards (Quercus robur), black bryony (Tamus communis), holly (Ilex aquifolium), blackthorn (Prunus spinosa), wild privet (Ligustrum vulgare), elder (Sambucus nigra), common nettle (Urtica dioica) and cow parsley (Anthriscus sylvestris).

No evidence of fly-tipping.

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 4 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

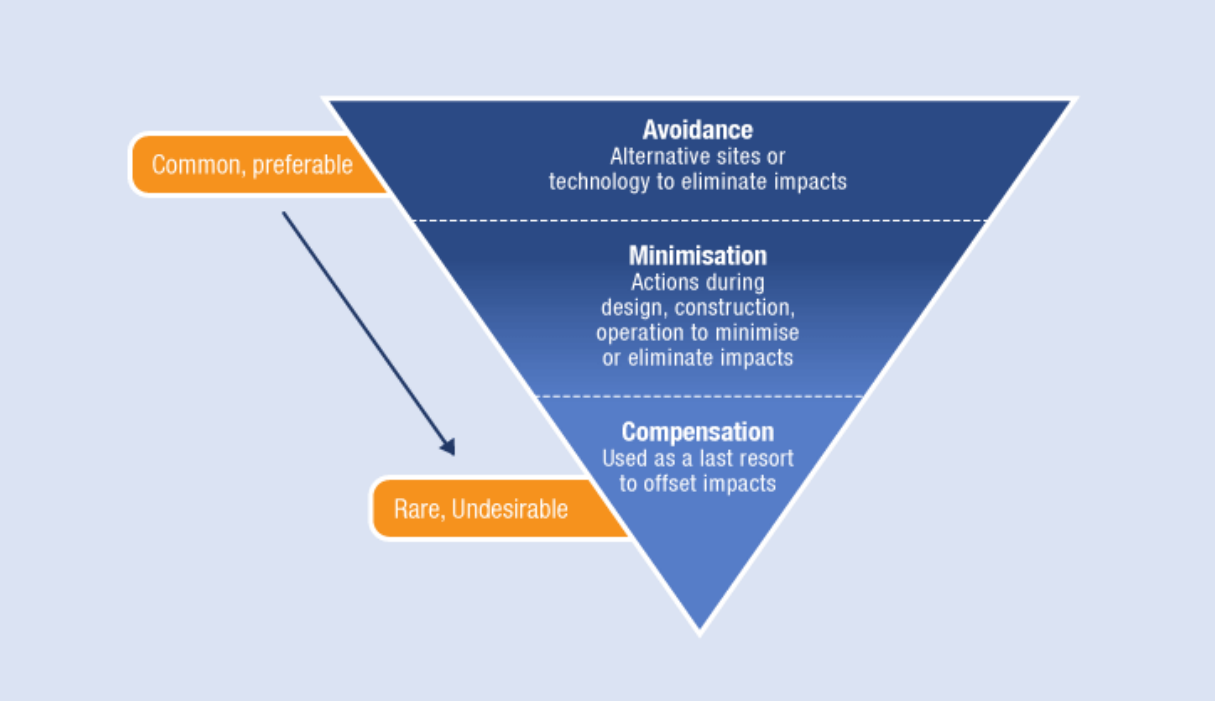


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG2	Arable	5.37	2	1	10.74
HSG2	Allotments	0.17	2	1	0.33
HSG2	Semi-improved neutral grassland	0.61	4	3	7.26
HSG2	Amenity grassland	0.14	2	1	0.28
HSG2	Broad-leaved semi-natural woodland	0.37	6	3	6.62
HSG2	Broad-leaved semi-natural woodland	0.14	6	3	2.56
HSG2	Amenity grassland	0.03	2	1	0.07
HSG2	Allotments	0.06	2	1	0.11
HSG2	Allotments	0.21	2	1	0.43
HSG2	Arable	6.00	2	1	12.01
HSG2	Dense/continuous scrub	0.57	3	2	3.41
HSG2	Dense/continuous scrub	0.14	3	2	0.82
HSG2	Arable	8.52	2	1	17.03
HSG2	Arable	6.73	2	1	13.45
HSG2	Introduced shrub	0.07	2	1	0.14
HSG2	Arable	11.55	2	1	23.09
HSG2	Bare ground	0.09	2	1	0.17
HSG2	Bare ground	0.37	2	1	0.73
HSG2	Semi-improved neutral grassland	0.11	4	3	1.27
HSG2	Arable	2.91	2	1	5.82
HSG2	Arable	6.41	2	1	12.83
HSG2	Arable	0.00	2	1	0.01
HSG2	Arable	2.67	2	1	5.33
HSG2	Scattered scrub	0.55	4	2	4.40
HSG2	Improved grassland	0.76	2	1	1.52
HSG2	Broad-leaved semi-natural woodland	0.16	6	3	2.88
HSG2	Improved grassland	0.21	2	1	0.43
HSG2	Standing water	0.03	6	3	0.63
HSG2	Improved grassland	0.97	2	1	1.93
HSG2	Arable	7.53	2	1	15.06
HSG2	Arable	7.33	2	1	14.65
HSG2	Improved grassland	0.21	2	1	0.42
HSG2	Arable	5.04	2	1	10.08
HSG2	Dense/continuous scrub	0.06	3	2	0.35
HSG2	Poor Semi-improved grassland	0.09	3	2	0.57
HSG2	Amenity grassland	0.00	2	1	0.01
HSG2	Amenity grassland	0.03	2	1	0.06
HSG2 SE	Amenity grassland	0.03	2	1	0.05
HSG2 SE	Amenity grassland	0.13	2	1	0.26
				Biodiversity Units	**177.82**

Phase 1 Habitat Connectivity

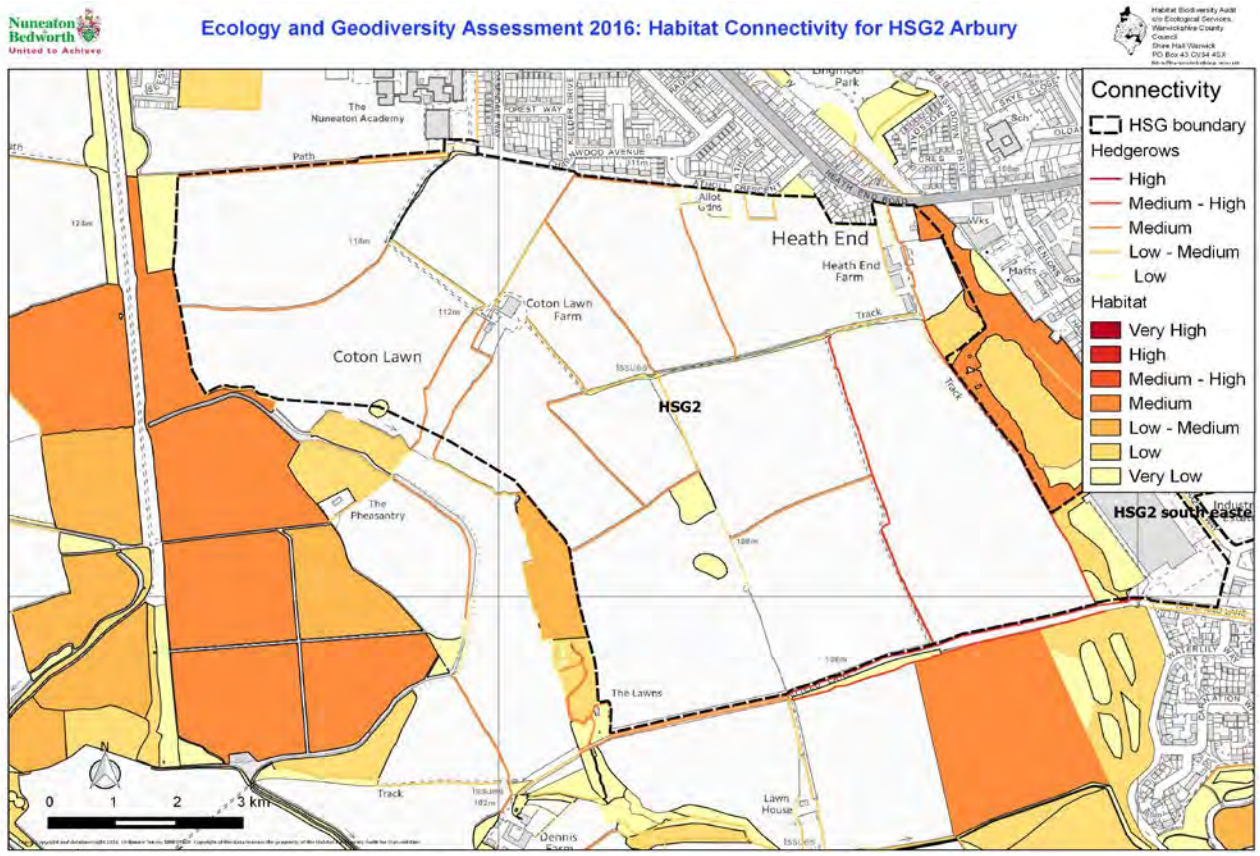


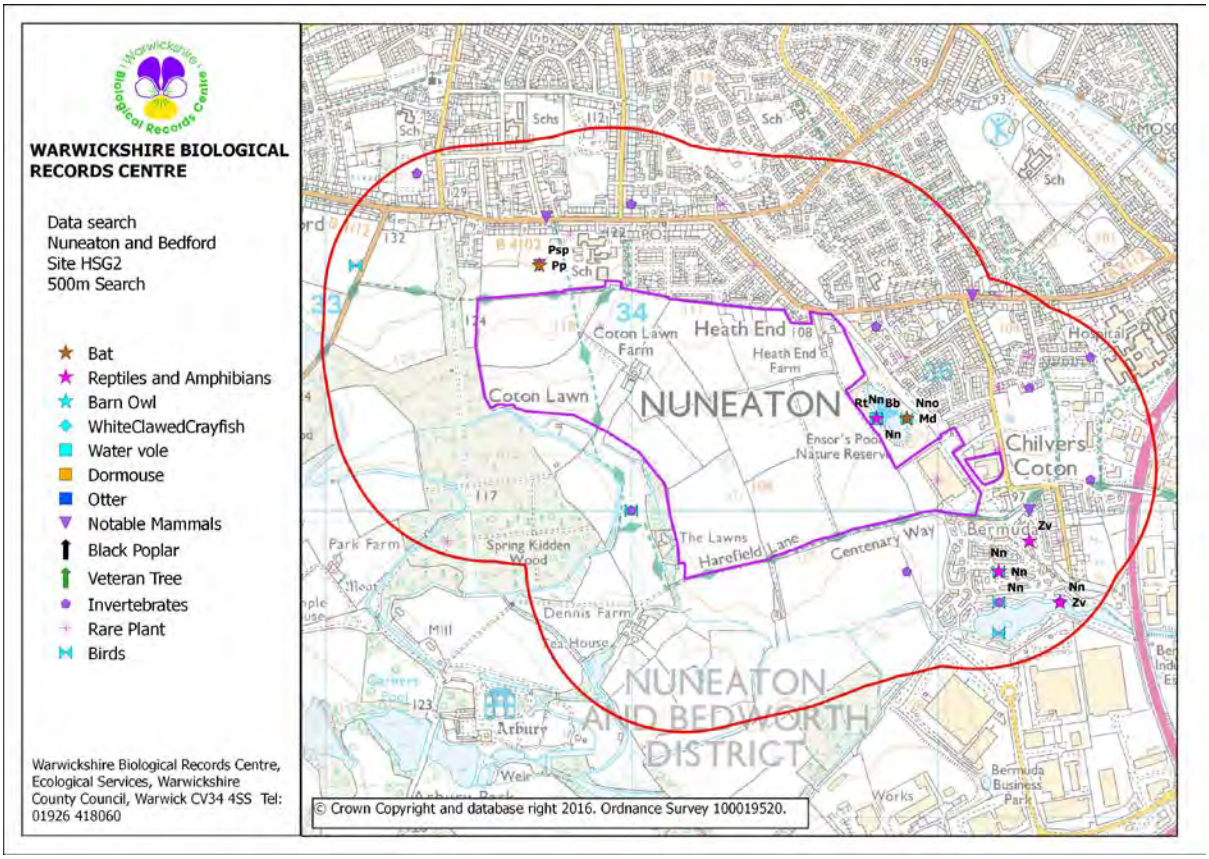
Figure 5 Phase 1 habitat connectivity

Protected & Important Species

There are no protected and/or important species[4] recorded within the proposed boundary.
There are the following protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Daubentons, Nocyule, Pipistrelle sp., Common pipistrelle
- Amphibians & Reptiles: Common Toad, Grass snake and Common Lizard
- Mammals: Water Vole and hedgehog
- Birds: Lesser Redpoll, Skylark, Kingfisher, Dunlin, Temminck's Stint, Black Tern, Cuckcoo,, yellow hammer, Reed bunting, Merlin, Hobby, Snipe, Herring Gull, Mediterranean Gull, Grasshopper Warbler, Yellow Wagtail, Spotted Flycatcher, Curlew, House sparrow, Grey Partridge, Firecrest, Turtle Dove, Greenshank, Redwing, Song Thrush, Fieldfare, Mistle Thrush and Lapwing.
- Invertebrates: Flax Flea Beetle, Scaphidema metallicum (Beetle), Helochares obscurus, (Beetle), Platyderus depressus (Beetle), Chrysolina oricalcia (Beetle), approximately 21 species of moth, Small Heath, Dingy Skipper and Wall
- County Rare Plants: Monk's-Hood, Corncockle, Corn Chamomile, Heather, Clustered Bellflower, Harebell, Horseshoe Vetch, Field Scabious, Tormentil, Corn Buttercup, Small-leaved Sweet-briar, Devil's-Bit Scabious, Wild Pansy, Bristle Club-rush, Rough Hawk's-beard, Deadly Nightshade, Flixweed, Little Mouse-ear and Common Yellow-sedge.

[4] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.


WARWICKSHIRE BIOLOGICAL RECORDS CENTRE
Data search
Nuneaton and Bedford
Site HSG2
500m Search
Bat
Reptiles and Amphibians
Barn Owl
WhiteClawedCrayfish
Water vole
Dormouse
Otter
Notable Mammals
Black Poplar
Veteran Tree
Invertebrates
Rare Plant
Birds
Warwickshire Biological Records Centre, Ecological Services, Warwickshire County Council, Warwick CV34 4SS Tel: 01926 418060
NUNEATON
Heath End
Coton Lawn
Coton Lawn Farm
Heath End Farm
Ensor's Pool Nature Reserve
Chilvers Coton
Bermuda
Bermuda Business Park
The Lawns
Harefield Lane
Centenary Way
Spring Kidden Wood
Park Farm
Dennis Farm
Arbury
NUNEATON AND BEDWORTH DISTRICT
Psp
Pp
Rt
Nn
Bb
Nno
Md
Zv
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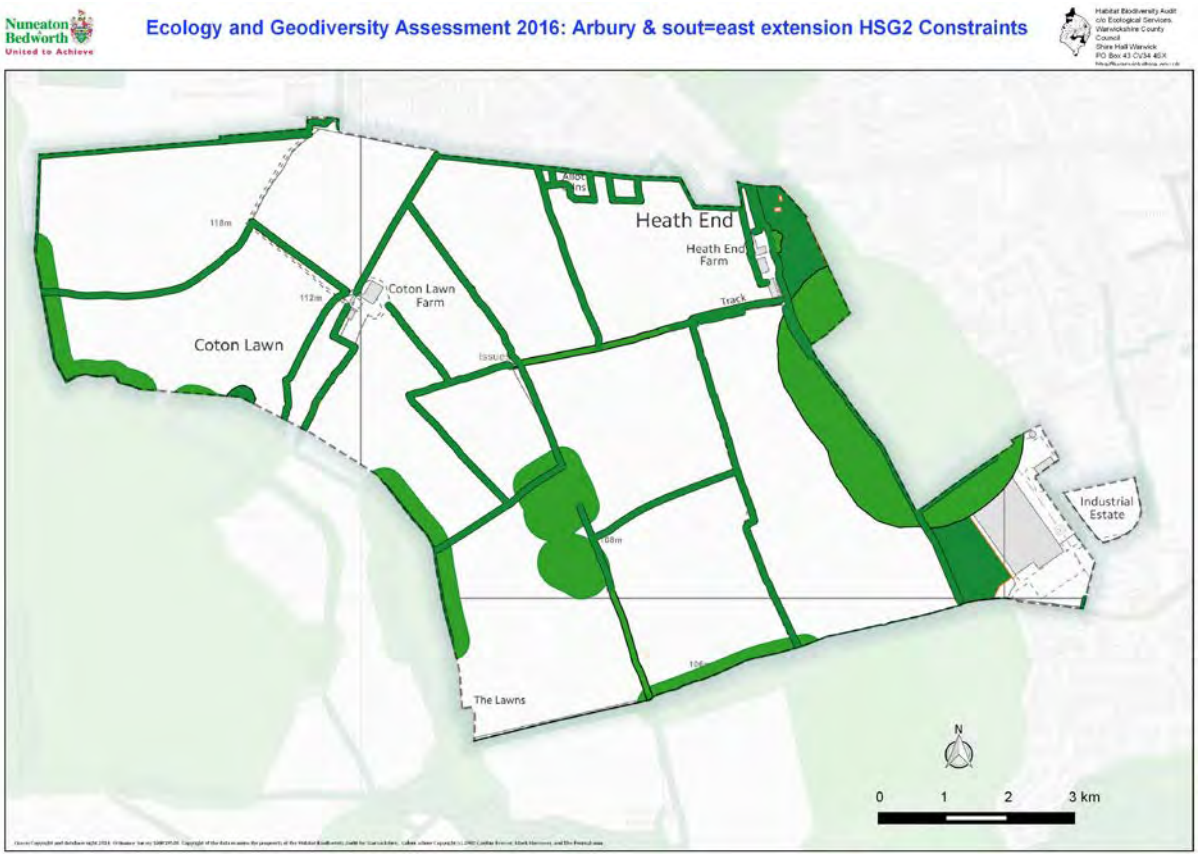
Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)
- 100m buffer around Ensors Pool SAC

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG3 GIPSY LANE

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site 3
Overview 3
Key Features 4
Recommendations 4
Designated Sites: Local Sites 6
Potential Local Wildlife Sites 7
Phase 1 Habitat Distinctiveness 8
Target Notes 8
Biodiversity Units 12
Phase 1 Habitat Connectivity 14
Protected & Important Species 15
Constraints Map 16

Housing Site

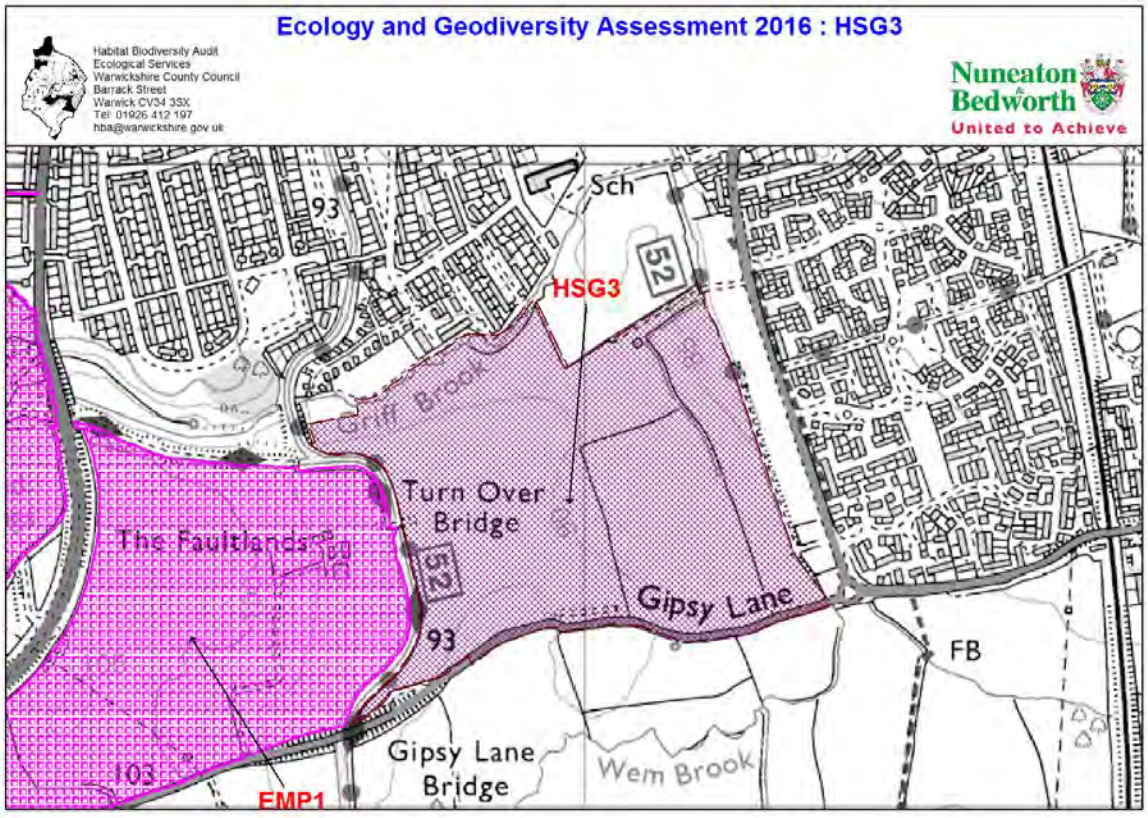


Figure 1 Location map

Area: 28.8 HA

Overview

Development Parcel HSG3 is a single arable field at the southern edge of the Hill Top District of Nuneaton. The field is separated from sub-urban Hill Top by the Griff Brook with a footpath running alongside in addition to Griff Hollow LWS lying parallel the other side of the Coventry Canal. Likewise, in the north, a sports field belonging to the George Eliot School is bordered by palisade fencing. The Coventry Canal runs alongside the western border adjacent to grassland contained within employment development parcel EMP1 (The Faultlands). The fields are connected by Turn Over Bridge which crosses the Coventry Canal mid-point of the boundary between the two fields.

Gipsy Lane forms the southern boundary with arable fields dissected by the Wem Brook forming part of an evolving rural landscape. Subsequently the Wem Brook marks the eastern boundary alongside Red Deeps and Wem Meadows Wildspace an area of open space comprising a mosaic of scattered scrub and grassland which forms a green wedge between the rural development parcel and the housing developments off Marston Lane.

Key Features

- Griff and Wem Brook and their associated wildlife habitats
- Coventry Canal wildlife corridor
- Post-industrial mosaic habitats

Recommendations

Buffer the Wem Brook and exclude a parcel of 3.6 ha from development immediately adjacent to Red Deeps and Wem Meadows Wildspace sandwiched between veteran trees and associated defunct hedgerow to the east of the development parcel.

Consider creation of footpath / cycleway inside the roadside and hedgerow network to provide a traffic free route and increase habitat connectivity.

The development should create new green infrastructure within the development parcel including wetland habitats alongside extending a network of pedestrian/cycle access.

The development should create new green infrastructure within the development parcel including wetland habitats alongside extending a network of pedestrian/cycle access.

The development should seek to limit impacts on adjacent sensitive receptors particularly on the periphery of the development parcel and adjacent environmentally sensitive areas of the Coventry Canal, the Wem and Griff Brook and Red Deeps and Wem Meadows Wildspace.

This broad buffer planted with native trees and scrubs as areas of open space is essential to help mitigate visual intrusion into a rural landscape and will limit impacts on sensitive receptors, provide green infrastructure for recreational access and increase habitat connectivity.

A detailed construction management plan should be implemented to reduce the effects of the development on the Coventry Canal and its associated habitats within the Griff and Wem Brooks.

The Wem Brook which negotiates the eastern section of the development parcel, immediately adjacent to the Red Deeps and Wem Meadows Wildspace should be left free of development.

Veteran trees of particularly oak (Quercus robur) and ash (Fraxinus excelsior) which marked previous field boundaries should be also retained in-situ and amalgamate the large buffer stripe or parcel on the eastern boundary estimated at around 3.6 ha in size to be left fallow and managed as set-a-side arable farmland or sensitively as grassland .

Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

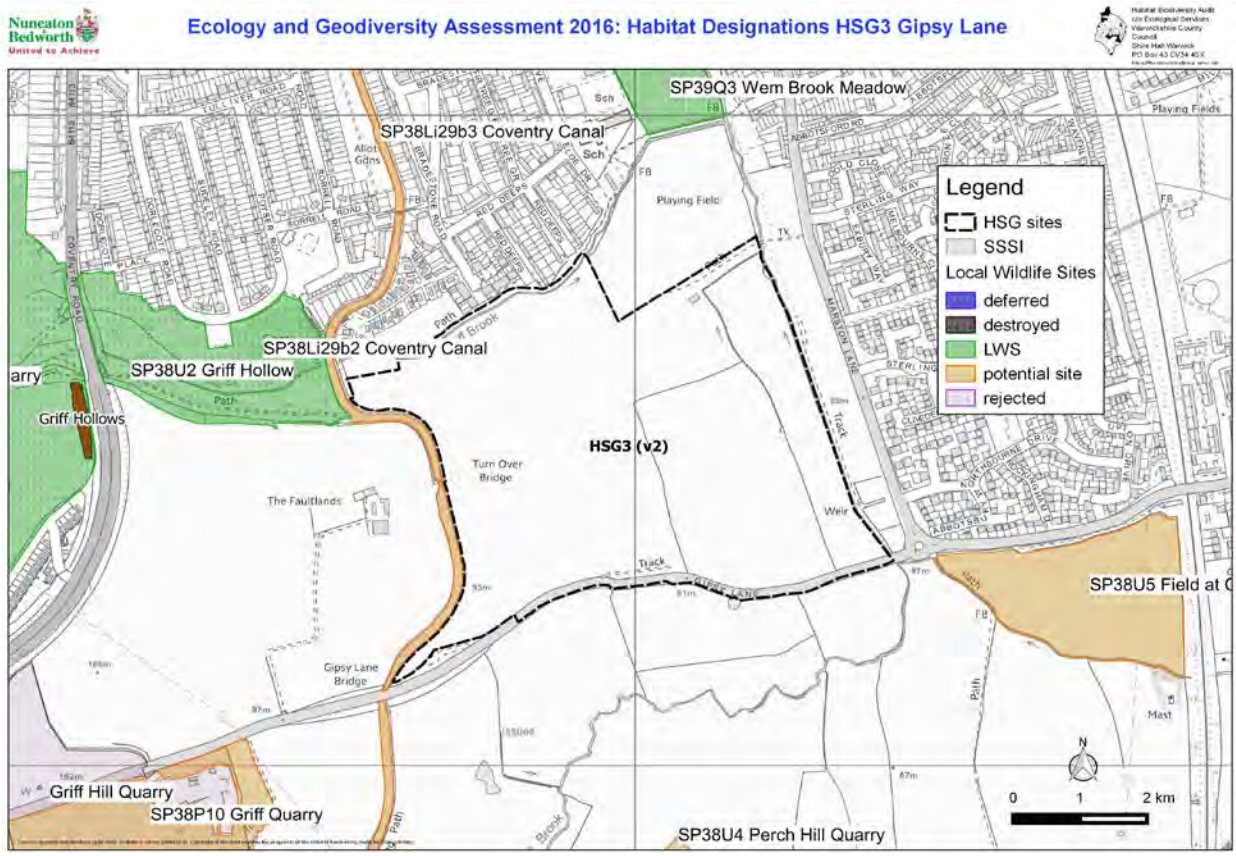


Figure 2 Site Designation Map

Griff Hill Quarry SSSI

Griff Hill Quarry is an active quarry located 1km north of Bedworth. The site boundary encompasses the working faces and an area of proposed quarry extension which is of key importance to facilitate further study at the site. Griff Hill Quarry exposes a complex and unique igneous sequence present in a sill 20--30 metres thick..

Griff Hollow SP38U2[1]

Griff Hollows SINC is a mosaic site of 5.77 ha consisting of scrub, tall herb mire, rank neutral grassland and acid grassland. The mire, dominated by meadowsweet and the acid grassland are the most important vegetation types present, both are rare habitat types in the county. 85 species of vascular plant have been recorded recently including Climbing Corydalis, which is very rare in the county. The invertebrate fauna

[1] Griff Hollow SP38U2 LWS 14/13/2001 LWSP

is likely to be rich, three species of county rarity have been recorded. Water Vole and Common Lizard have also been recorded recently. The site is public open space.

Wem Brook SP39Q3[2]

The site is located adjacent to Wem Brook in the Hill Top area of south Nuneaton. It comprises grassland, tall herb and scrub vegetation. The grassland areas are of variable quality but include a small area of quite species rich MG4 Meadow Foxtail (*Alopercurus pratensis) – Great Burnett (Sanguisorba officinalis),* a nationally rare wetland grassland.

Potential Local Wildlife Sites

- Coventry Canal SP38Li29a
- Griff Quarry SP38p10
- Field at Corner of Gipsy Lane SP38U5

[2] Wem Brook Meadow SP39Q3 LWS 05/01/2007 LWSP

Phase 1 Habitat Distinctiveness

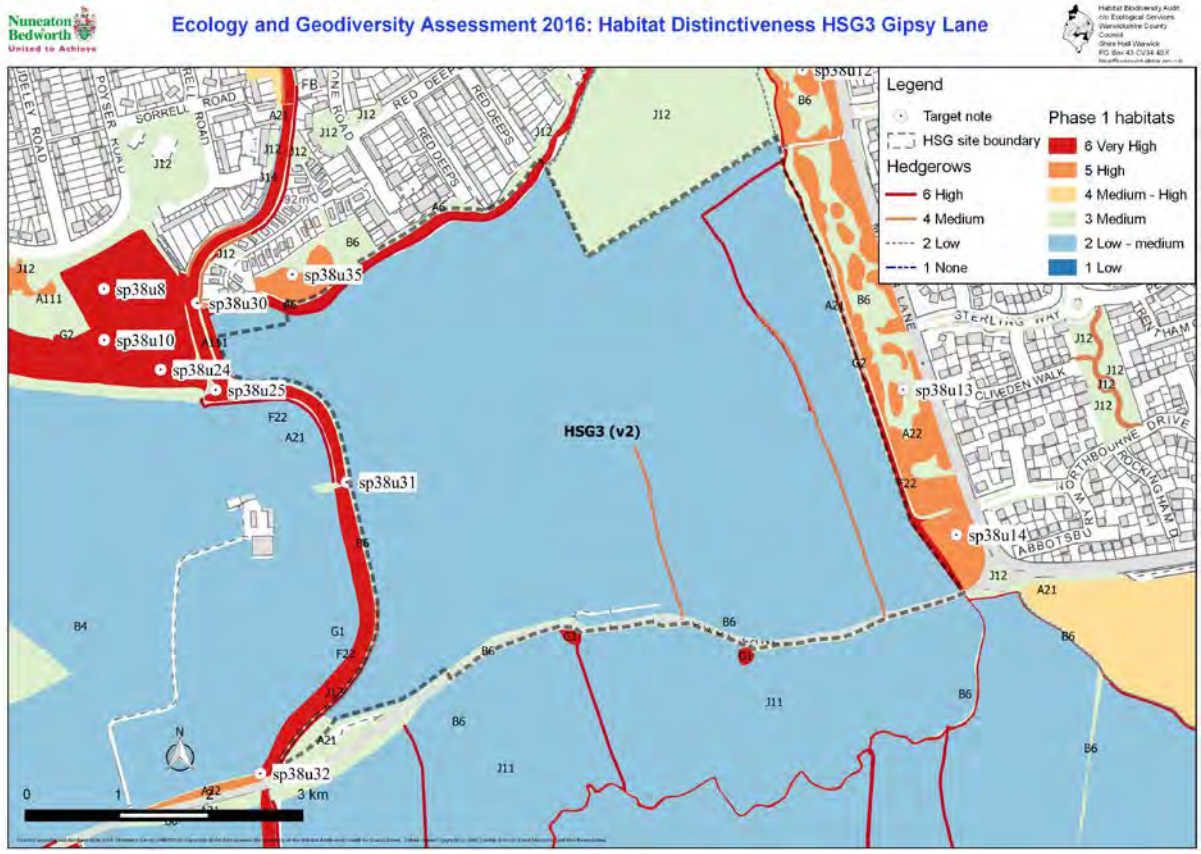


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference	Location
sp38u12	**SP3721089880**	**Marston Lane**

Grassland largely dominated by perennial rye-grass (Lolium perenne) and clover (Trifolium sp.) but does contain a degree of species diversity including occasional common knapweed (Centaurea nigra), ribwort plantain (Plantago lancelota), oxeye daisy (Leucanthemum vulgare), red campion (Silene dioica) and yarrow (Achillea millefolium).

sp38u13	**SP3732089530**	**Marston Lane**

Coarse grassland area with abundant false oat-grass (Arrhenatherum elatius), cock's-foot (Dactylis glomerata), creeping bent (Agrostis stolonifera) with occasional tall fescue (Festuca arundinacea), red fescue (Festuca rubra), creeping soft-grass (Holcus mollis), tufted hair-grass (Deschampsia caespitosa) and crested dog's-tail (Cynosurus cristatus). The area has been subjected to a degree of disturbance and also contains frequent thistles (Cirsium spp.), docks (Rumex spp.), hogweed (Heracleum sphondylium) and occasional bramble (Rubus fruticosus agg.). Common knapweed (Centaurea nigra), yarrow (Achillea millefolium) and compact rush (Juncus conglomeratus) also occur, becoming more frequent along the bank of the canalised brook.

sp38u14 SP3737889372 Marston Lane

Neglected grassland with species-rich areas which contain abundant smooth meadow-grass (Poa pratense), common bent (Agrostis capillaris) with crested dog's-tail (Cynosurus cristatus), red fescue (Festuca rubra), false oat-grass (Arrhenatherum elatius) and cock's-foot (Dactylis glomerata). Certain areas have suffered from past compaction which appears to have affected drainage resulting in the establishment of high bryophyte cover possibly including pointed spear-moss (Calliergon cuspidatum). The area also contains locally frequent hare's-foot clover (Trifolium arvense), common knapweed (Centaurea nigra) and yarrow (Achillea millefolium).

SP38U8 SP3644689640 Griff Hollow

Old quarry site surrounded by semi-natural ash woodland with bluebells (Hyacinthoides non-scripta) and encroaching scrub. The open grassland areas tend to occur on mineral spoil and contain a variety of dry acid tolerant plants including locally dominant early hair-grass (Aira praecox), dwarf haircap (Polytrichum aloides), common bent (Agrostis capillaris) with locally abundant sheep's sorrel (Rumex acetosella), rat's-tail fescue (Vulpia myuros) and occasional hare's-foot clover (Trifolium arvense), foxglove (Digitalis purpurea), cup lichens (Cladonia sp.) with some bracken (Pteridium aquilinum) occurring in parts where the open ground meets young woodland. The site has high potential for invertebrates.

SP38U22 SP3633489588 Griff Brook

Griff Brook containing a strong population of water vole (Arvicola amphibius).

Maturing scrub of hawthorn with scattered specimens of ash (Fraxinus excelsior) adjoining wet woodland of predominately willow (Salix sp.) and alder (Alnus glutinosa) which border the water's edge of Griff Brook

SP38U24 SP3652689583 Griff Hollow

Griff Hollow (SINC). Small clearing of tall herb along a path. Locally abundant great horsetail (Equisetum telemateia), false oat-grass (Arrhenatherum elatius), common nettle (Urtica dioica), cow parsley (Anthriscus sylvestris) and bramble (Rubus fruticosus agg.).

Tall ruderal vegetation of rosebay willowherb (Chamerion angustifolium) and common nettle (Urtica dioica) with locally abundant great horsetail (Equisetum telmateia). Griff Hollow Local Wildlife Site with a small clearing of tall herb vegetation along a walked path with locally abundant great horsetail (Equisetum telemateia),

false oat-grass (Arrhenatherum elatius), common nettle (Urtica dioica), cow parsley (Anthriscus sylvestris) and bramble (Rubus fruticosus agg.).

SP38U25 SP3656889530 Griff Brook

Small backwater inlet with marginal vegetation as the Griff Brook enters the Coventry Canal with swamp vegetation of dominant reed sweet-grass (Glyceria maxima) plus rare yellow flag (Iris pseudacorus) and Indian balsam (Impatiens glanduifera).

SP38U27 SP3604689577 Griff Hollow Quarry

The two patches of very similar poor semi-improved grassland are separated by a concrete path and a raised bank of scattered scrub of hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa). Damper patches of grassland are characterised by tufted hair-grass (Deschamspia cespitosa), great willowherb (Epilobium hirsutum), a willowherb (Epilobium sp) and hard rush (Juncus inflexus). Updated 01/10/2014 Griff Hollow Quarry LWS frequent Great Burnet (Sanguisorba officinalis).

SP38U28 SP3605489458 Griff Hollow Quarry LWS

Griff Hollow Quarry LWS area of species rich short grassland dominated by Common Bent (Agrostis capillaris) and Red Fescue ssp. (Festuca rubra) with areas of Common Knapweed (Centaurea nigra) and Wood small-reed (Calamagrostis epigejos). Grassland is surrounded by less species rich grassland, bramble and dense scrub.

SP38U30 SP3654889634 Coventry Canal

Coventry Canal plws Wet woodland of alder (Alnus glutinosa) and willow (Salix sp.) which borders the Griff Brook and adjacent arable farmland.

SP38U31 SP3671189439 Coventry Canal

Coventry Canal plws: Turnover Bridge 17 The entire canal edge between Griff Lane Bridge No 17 and the Arbury Park Bridge No 16 is swamp and inundated vegetation comprising of water plantain (Alisma plantago-aquatica), water dock (Rumex hydrolapathum), greater pond-sedge (Carex riparia) and bulrush (Typha latifolia) with occasional willow (Salix sp.) Scrub present on both sides of the canal and bridge comprising of hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa). Wall rue (Asplenium ruta-muraria) present on the bridge. Otter spraint (Lutra lutra) under bridge at Griff Lane.

Wall rue (Asplenium ruta-muraria) present on Turnover Bridge No 18. Scrub present on both sides of the canal and bridge comprising of hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa)

The mown grassland of the towpath periodically becomes more natural with overhanging vegetation and inundated plants of yellow iris (Iris pseudacorus), greater pond-sedge (Carex riparia), crack willow (Salix fragilis) and water figwort (Scrophularia nodosa). Within the mown grassland, prickly ox-tongue (Picris echioides), common mouse-ear (Cerastium fontanum), perennial rye-grass (Lolium perenne), creeping cinquefoil (Potentilla reptans), smooth hawk's-beard (Crepis capillaris), cleavers (Galium aparine), shepherd's-purse (Capsella bursa-pastoris), groundsel (Senecio vulgaris) and common vetch (Vicia sativa) occur.

SP38U32 SP3661789120 Coventry Canal

Coventry Canal plws Gipsy Lane Bridge No. 16 The canal bank flanking the Arbury Park Bridge No 16 comprises of inundated vegetation with reed sweet-grass (Glyceria maxima) and greater pond-sedge (Carex riparia) alongside wet woodland on a steep bank which grades down to the waters' edge adjacent to the former quarry site with crack willow (Salix fragilis), hawthorn (Crataegus monogyna), ash (Fraxinus excelsior) on the lower and silver birch (Betula pendula) on the steeper upper slope.

Intact hedgerow of hawthorn (Crataegus monogyna), blackthorn (Prunus spinosa), and dog rose (Rosa canina), on a raised bank with standards of ash (Fraxinus excelsior) alongside hedgerow (Geranium pyrenaicum) and cut-leaved cranesbill (G. dissectum).

Water-pepper (Persicaria hydropiper), watercress (Rorippa nasturtium-aquaticum), water figwort (Scrophularia auriculata), water mint (Mentha aquatica), hard rush (Juncus inflexus) and false fox-sedge (Carex otrubae) occur periodically along the water's edge of the towpath.

The marginal vegetation of the canal edge comprises of bulrush (Typha latifolia), reed sweet-grass (Glyceria maxima), reed canary-grass (Phalaris arundinacea), water dock (Rumex hydrolapathum) and gypsywort (Lycopus europaeus) close to the waters' edge. Meadowsweet (Fillipendula ulmaria), great willowherb (Epilobium hirsutum), bramble (Rubus fruticosus agg.) and some scattered hawthorn (Crataegus monogyna) dominate the grassland field margin behind.

SP38U35 sp38uccnb29 Wem Meadows

Red Deeps and Wem Meadows Wildspace comprises of poor semi-improved grassland alongside scattered scrub of willow (Salix sp.) and hazel (Corylus avellana).

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 4 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

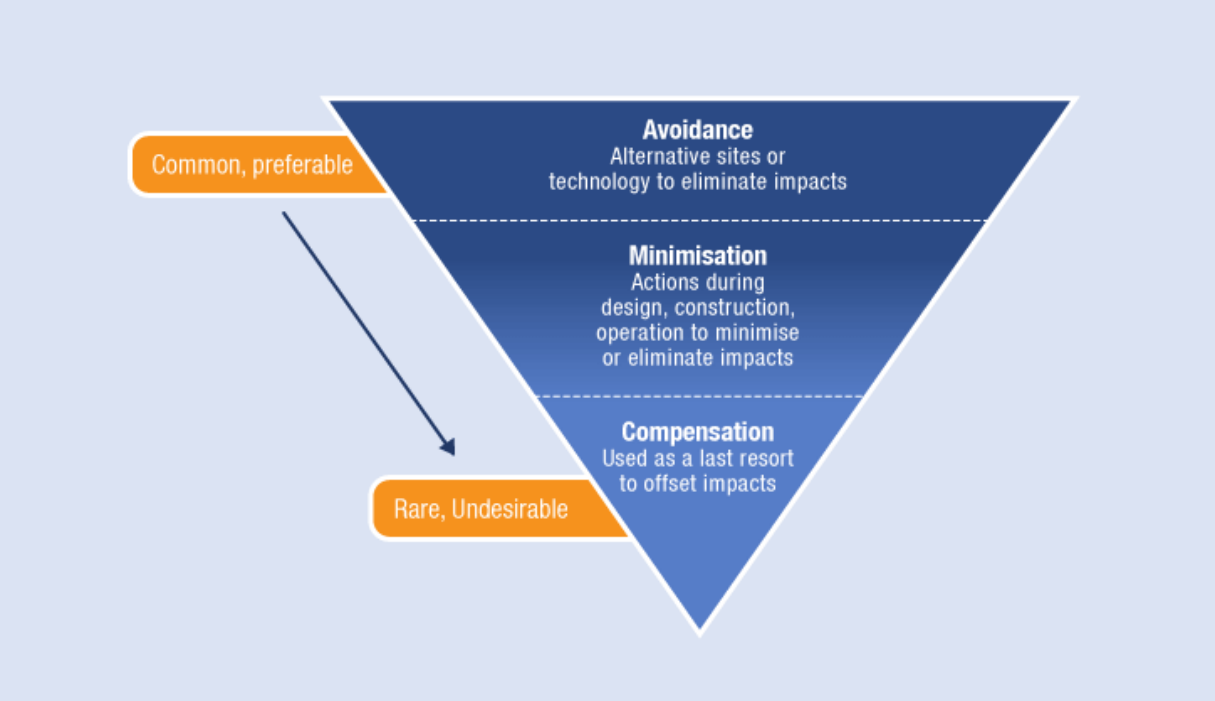


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG3	Running water	0.07	6	3	1.25
HSG3	Poor Semi-improved grassland	0.08	3	2	0.50
HSG3	Dense/continuous scrub	0.12	3	2	0.72
HSG3	Wet woodland	0.02	6	3	0.35
HSG3	Broad-leaved semi-natural woodland	0.01	6	3	0.11
HSG3	Dense/continuous scrub	0.04	3	2	0.22
HSG3	Poor Semi-improved grassland	0.13	3	2	0.78
HSG3	Poor Semi-improved grassland	0.07	3	2	0.44
HSG3	Arable	27.50	2	1	55.00
HSG3	Wet woodland	0.23	6	3	4.19
				Biodiversity Units	**63.55**

Phase 1 Habitat Connectivity

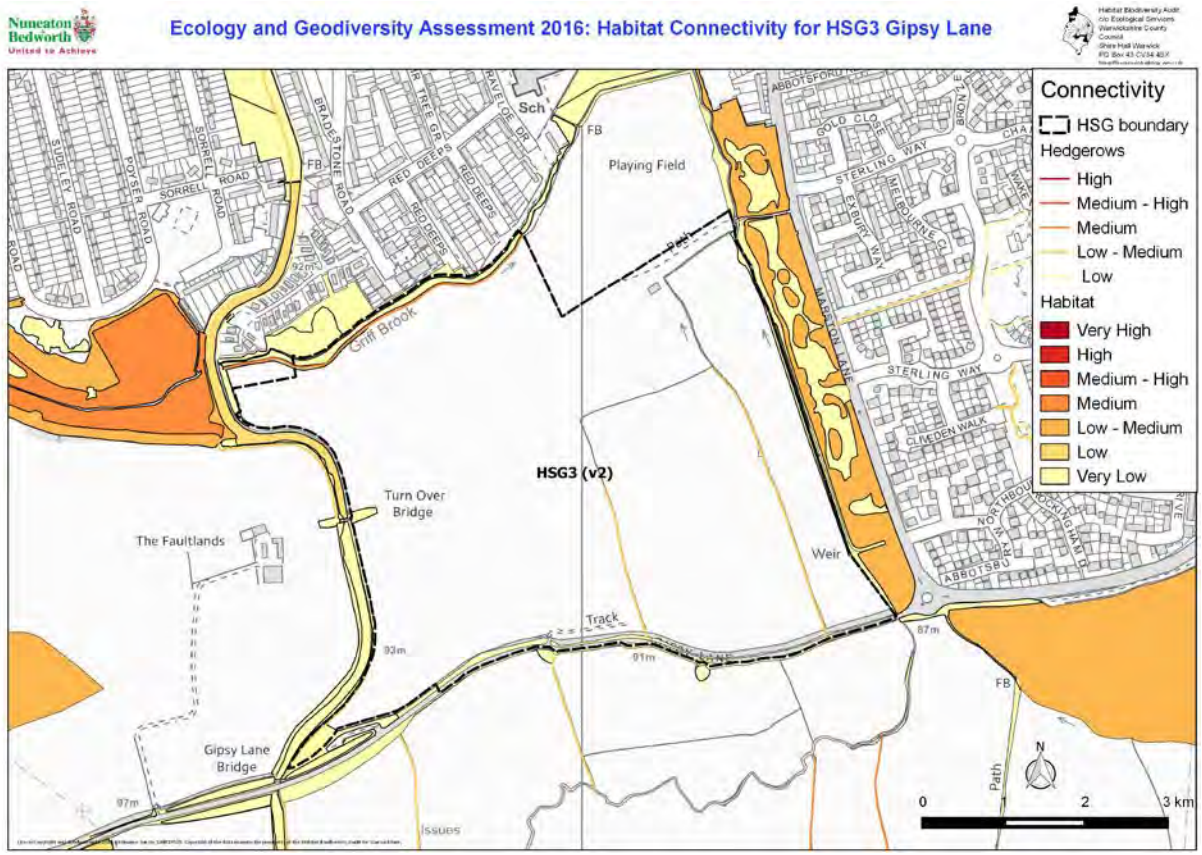


Figure 5 Phase 1 habitat connectivity

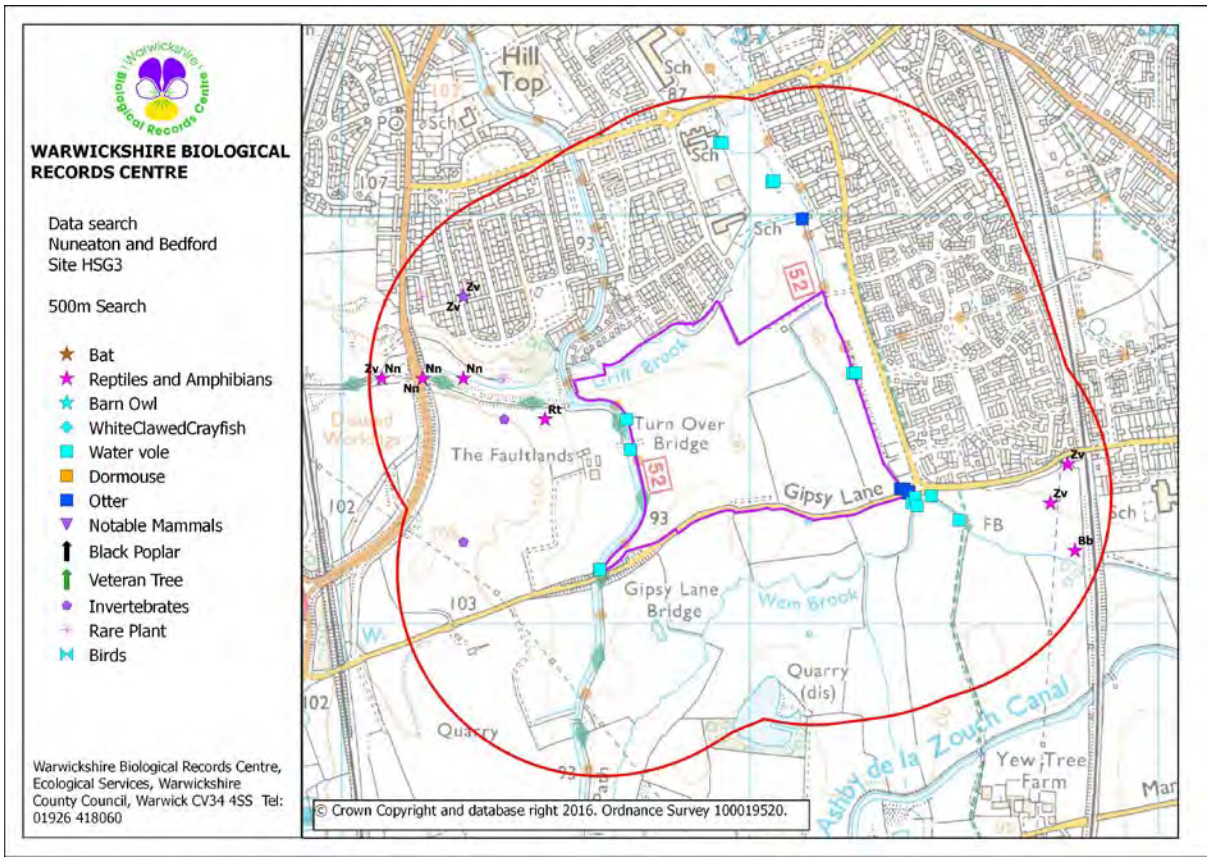
Protected & Important Species

There are the following protected and/or important species[3] recorded within the proposed boundary:

- Mammals: Water vole *Arvicola amphibius*, otter *Lutra lutra*

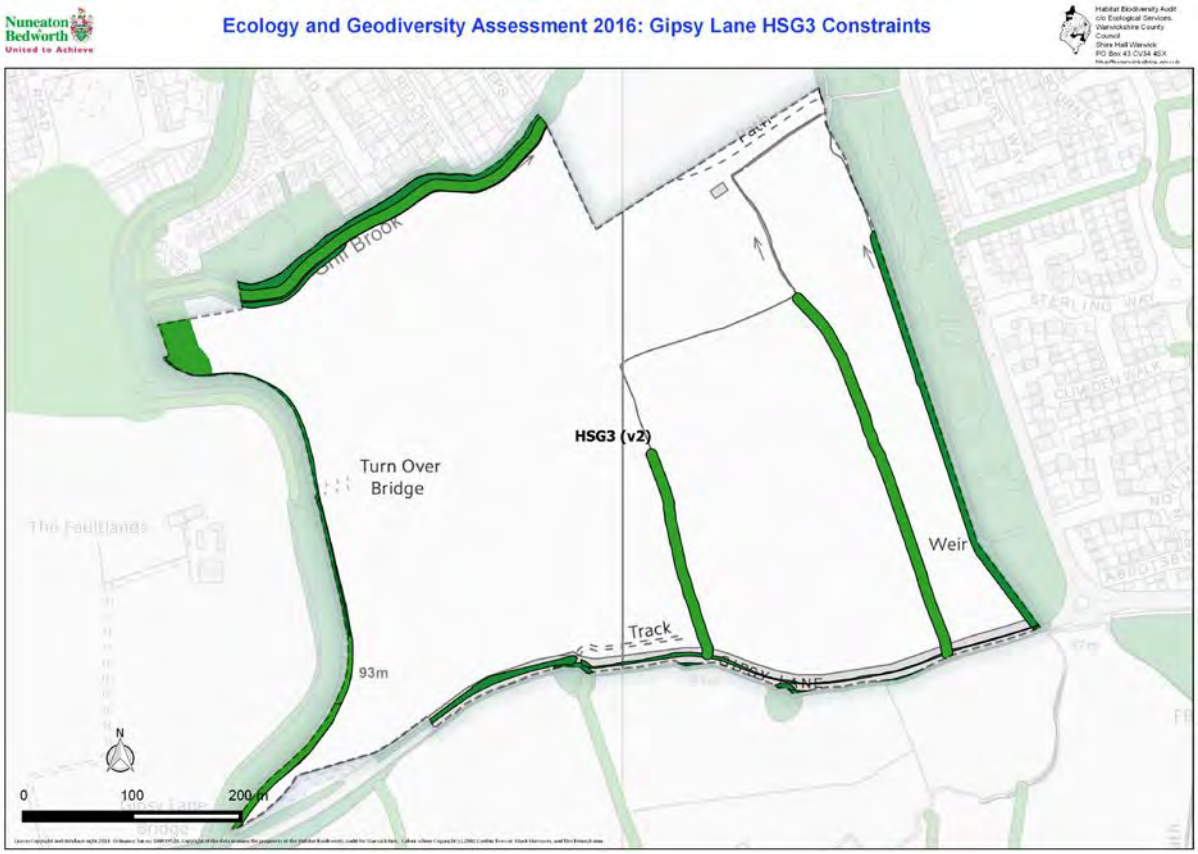
There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Amphibians and Reptiles: Common Toad, Grass snake and Common Lizard
- Mammals: Water vole, Otter and Badger
- Invertebrates: Small Heath
- County Rare Plants: White Ramping-fumitory and Climbing Corydalis



[3] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG4 WOODLANDS

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG4 WOODLANDS 3
Overview 3
Key Features 3
Recommendations 4
Designated Sites: Local Sites 5
Potential Local Wildlife Sites 10
Phase 1 Habitat Distinctiveness 10
Target Notes 10
Phase 1 Habitat Connectivity 18
Constraints Map 20

Housing Site: HSG4 WOODLANDS

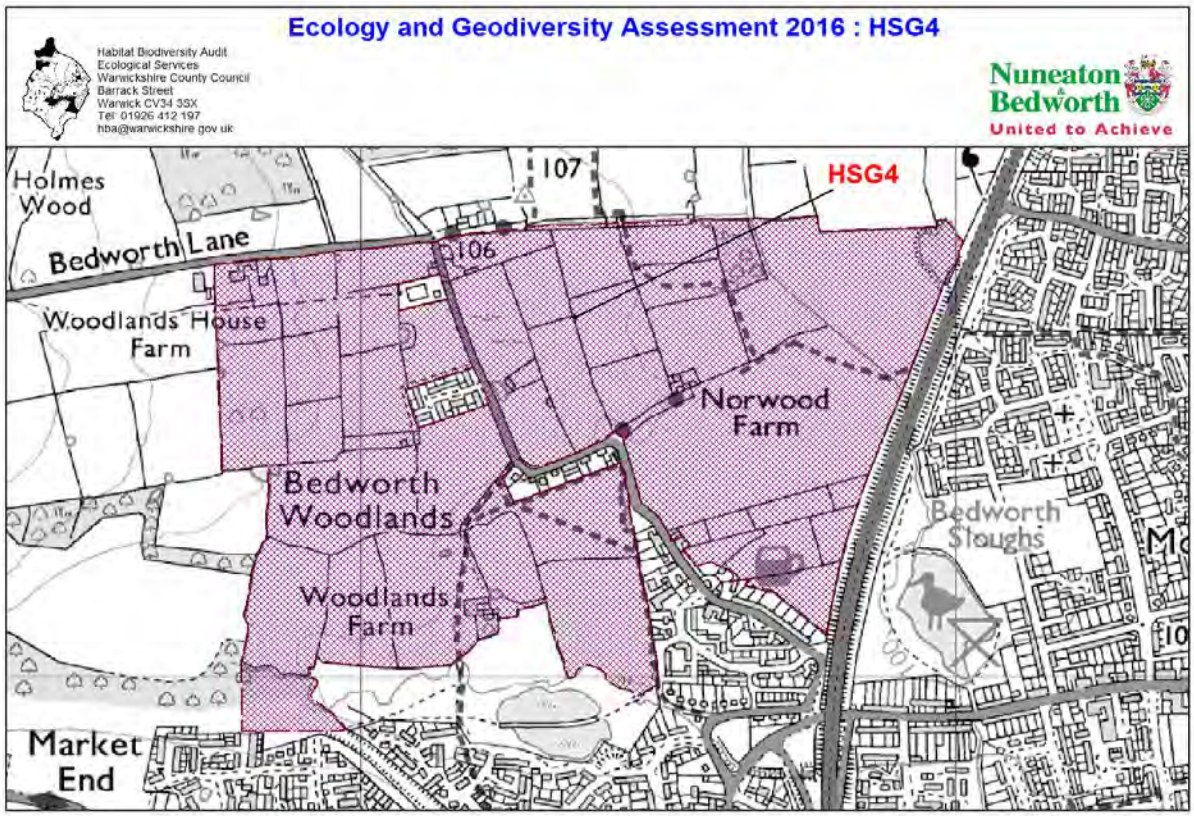


Figure 1 Location map

Area: 75.6 HA

Overview

The Woodlands is situated on the edge of the built up area of Bedworth to the south and west, and the open countryside to the north and east. The site is part of the old Arden landscape of small fields and hedgerows with mature oak and ash trees which creates a mix of important habitats including semi-natural woodlands, species rich hedgerows, wet grasslands and open pools and ponds, some of which have formed as a consequence of former mine working.

Key Features

- Species rich grasslands including the nationally scarce National Vegetation Classification (NVC) plant communities associated with wet grassland MG4 Meadow Foxtail-Great Burnett and the dry grassland MG5 Crested Dogstail-Common Knapweed community

- Habitats associated with wetland conditions including inundation vegetation, reed beds, marsh and open water.
- Species rich hedgerows typical of the Arden landscape area
- Post-industrial sites incorporating the flooded mine workings

Recommendations

- Protection with enhancement of nationally scarce grassland habitats, Local Wildlife Sites (LWS) and potential LWSs.
- Aim to restore the degraded grasslands at Charity Spinney Meadows LWS
- Hedgerows, woodlands and scattered semi-improved grasslands form important landscapes features in the ancient Arden Landscape and as such provide valuable traditional habitat corridors.
- Consider local flooding issues and how habitat management and creation on site can help alleviate flood risk.
- Restoration of ponds and pond complex of associated wetland habitats.
- A strong pond network exists across the development parcel. This network of ponds used predominately to trap flood water off adjoining farmland provides locally important habitats for breeding amphibians and invertebrates. The high connectivity of the pond network is maintained by close proximity between the mosaic of hedgerows and ponds and as such should be considered to have potential for great crested newts. A thorough assessment of the ponds should coincide with great crested new surveys.
- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

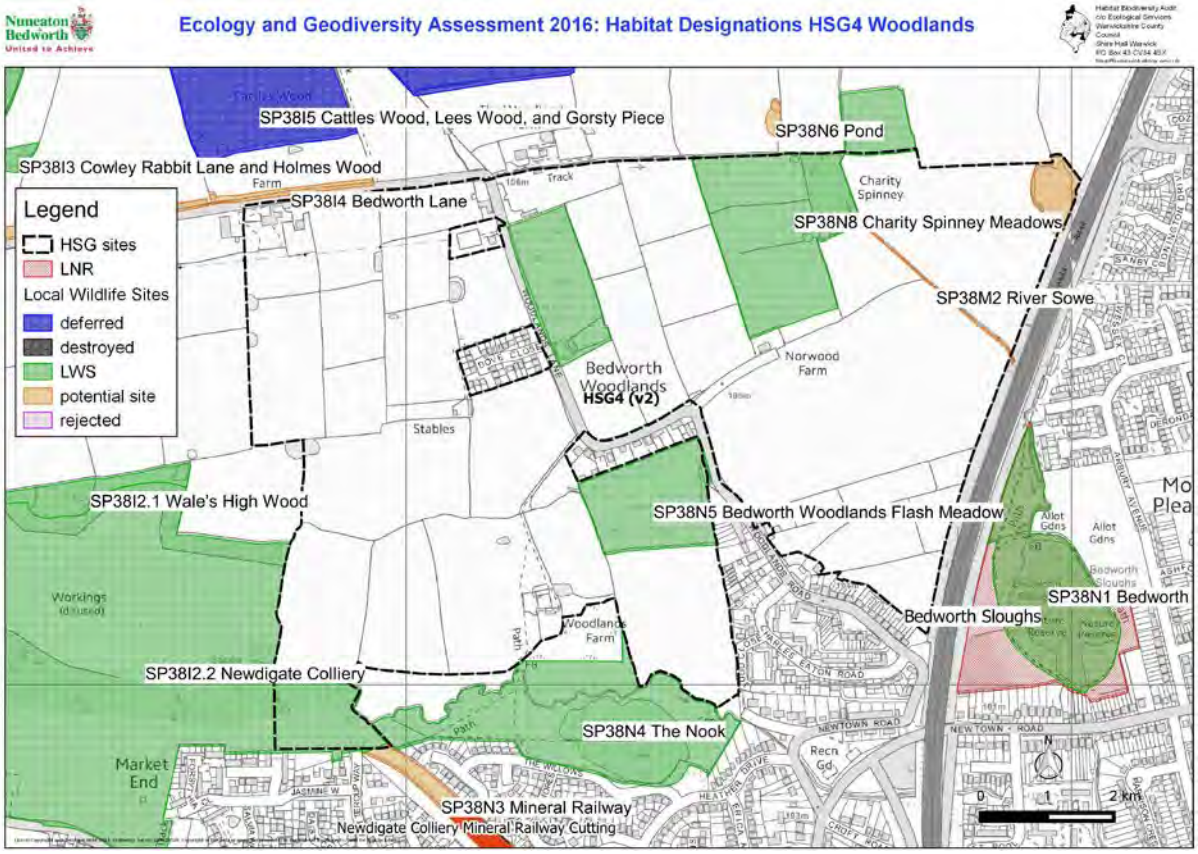


Figure 2 Site Designation Map

Bedworth Sloughs Local Nature Reserve

Bedworth Slough was notified by the NCC as a SSSI in March 1975. It was notified as one of the largest and most consistent pre-migration roosts of Swallows (Hirundo rustica) in the West Midlands. The SSSI was de-notified in January 1987 due to a decline in the roost. Bedworth Slough was designated as an LNR by NBBC on 15/06/1978.

Also listed as Wildlife Site 534 in “Wildlife Sites, Geological Sites and Wildlife Corridors in the Borough of Nuneaton and Bedworth, 1999”. The current SINC (LWS) boundary is a reduction of the previous Wildlife Site to exclude areas of MG1 grassland and young Broad-leaved plantation

Charity Spinney Meadows SP38N8[1]

The LWS comprises five small wet semi-improved neutral pasture fields and a small block of semi-natural deciduous woodland situated on the north-east side of Bedworth Woodlands, about 1.25km to the north-west of Bedworth town centre. The woodland, known as Charity Spinney, and four of the fields form a contiguous area immediately to the north of Norwood Farm, while the fifth field which includes a large rush marsh is situated adjacent to Woodlands Lane 300m to the west. All are bounded by old relatively species-rich hedgerows with numerous mature trees.

The complex was until the 1950's part of a large dairy farm and all the surrounding land consisted of pasture fields reaching as far as the outskirts of Bedworth. Subsequently most of the land was sold off and improved, ploughed up for arable or built on, but with a few fields of old semi-improved pastureland surviving on either side of Woodlands Lane, including Bedworth Woodlands Flash LWS, 300m to the south. Four of the five pasture fields within the LWS have never been ploughed within living memory, but the remaining field situated to the north-east of Charity Spinney was ploughed in the 1950's but returned to permanent grassland about 1990 and is now under stewardship. Due to poor drainage this field is recovering its former flora very well. The other four fields have been used for often intensive horse grazing in recent decades, although this is currently continued only in the rush marsh field in Woodlands Lane where some stables are based.

The Arbury Park estate consisting of an important complex of ancient and replanted woodland, parkland and farmland forms the northern perimeter of the site, with arable fields encircling the site on the east and south. Former small arable fields to the north have recently been returned to grassland. To the west of the main complex a block of small improved grass fields connect the site with the rush marsh to the west.

A much diverted headwater stream of the River Sowe forms the northern boundary of the main complex and there are four ponds within this area, two of which still have open water. A fifth pond also still holding water is situated by the stables at the south end of the rush marsh.

Two fields have never been ploughed and still show strong characteristics of MG4 Meadow Foxtail-Great Burnet grassland as defined by the National Vegetation Classification (NVC), a community type once typical of damp pastures and hay meadows in Warwickshire but is now a rare and declining habitat and internationally threatened.

[1] Charity Spinney Meadows SP38N8 LWS 21/03/2013 LWSP

Bedworth Woodlands Flash SP38N5[2]

The LWS consists of a small semi-improved rectangular horse pasture containing a flash pool situated behind houses flanking the west side of Woodlands Lane, Bedworth Woodlands, roughly 200m north-east of Woodlands Farm. The flash was caused by subsidence into flooded mine workings and was formerly seasonal but since at least the late 1980's there has been a permanent pool here, which gradually shrinks during times of drought leaving expanses of wet mud. In winter the flooding extends into the field to the south. Similar flash pools also formed nearby at an earlier period, at Bedworth Nook LWS 300m to the south and at Bedworth Slough SSSI 500m to the south-east.

The pasture is generally species-rich and regularly rough grazed by ponies. It appears to show mixed characteristics of both MG4 Meadow Foxtail-Great Burnet grassland and MG5 Crested Dogstail-Common Knapweed grassland, as defined by the National Vegetation Classification, with both types now uncommon in the county and the first an internationally threatened habitat.

The field is bounded by fragmented but relatively species-rich hedgerows, and also contains a narrow pond on its east side which was formerly used by local people for angling but is now largely covered with swamp.

The Nook SP38N4[3]

The site is located in north Bedworth. It consists of a pool formed by mining subsidence, semi-improved grassland and scrub. The River Sowe also flows through the site. The site has undergone some recent landscaping works and planting.

The Nook itself is a shallow pool formed by mining subsidence. A raised causeway that previously carried an old mineral railway runs through the middle of the pool. The causeway is now land locked with narrow channels at either end separating it from the pool margins.

Bedworth Sloughs SP38N1[4]

Bedworth Sloughs SINC Consists of a 1.87ha lake formed by subsidence with marginal swamp and a small adjacent meadow. The swamp contains two vegetation communities which are rare in Warwickshire these are Bulrush swamp and Reed Sweet-grass swamp. There is a good range of breeding wetland birds including: Great Crested-grebe, Reed Bunting, Reed Warbler, Mute Swan, and Tufted Duck.

[2] Bedworth Woodlands Flash SP38N LWS 25/02/2011 LWSP

[3] The Nook SP38N4 LWS 05/01/2007 LWSP

[4] Bedworth Sloughs LWS SP38N1 14/12/2001 LWSP

Hobby also use the area for feeding. The adjacent meadow adds to the amenity interest of the site and contains a few species which indicate a lack of agricultural improvement: Lesser Knapweed, Pignut, Great Burnet and Chimney Sweeper moth. Bedworth Sloughs is an important community recreation area as it is a LNR.

Newdigate Colliery SP38I2.2*[5]*

Newdigate Colliery LWS is a large area of semi-improved grassland, pioneer habitats, scrub and plantation woodland of different ages, situated about 1.5 km to the west of Bedworth town centre.

The habitats on site, including a central landscaped former spoil mound, occupy the site of the former Newdigate Colliery which operated from the beginning of the 20th century up to its closure in 1982. Since that time the site has been used for tipping and storing aggregates and has gradually become landscaped, leaving just a small area of working land left near the entrance in Astley Lane on the west side. On the south-east side part of the site has been lost to new housing developments.

Before the development of Newdigate Colliery the area was occupied by small pasture fields and a couple of small ancient coppice woodlands. A small linear remnant of one of the latter woodlands (Wales Wood) which also incorporates a couple of ponds, has survived within the site and this is a pre-existing LWS which directly influences the biodiversity over the rest of the site.

The LWS is at the centre of a concentration of woodland, grassland and wetland Local Wildlife Sites associated with the Arbury Park estate, including Colliery Wood LWS which abuts the site in the north-western corner, a number of ancient woodlands including Cowley Wood LWS in Arbury Park less than 1 km to the north, and Bedworth Nook LWS, Bedworth Woodlands Flash LWS and Bedworth Slough LNR from 200m to 1km to the east.

The main features of the site include a large grass-covered landscaped former spoil mound centred just to the south of the existing linear woodland LWS and an embankment running east-west across the site immediately to the south of here, which marks the site of the former colliery rail link. At the base of this bank the re-routed infant River Sowe runs along the bottom of a gully and links the site with the nearby Bedworth Nook LWS. This brook was formerly piped underground as it went through the colliery. To the south of the brook a large stretch of levelled semi-improved grassland marks the site of the colliery buildings. Away from the brook, wetlands are mostly very small and include a shallow scrape and a shaded gulley in the far eastern corner, and two re-landscaped pools on either side of the entrance road in Astley Lane, which mark the site of former reservoirs or settling tanks.

[5] Newdigate Colliery SP38I2.2 LWS 21/05/2012 LWSP

Most of the site originally lay on a gentle south-facing slope, with the altitude dropping gradually from about 130m ASL in the north-western corner by Colliery Wood LWS, down to below 115m ASL by the brook before gradually increasing again near the southern border. However the original topography has been much modified by the construction and subsequent clearing of the colliery and the present spoil mound is now the highest part of the site at probably around 140-150m ASL.

Similarly the geology has presumably been complicated by the introduction of spoil from elsewhere, but originally most of the site overlay acidic Upper Carboniferous clays, but with an area of more calcareous Pleistocene clay in the north-western corner to the south of Colliery Wood.

Although privately owned the whole area has informal open public access, and the site is much used by local residents from the new housing estates to the south. Parts of the site are occasionally mown in late summer.

Wale's High Wood SP38I2.1[6]

Wale's High Wood is a small area of Broad-leaved semi-natural woodland, part of which is ancient. The vegetation is a type of Oak wood which is at least of county importance. This particular community shows an unusual variation, for Warwickshire, in that Sessile Oak replaces English Oak as the dominant tree in one area. Several species associated with ancient woodland are present including: Sessile Oak, Guelder-rose, Dog's Mercury, Greater Stitchwort, Wood Melick, Wood Millet, Wood-sorrel, Yellow Archangel and Wood-sedge.

Cattles Wood, Lees Wood and Gortsy Piece Sp38I5[7] deferred.

The woodlands are part of Arbury Park, an extensive private estate that comprises landscaped parkland and lakes, farmland, as well as several areas of woodland. The woodlands are all listed on English Nature's Ancient Woodland Inventory as Ancient Semi-Natural Woodland (ASNW) however all have been cleared and replanted throughout with mostly conifer crops for timber production. A few native broadleaf trees remain at the edges. The woodlands belong to the W10 *Quercus robur-Pteridium aquilinum-Rubus fruticosus* (Pedunculate Oak-Bracken-Bramble) woodland community. There is limited habitat, structural, and species diversity in these woodlands. They are immediately surrounded by agricultural fields but form part of a group of woodlands on the Estate.

[6] Wale's High Wood SP38I2.1 LWS 14/12/2001 LWSP

[7] Cattles Wood, Lees Wood and Gorsty Piece SL38I5 17/06/2002 LWSP

Potential Local Wildlife Sites

- Bedworth Lane SP38I4
- Ponds SP38N6
- River Sowe SP38M2

Phase 1 Habitat Distinctiveness

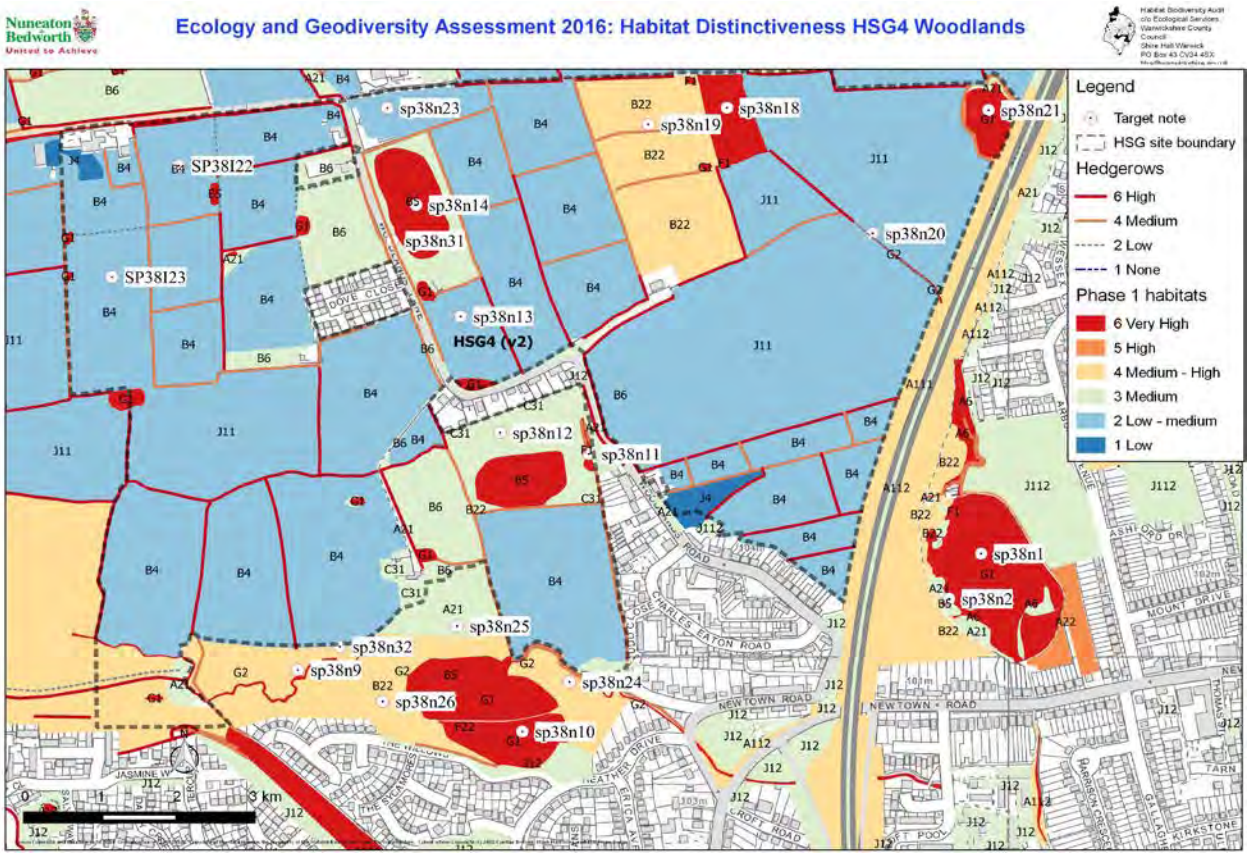


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference	Location
SP38I22 and 23	**SP3382387512**	**Fields along Bedworth Lane**

Improved grasslands with ridge and furrow, predominantly horse grazed field.

sp38n10	**SP3436286892**	**The Nook**

Pool from mining subsidence, with what appears to be an old mining line running through its centre. Subject to large fluctuations in water level explains the presence of creeping buttercup (Ranunculus repens), dock (Rumex sp.), celery-leaved

crowfoot (Ranunculus sp.) and great yellow-cress (Rorippa amphibia). Patches of bulrush (Typha latifolia) also occur in the southern half of the pool.

sp38n11 SP3444987271 Bedworth Woodlands Flash Meadow

Narrow area of swamp assumed to be the remains of a once much larger pool, now vegetated with an array of wetland plants including locally dominant reed sweet-grass (Glyceria maxima), reed canary-grass (Phalaris arundinacea), branched bur-reed (Sparganium erectum) and floating sweet-grass (Glyceria fluitans). The drier areas are dominated by marsh foxtail (Alopecurus geniculatus). Gorse (Ulex europaeus) occurs on the bank

sp38n12 SP3433287300 Bedworth Woodlands Flash Meadow

Heavily grazed but interesting meadow, dominated by crested dog's-tail (Cynosurus cristatus) with smooth meadow grass (Poa pratensis). Would benefit from further survey work during the summer. Updated CFT07/10/2016 Bedworth Flash Meadows LWS wet marshy grassland grazed by horses. Noted area for birds including lapwing, tern and curlew according to local land tenant (grazier)

sp38n13 SP3428187458 Bedworth Woodlands

Heavily grazed but interesting meadow, dominated by crested dog's-tail (Cynosurus cristatus) with smooth meadow grass (Poa pratensis). Would benefit from further survey work during the summer. Updated CFT07/10/2016 Bedworth Flash Meadows LWS wet marshy grassland grazed by horses. Noted area for birds including lapwing, tern and curlew according to local land tennant.Updated CFT 07/10/2013 de-graded grassland remains intensively grazed by horses. Ridge and Furrow.

sp38n14 SP3422287611 Charity Spinney Meadows LWS

Large area which although dry contains abundant soft-rush (Juncus effuses) and Yorkshire-fog (Holcus lanatus).

Updated CFT 7/10/2016 Charity Spinney Meadows LWS. Area of dense marshy grassland dominated by rush surrounded by species poor semi-improved grassland. With creeping buttercup (Ranunculus repens), Broad-leaved Dock (Rumex obtusifolius) and Greater Plantain ssp. (Plantago major). On the roadside eastern edge of the field is a pond shaded by mature pedunculate Oak (Quercus robur). Bulrush or Common Reed mace (Typha latifolia) along pond edge. Field has no public access.

sp38n16 SP3455687841 Pond

Small pool surrounded by ash (Fraxinus excelsior), oak (Quercus robur) and alder (Alnus glutinosa) with swamp vegetation occurring in the south containing a mosaic of reed canary-grass (Phalaris arundinacea), floating sweet-grass (Glyceria fluitans), Yorkshire-fog (Holcus lanatus) and marsh foxtail (Alopecurus geniculatus). Soft rush (Juncus effusus) also occurs with occasional common knapweed (Centaurea nigra) in drier areas.

sp38n17 SP3470587860

Area of neglected semi-improved grassland. Creeping bent (Agrostis stolonifera) dominate much of the shorter sward with timothy (Phleum pratense), false oat-grass (Arrhenatherum elatius) and cock's-foot (Dactylis glomerata). Tufted hair-grass (Deschampsia caespitosa) is locally abundant and common knapweed (Centaurea nigra) frequent in parts - some reed canary-grass (Phalaris arundinacea) also occurs.

sp38n18 SP3463087743 Charity Spinney Meadows LWS

Mature secondary oak (Quercus robur) woodland with an understorey of scattered hawthorn (Crataegus robur) and blackthorn (Prunus spinosa). The ground flora is impoverished and mainly dominated by bramble (Rubus fruticosus agg) and ivy (Hedera helix). A small area of lesser pond-sedge (Carex acutiformis) swamp occurs in the south.

sp38n19 SP3452787721 Charity Spinney Meadows LWS

Heavily grazed but interesting meadow. Dominated by crested dog's-tail (Cynosurus cristatus) with smooth meadow-grass (Poa pratensis). Would benefit from further survey work during the summer.

sp38n20 SP3482187572 River Sowe tributary

Well vegetated ditch with branched bur-reed (Sparganium erectum), water dock (Rumex hydrolapathum) and fool's watercress (Apium nodiflorum).

Updated 07/10/2016 CFT River Sowe tributary running water from Charity Spinney wood (Target note T18) down to dual carriage way and passess under in a culvert and down to Bedworth Slough LNR/LWS. Also Reed Canary-grass (Phalaris arundinacea),Wild Angelica (Angelica sylvestris) occassional, White Dead-nettle (Lamium album), and Common nettle (Urtica dioica) - nutrient run-off from fields.

sp38n21 SP3497487740 Pond pLWS

Large pool presumably as a result of past quarrying containing an abundance of lilies with frequent water plantain (Alisma plantago-aquatica) around the perimeter with bulrush (Typha latifolia), water mint (Mentha aquatica), false fox-sedge (Carex otrubae), marsh foxtail (Alopecurus geniculatus), rushes (Juncus spp.) and great

willowherb (Chamerion angustifolium). Some of the steeper banks are quite unstable and remain un-vegetated (showing layers of gleying). Elsewhere the banks are strewn with fresh water-mussel (Unio tumidus) shells of unknown origin

sp38n24 SP3442486959 The Nook

Semi-improved grassland containing abundant crested dog's-tail (Cynosurus cristatus), ribwort plantain (Plantago lancelota), red (Trifolium pratense) and white clover (T. repens) with frequent meadow (Ranunculus acris) and bulbous buttercup (R. bulbosus), common-bird's-foot-trefoil (Lotus corniculatus), cat's ear (Hypochaeris radicata), common knapweed (Centaurea nigra), daisy (Bellis pernnis), smooth meadow-grass (Poa pratensis), common bent (Agrostis capillaris) and localised perennial rye-grass (Lolium perenne). Marsh foxtail (Alopecurus geniculatus) and toad rush (Juncus bufonis) also occur in some of the low areas of the ridge and furrow that crosses the land. The area appears to have been seeded with a agricultural clover mix and is heavily horse grazed throughout the year.

sp38n25 SP3427687036 Woodlands Farm

Poor semi-improved grassland with abundant crested dog's-tail (Cynosurus cristatus), smooth meadow-grass (Poa pratensis), common bent (Agrostis capillaris), meadow buttercup (Ranunculus acris) and white clover (Trifolium repens). Frequent daisy (Bellis perennis), greater plantain (Plantago major), perennial rye-grass (Lolium perenne) with localised marsh foxtail (Alopecurus geniculatus) and silverweed (Potentilla anserina). Heavily horse grazed with patches of dock (Rumex sp.).

sp38n31 SP3423187466 Hedgerows Woodland Road

Species Rich hedgerows with trees along Woodland Road typical of the area with ditch and bank, long established but not well managed very shrubby with mature pedunculate Oak (Quercus robur) and Ash (Fraxinus excelsior) trees and shrub layer consisting mostly of Blackthorn (Prunus spinosa) and Hawthorn (Crataegus monogyna) with Hazel (Corylus avellana), Sycamore (Acer pseudoplatanus), and occasional Holly (Ilex aquifolium). Ground flora Bramble (Rubus fruticosus), White Bryony (Bryonia dioica), Ivy (Hedera helix), Nipplewort (Lapsana communis), Red dead-nettle (Lamium purpureum), Cock's-foot (Dactylis glomerata) and Common Knotgrass (Polygonum aviculare).

SP38N2 SP3412287017 Hedgerows at Woodlands Farm

Species rich hedgerow with mature trees with ditch and bank with Pedunculate Oak (Quercus robur) and Ash (Fraxinus excelsior) shrub layer has Holly (Ilex aquifolium), Hawthorn (Crataegus monogyna), Elder (Sambucus nigra). Extends from Woodlands Farm and merges into Wale's High Wood. Creates the northern boundary of

Newdigate Colliery LWS.

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 5 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

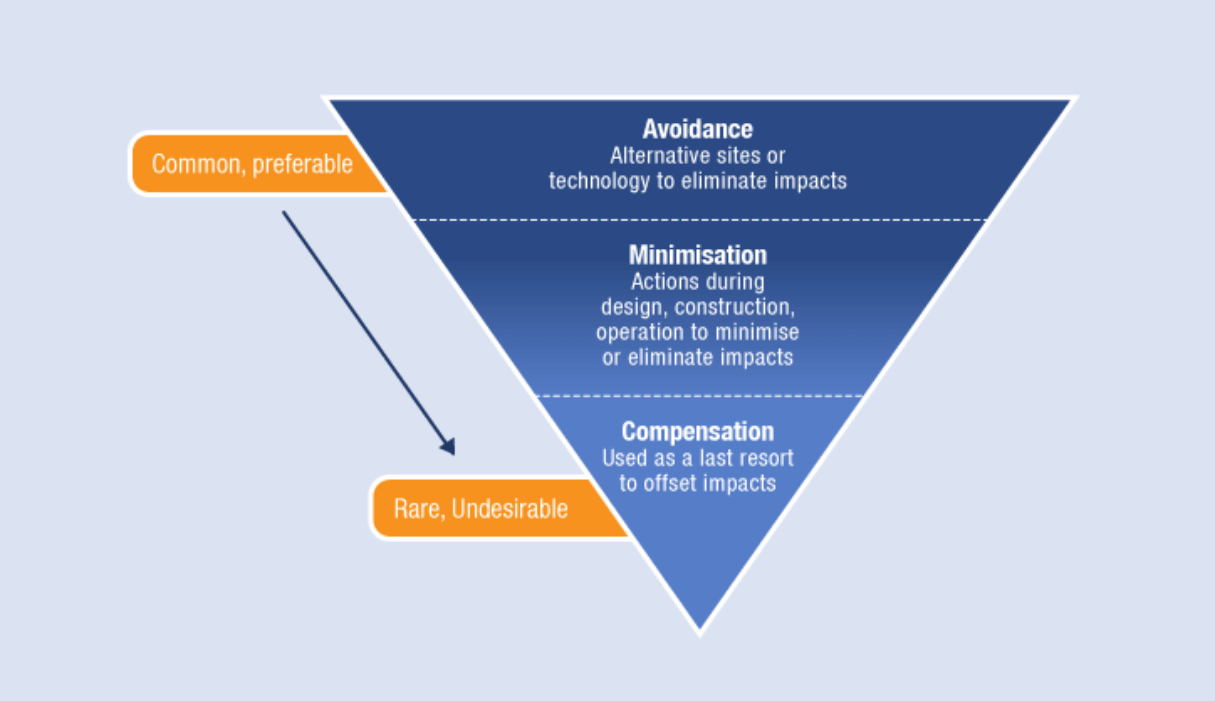


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG4	Swamp	0.01	6	3	0.21
HSG4	Improved grassland	0.07	2	1	0.15
HSG4	Swamp	0.02	6	3	0.41
HSG4	Standing water	0.01	6	3	0.27
HSG4	Standing water	0.05	6	3	0.82
HSG4	Improved grassland	2.72	2	1	5.45
HSG4	Improved grassland	0.99	2	1	1.98
HSG4	Dense/continuous scrub	0.00	3	2	0.01
HSG4	Arable	3.72	2	1	7.44
HSG4	Arable	2.31	2	1	4.62
HSG4	Semi-improved neutral grassland	0.01	4	3	0.14
HSG4	Improved grassland	1.05	2	1	2.10
HSG4	Improved grassland	1.10	2	1	2.20
HSG4	Improved grassland	0.20	2	1	0.40
HSG4	Improved grassland	0.85	2	1	1.71
HSG4	Bare ground	0.13	2	1	0.26
HSG4	Broad-leaved semi-natural woodland	0.01	6	3	0.27
HSG4	Dense/continuous scrub	0.18	3	2	1.08
HSG4	Broad-leaved plantation	0.50	4	2	4.00
HSG4	Semi-improved neutral grassland	0.74	4	3	8.88
HSG4	Standing water	0.01	6	3	0.27
HSG4	Tall ruderal	0.04	3	1	0.12
HSG4	Poor Semi-improved grassland	0.25	3	2	1.52
HSG4	Improved grassland	1.33	2	1	2.65
HSG4	Improved grassland	2.40	2	1	4.80
HSG4	Improved grassland	1.49	2	1	2.99
HSG4	Dense/continuous scrub	0.01	3	2	0.04
HSG4	Dense/continuous scrub	0.15	3	2	0.88
HSG4	Improved grassland	1.33	2	1	2.65
HSG4	Standing water	0.05	6	3	0.84
HSG4	Improved grassland	0.63	2	1	1.25
HSG4	Semi-improved neutral grassland	1.17	4	3	14.05
HSG4	Arable	1.20	2	1	2.40
HSG4	Improved grassland	1.47	2	1	2.94
HSG4	Improved grassland	0.27	2	1	0.53
HSG4	Swamp	0.05	6	3	0.96
HSG4	Semi-improved neutral grassland	0.96	4	3	11.56
HSG4	Improved grassland	1.72	2	1	3.44
HSG4	Standing water	0.05	6	3	0.87
HSG4	Semi-improved neutral grassland	0.00	4	3	0.00
HSG4	Improved grassland	1.09	2	1	2.17
HSG4	Improved grassland	0.50	2	1	1.00
HSG4	Broad-leaved semi-natural woodland	0.72	6	3	12.98
HSG4	Tall ruderal	0.08	3	1	0.24
HSG4	Dense/continuous scrub	0.01	3	2	0.05
HSG4	Tall ruderal	0.03	3	1	0.10
HSG4	Standing water	0.17	6	3	3.12
HSG4	Marsh/marshy grassland	0.40	6	3	7.27
HSG4	Inundation vegetation	0.19	6	3	3.34

HSG4	Running water	0.03	6	3	0.53
HSG4	Improved grassland	1.18	2	1	2.36
HSG4	Scattered scrub	0.10	4	2	0.82
HSG4	Arable	5.47	2	1	10.95
HSG4	Arable	9.87	2	1	19.73
HSG4	Running water	0.03	6	3	0.47
HSG4	Running water	0.01	6	3	0.17
HSG4	Semi-improved neutral grassland	1.88	4	3	22.53
HSG4	Standing water	0.07	6	3	1.21
HSG4	Marsh/marshy grassland	1.00	6	3	17.98
HSG4	Improved grassland	0.92	2	1	1.85
HSG4	Dense/continuous scrub	0.01	3	2	0.04
HSG4	Improved grassland	1.15	2	1	2.30
HSG4	Improved grassland	0.92	2	1	1.83
HSG4	Dense/continuous scrub	0.03	3	2	0.19
HSG4	Dense/continuous scrub	0.00	3	2	0.02
HSG4	Improved grassland	1.16	2	1	2.32
HSG4	Improved grassland	0.31	2	1	0.63
HSG4	Improved grassland	0.13	2	1	0.25
HSG4	Improved grassland	0.33	2	1	0.65
HSG4	Bare ground	0.38	2	1	0.76
HSG4	Improved grassland	3.35	2	1	6.70
HSG4	Standing water	0.05	6	3	0.82
HSG4	Poor Semi-improved grassland	1.34	3	2	8.02
HSG4	Improved grassland	0.29	2	1	0.58
HSG4	Improved grassland	2.50	2	1	5.00
HSG4	Poor Semi-improved grassland	1.20	3	2	7.20
HSG4	Marsh/marshy grassland	0.03	6	3	0.63
HSG4	Improved grassland	1.07	2	1	2.14
HSG4	Dense/continuous scrub	0.01	3	2	0.07
HSG4	Standing water	0.02	6	3	0.31
HSG4	Tall ruderal	0.13	3	1	0.40
HSG4	Poor Semi-improved grassland	0.14	3	2	0.86
HSG4	Improved grassland	3.28	2	1	6.57
HSG4	Tall ruderal	0.11	3	1	0.34
HSG4	Dense/continuous scrub	0.03	3	2	0.19
HSG4	Poor Semi-improved grassland	0.01	3	2	0.09
HSG4	Poor Semi-improved grassland	0.03	3	2	0.18
HSG4	Poor Semi-improved grassland	0.05	3	2	0.28
HSG4	Poor Semi-improved grassland	0.23	3	2	1.39
HSG4	Poor Semi-improved grassland	0.06	3	2	0.38
HSG4	Dense/continuous scrub	0.03	3	2	0.18
HSG4	Standing water	0.02	6	3	0.32
HSG4	Standing water	0.01	6	3	0.19
HSG4	Standing water	0.01	6	3	0.13
HSG4	Dense/continuous scrub	0.08	3	2	0.49
HSG4	Improved grassland	1.46	2	1	2.92
				Biodiversity Units	**261.38**

Phase 1 Habitat Connectivity

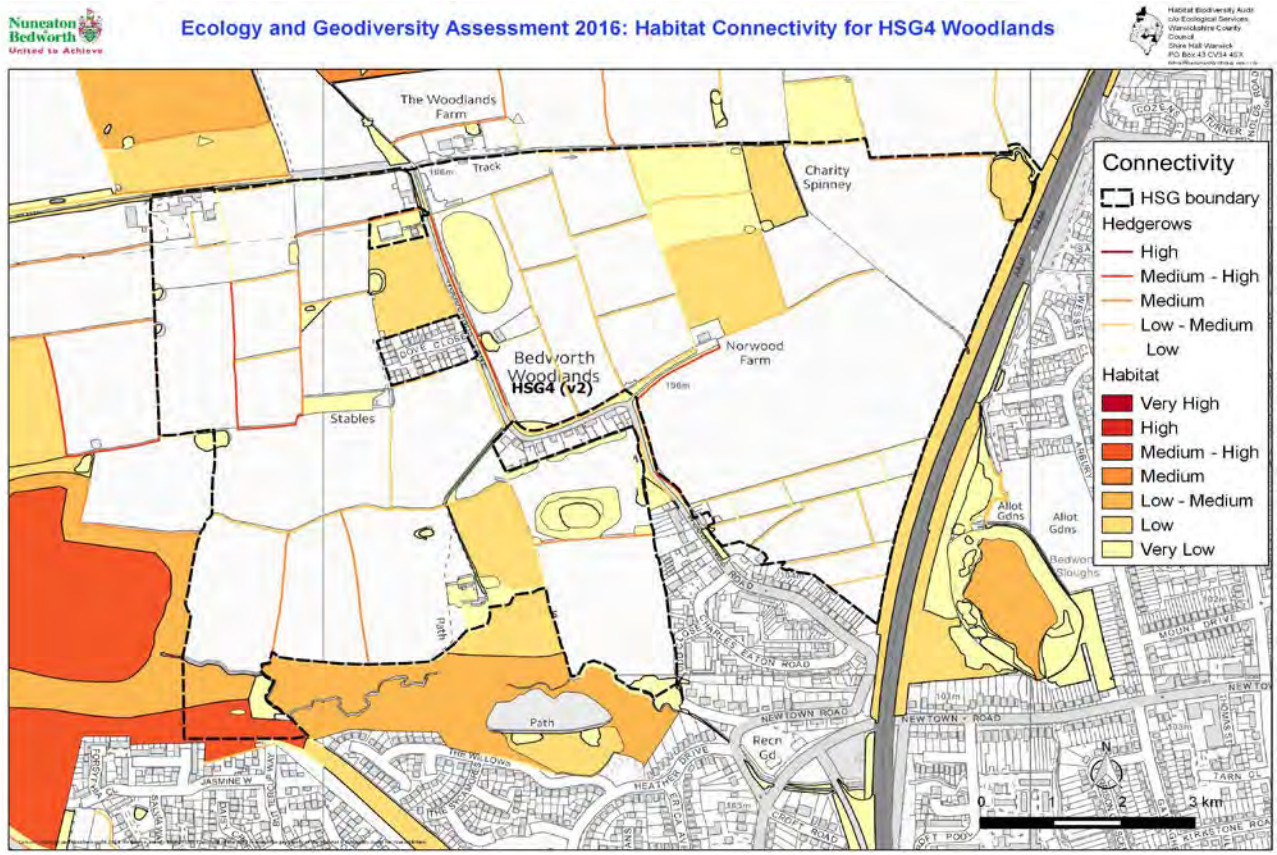
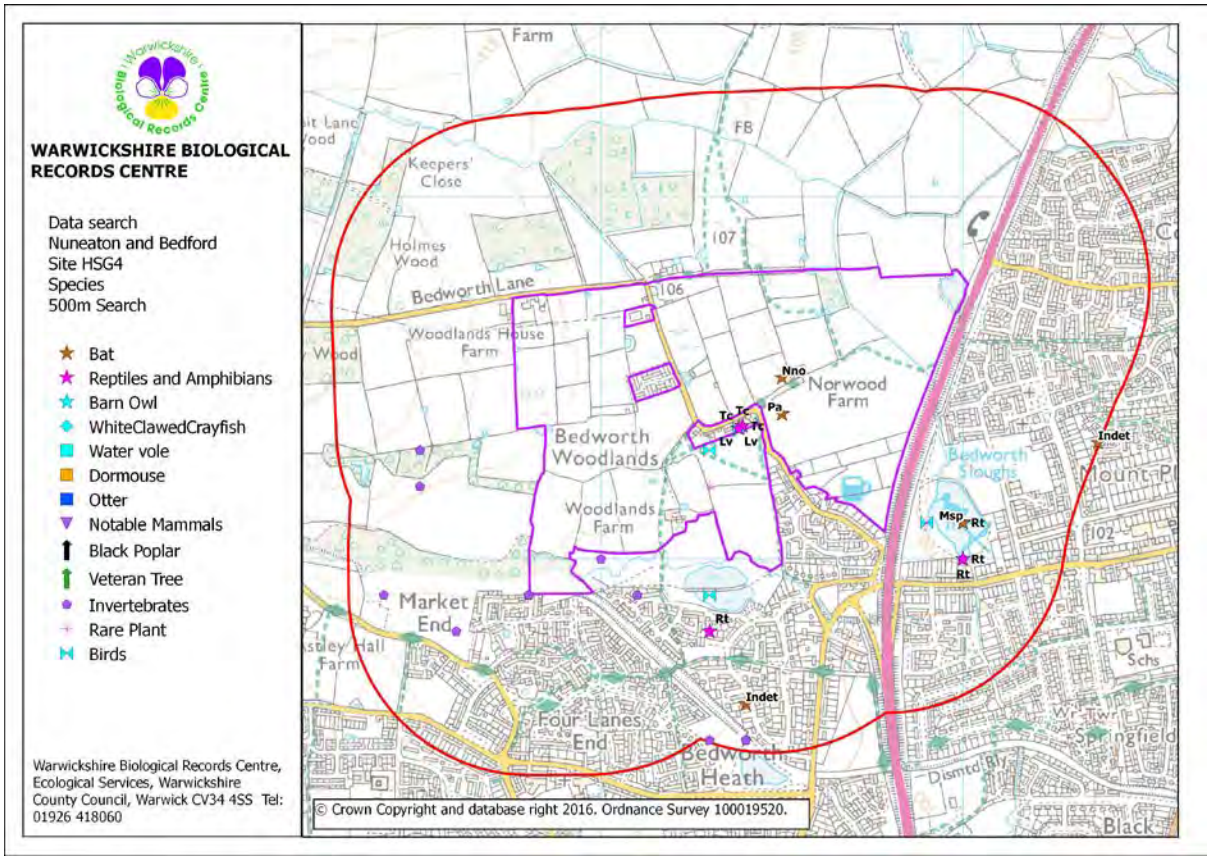


Figure 5 Phase 1 habitat connectivity

Protected & Important Species

There are the following protected and/or important species[8] recorded within the proposed boundary:

- Bats: *Myotis sp*, Daubentons, Noctule, Common Pipistrelle, Soprano Pipistrelle, Brown Long-eared

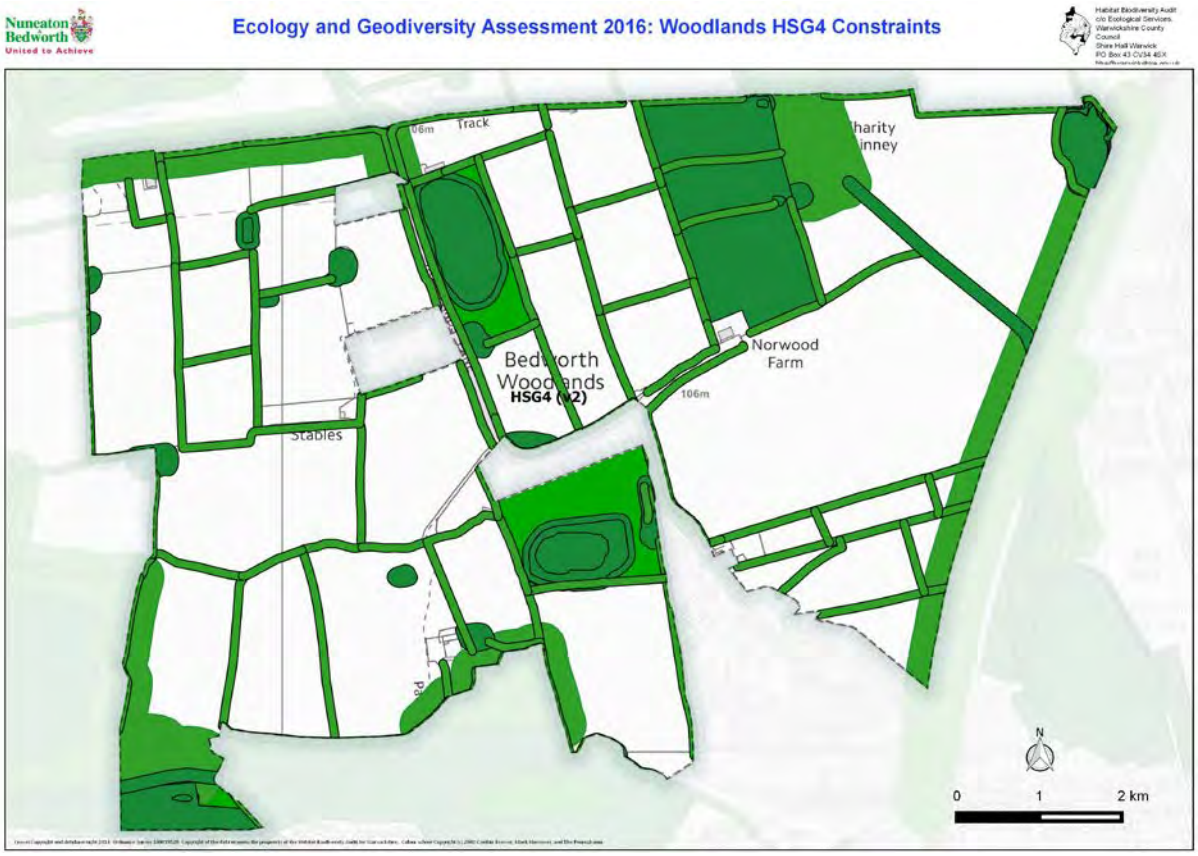


There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate bat and Whiskered/Brandt's Bat
- Amphibians and Reptiles: Common Toad and Great Crested Newt
- Mammals: Badger
- Invertebrates: Adonis' Ladybird, Latticed Heath, Grey Dagger, Dingy Skipper, Small Heath and Wall
- Birds: House Sparrow and Starling
- County Rare Plants: Spiny Restharrow and Bottle Sedge

[8] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG5 HOSPITAL LANE

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG5 HOSPITAL LANE 3
Area: 22.9 HA 3
Overview 3
Key Features 4
Recommendations 4
Designated Sites: Local Wildlife Sites 5
Phase 1 Habitat Distinctiveness 7
Target Notes 7
Phase 1 Habitat Connectivity 11
Constraints Map 13

Housing Site: HSG5 HOSPITAL LANE

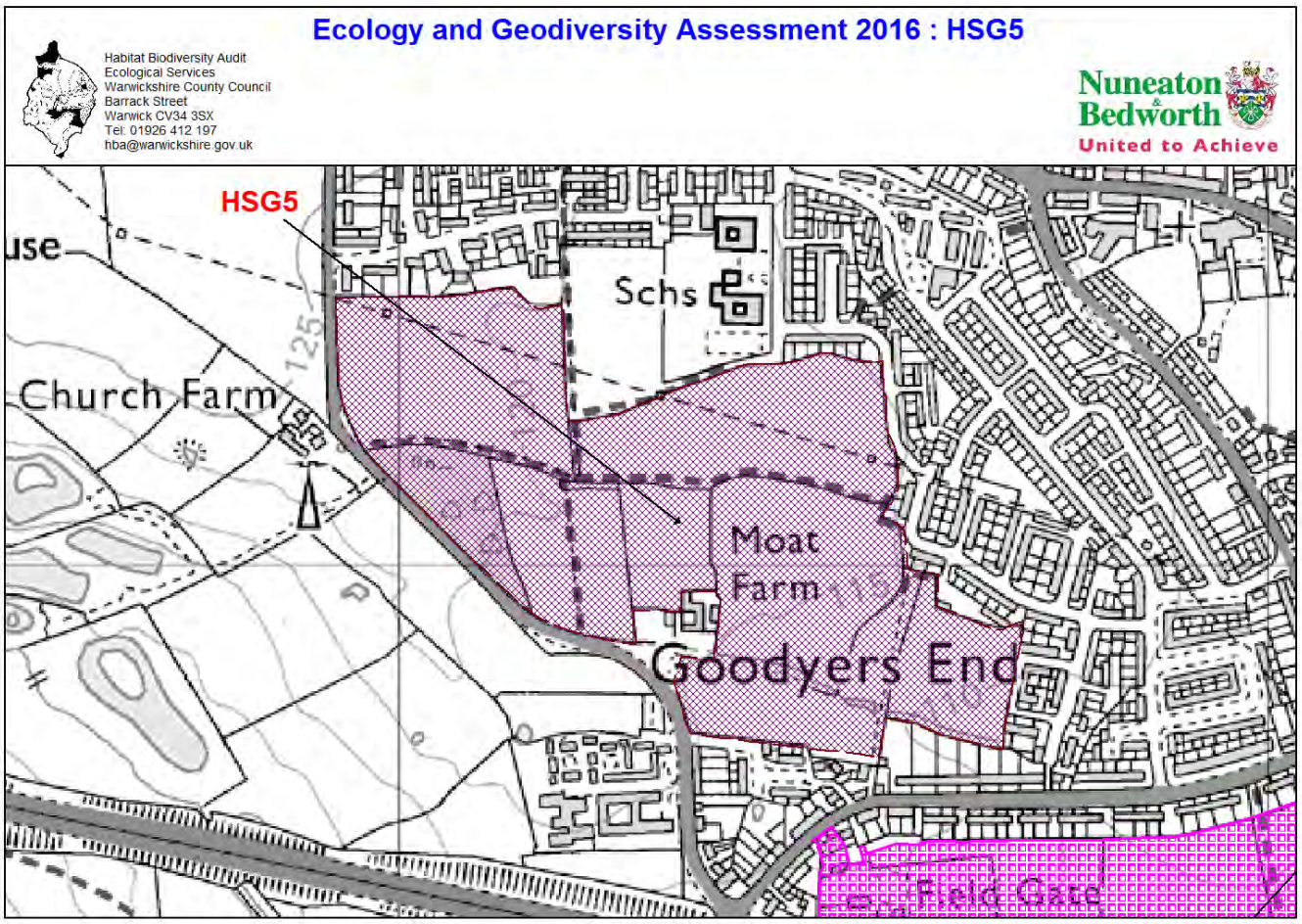


Figure 1 Location map

Area: 22.9 HA

Overview

The site consists mainly of arable fields with areas of improved grassland and rough grassland around the fringes of the site where is borders the existing built up area. The site contains many intact hedgerows and footpaths which are well used by local residents.

The lower section of the site between Moat Farm and the former Cattell's Wood is a poor wet grassland area with frequent rush.

Key Features

- Intact hedgerows and trees along field boundaries
- Remnant grassland and scrubland areas along designated footpaths

Recommendations

- Hospital Field Local Wildlife Site (rejected) should be considered as a biodiversity offset site for restoration as a community woodland or Local Nature Reserve.
- Retain and improve the hedgerows along the field edges and consider creating wild life buffer strips along footpaths to improve connectivity.
- Consider improving areas along edge of current built up area and proposed development site to maintain footpaths and scrubland and grassland areas to open countryside beyond Hospital lane.
- Consider incorporating a wildlife area for Newdigate Primary School at the southern end of the playing field which runs alongside public footpath.
- Off-set grass land areas Anderton Road and playing field.
- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Wildlife Sites

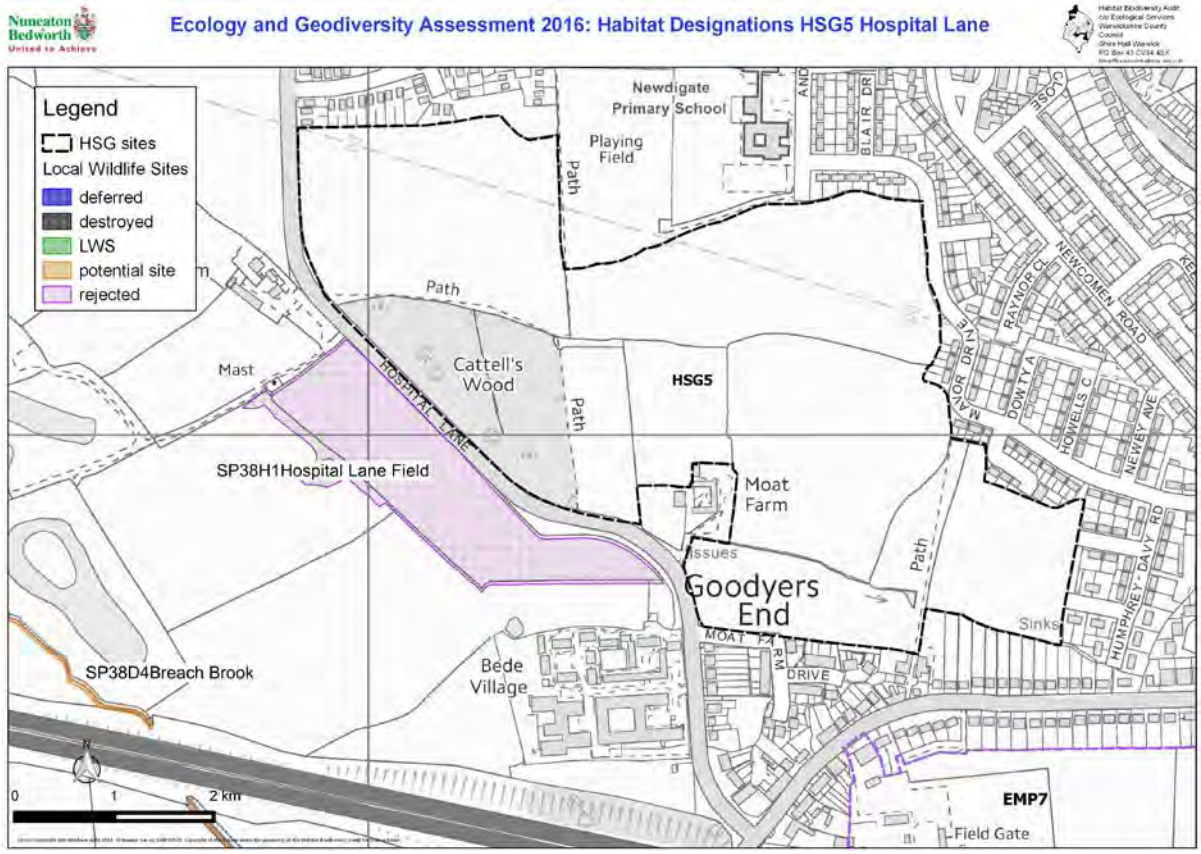


Figure 2 Site Designation Map

SPH1 rejected Local Wildlife Site

The field was traditionally a dairy pasture but since it became redundant over 20 years ago the owner has left it unmanaged and the former grassland has become rank and partly overgrown with scrub, bramble and tall herb. The field is enclosed by some reasonably diverse unmanaged hedgerows studded with some fine mature Pedunculate Oaks. A small pond is set in a wooded dell on the outside of the western boundary hedge, and this was formerly regularly fished but is now left undisturbed. The field was originally one of a group of old species-rich pasture fields, the best adjoining the site to the west which was of SSSI quality was intentionally destroyed by the then landowner in the early 1980's and is now under arable, as are most of the other fields in the local area. A small and probably near ancient woodland known as Cattell's Wood formerly almost adjoined the site to the north, being only divided by the lane, but this was felled probably in the early 1970's and the site ploughed up.

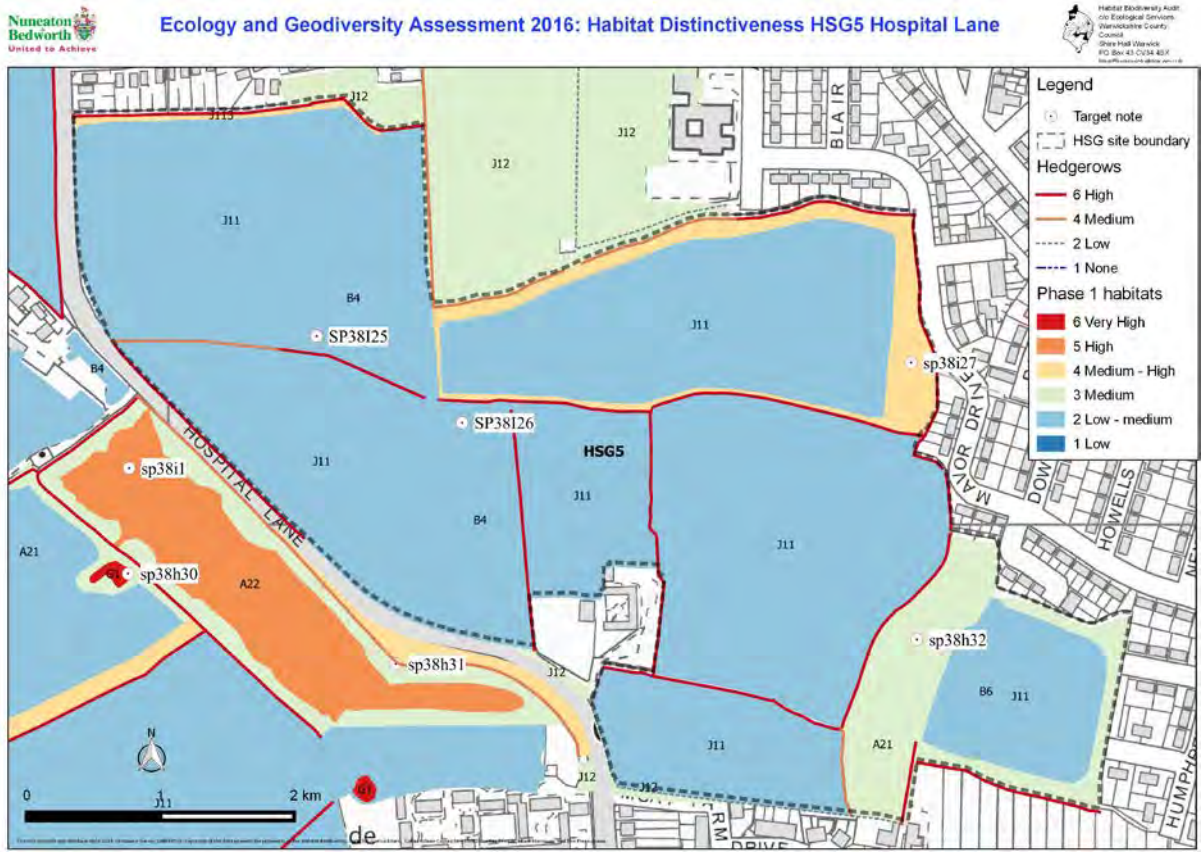
The nearest grassland Local Wildlife Sites to the field is a group including Newdegate Colliery Grassland, Bedworth Woodlands and Bedworth Nook about 1.75km to the north-east, and the now destroyed Somers Road Meadow LWS 1km to the south-west. Other than these very little semi-improved grassland remains in the local area.

Although privately owned with no official access, gaps in the road hedge have allowed local residents, particularly dog-walkers, to access it and there is now a well trodden path running from north-west to east.

Due to recent neglect which has led to a declining grassland biodiversity, at present the field does not meet the requirements of a Local Wildlife Site. However the mosaic of scrub, mature oaks, tall herb and rough grassland are of considerable local importance to wildlife, as the surrounding land is now mainly under intensive agriculture or housing. The present owner is unwilling to manage the site so the grassland will continue to deteriorate until, through natural succession, it becomes scrub woodland.

The best future for the site is to become a community woodland or Local Nature Reserve, possibly as mitigation for any future housing developments. This would then replace the woodland lost when the adjoining Cattell's Wood was destroyed in the 1970's.

Phase 1 Habitat Distinctiveness



Target Notes

Reference	Grid Reference	Location
SP38I25	SP3311186134	Hospital Lane Field

Hedgerow with bank and ditch running alongside public footpath from Hospital Lane to Manor Road. Old hedgerow with remanant section of the former Cattells Wood which is now arable fields. This is the species rich section with mature pedunculate oak (Quercus robur), ash (Fraxinus excelsior) and silver birch (Betula pendula) with an understory of hawthorn (Crataegus monogyna), holly (Ilex aquifolium), Elder (Sambucus nigra), suckering English Elm (Ulmus procera), Hazel (Corylus avellana) and bramble (Rubus fruticosus agg.), bluebell (Hyacinthoides non-scripta), dog's Mercury (Mercurialis perennis) and willowherb (Epilobium spp.) with occasional hard rush (Juncus inflexus) in the ditch forms the ground flora.

The hedgerow becomes a cut shrub layer just along from the wooded section with a mix of hawthorn (Crataegus monogyna) and holly (Ilex aquifolium) and then becomes a single species holly (Ilex aquifolium) hedge and then a single species hawthorh hedge. As the hedge reaches the Mayor End Drive it becomes more gappy

with a mixture of hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa). Ground flora becomes poorer - poor semi-improved grassland with cleavers (Galium aparine), creeping buttercup (Ranunculus repens), broad-leaved dock (Rumex obtusifolium) with occasional bracken (Pteridium aquilinum) and garlic mustard (Alliaria petiolata).

The hedge was recently cut at the time of visit and had a wide verge - 3-5 metres on the foot path side. Wide section further along towards Mayor Drive on both sides of the hedge merges into an area of rough grassland
foot paths used by dog walkers.

SP38I26 SP3322086069 Hospital Lane Field

Poor rush pasture alongside footpath the other side of a cultivated arable field. This area is wet with predominately hard rush (Juncus inflexus) and coarse grass. No forbs were noted here.

SP38I27 SP3355686114 Hospital Lane Field

Poor semi-improved grassland set aside from an arable field, used by walkers to go from Newdigate Primary School playing field to Mavor Road with occasional patches of hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa) scrub along boundary with residential properties.

SP38H32 SP3355485923 Hospital Lane Field

Poor semi-improved grassland with public access between Moat Farm Drive and Manor Drive housing estate. Ground cover is mainly coarse grasses, common nettle (Urtica dioica) and dock (Rumex spp.) with occasional patches of lesser celandine (Ranunculus ficaria). There are some mature pedunculate oak (Quercus robur) at Manor Drive. The grassland extends around an arable fiel*d recently planted with maize.*

SP38H31 SP3355485923 Hospital Lane verge

Dense scrub and woodland alongside Hospital Lane includes mature pedunculate oak (Quercus robur)s, Crab apple (Malus sylvestris), Goat Willow (S. caprea), scrub layer has Blackthorn (Prunus spinosa), Holly (Ilex aquifolium), Dog Rose (Rosa canina) and bramble (Rubus fruticosus agg.). A ditch runs alongside the wooded area where fly tipping occurs and needs removing.

Updated 09/04/2014. Scrub and woodland along Farm Road with mature Pedunculate oak (Quercus robur), crab apple (Malus sylvestris), blackthorn (Prunus spinosa), holly (Ilex aquifolium), dog rose (Rosa canina) and occasional Goat willow (Salix caprea). Ditch with water and rubbish still needs removal. Included as part of plws recommendation

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 3 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

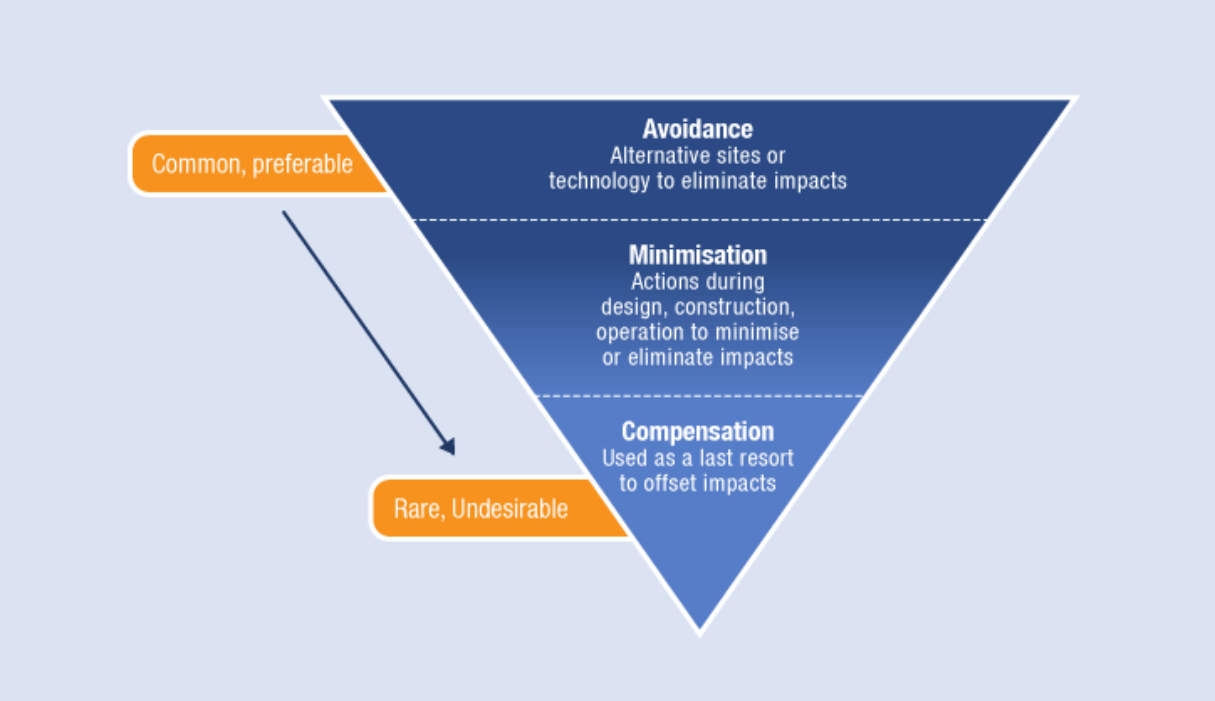


Figure 3: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG5	Amenity grassland	0.01	2	1	0.01
HSG5	Arable	3.49	2	1	6.98
HSG5	Arable	4.19	2	1	8.38
HSG5	Improved grassland	1.14	2	1	2.28
HSG5	Arable	2.59	2	1	5.17
HSG5	Arable	1.32	2	1	2.65
HSG5	Arable	1.45	2	1	2.90
HSG5	Dense/continuous scrub	0.14	3	2	0.84
HSG5	Improved grassland	1.14	2	1	2.28
HSG5	Arable	1.31	2	1	2.62
HSG5	Set-aside	1.00	6	1	5.97
HSG5	Arable	3.48	2	1	6.96
HSG5	Set-aside	0.11	6	1	0.63
HSG5	Poor Semi-improved grassland	1.45	3	2	8.68
				Biodiversity Units	**56.34**

Phase 1 Habitat Connectivity

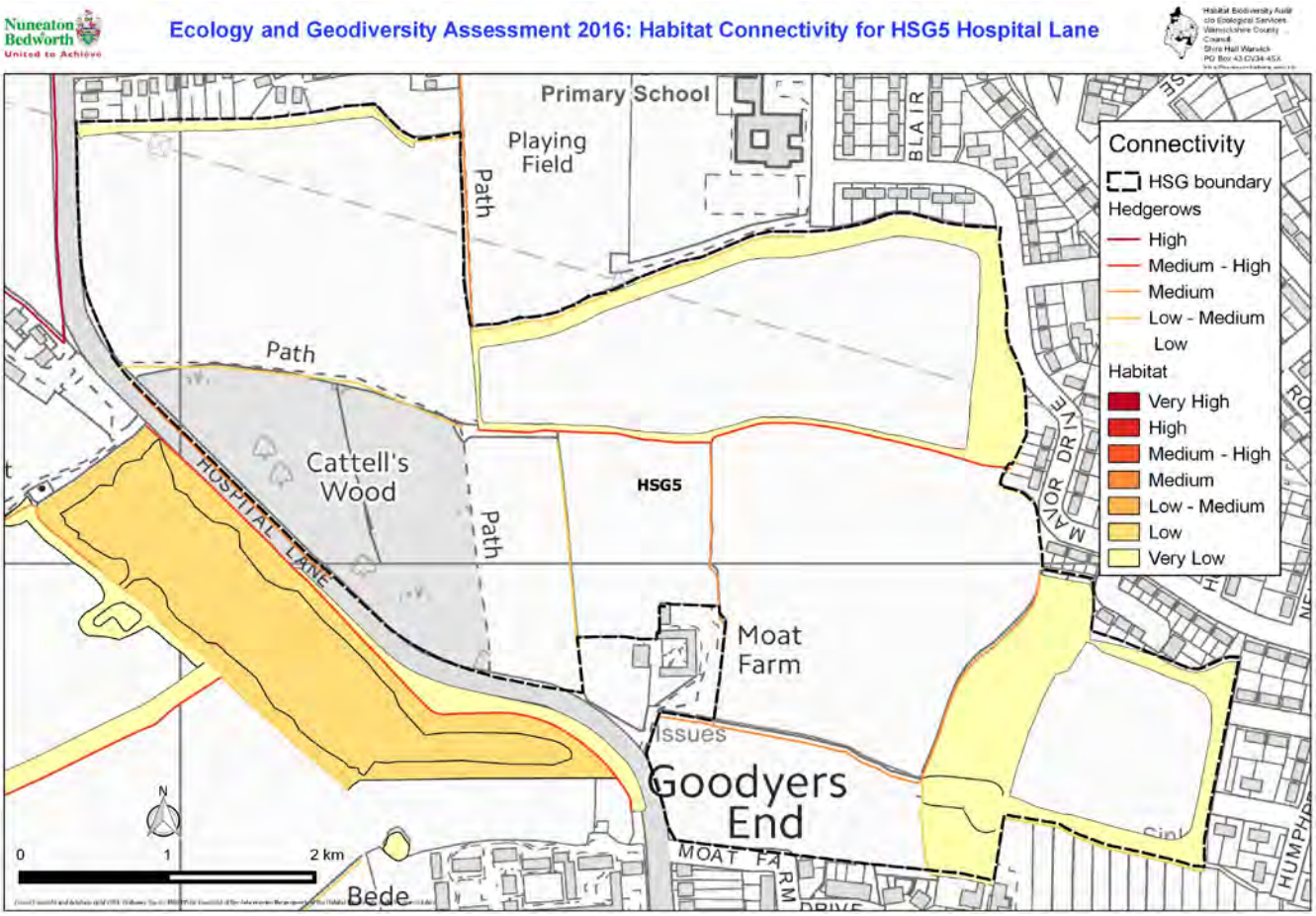


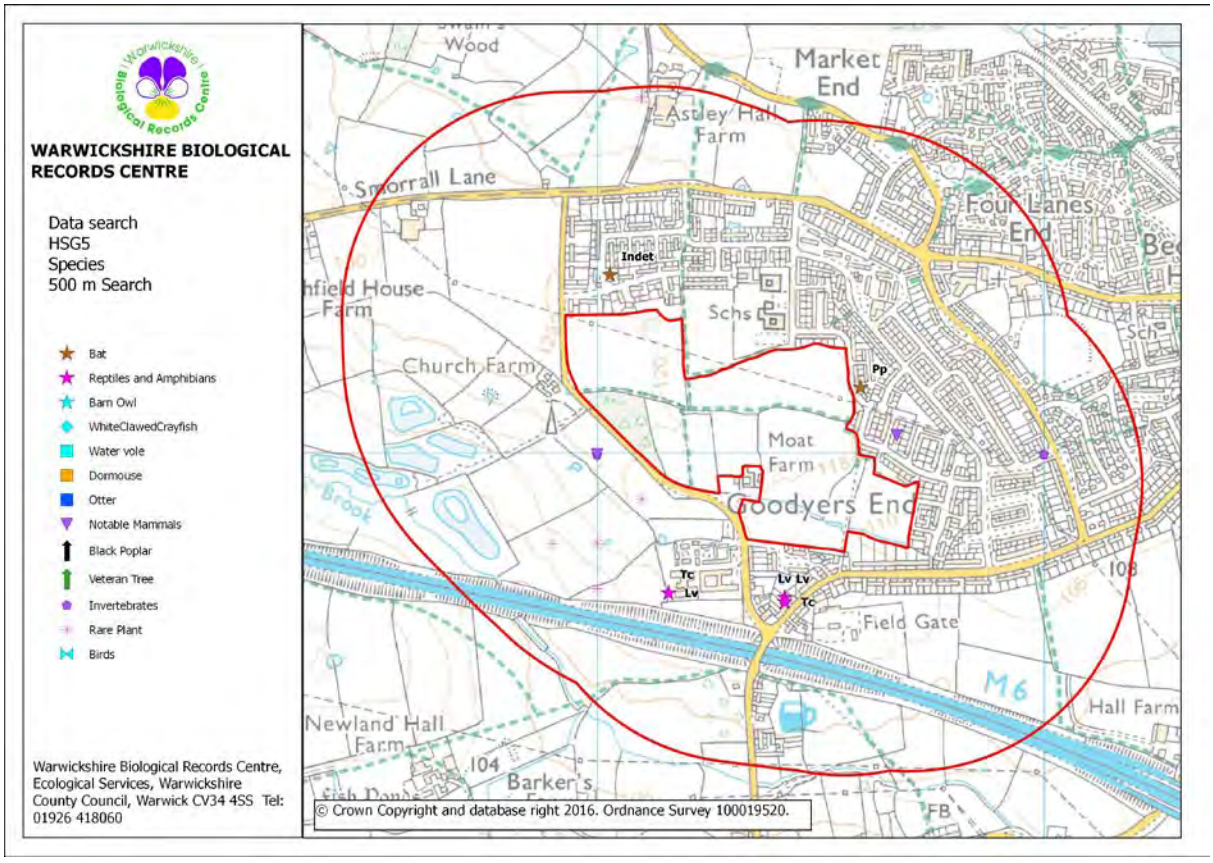
Figure 4 Phase 1 habitat connectivity

Protected & Important Species

There are no protected and/or important species[1] recorded within the proposed boundary.

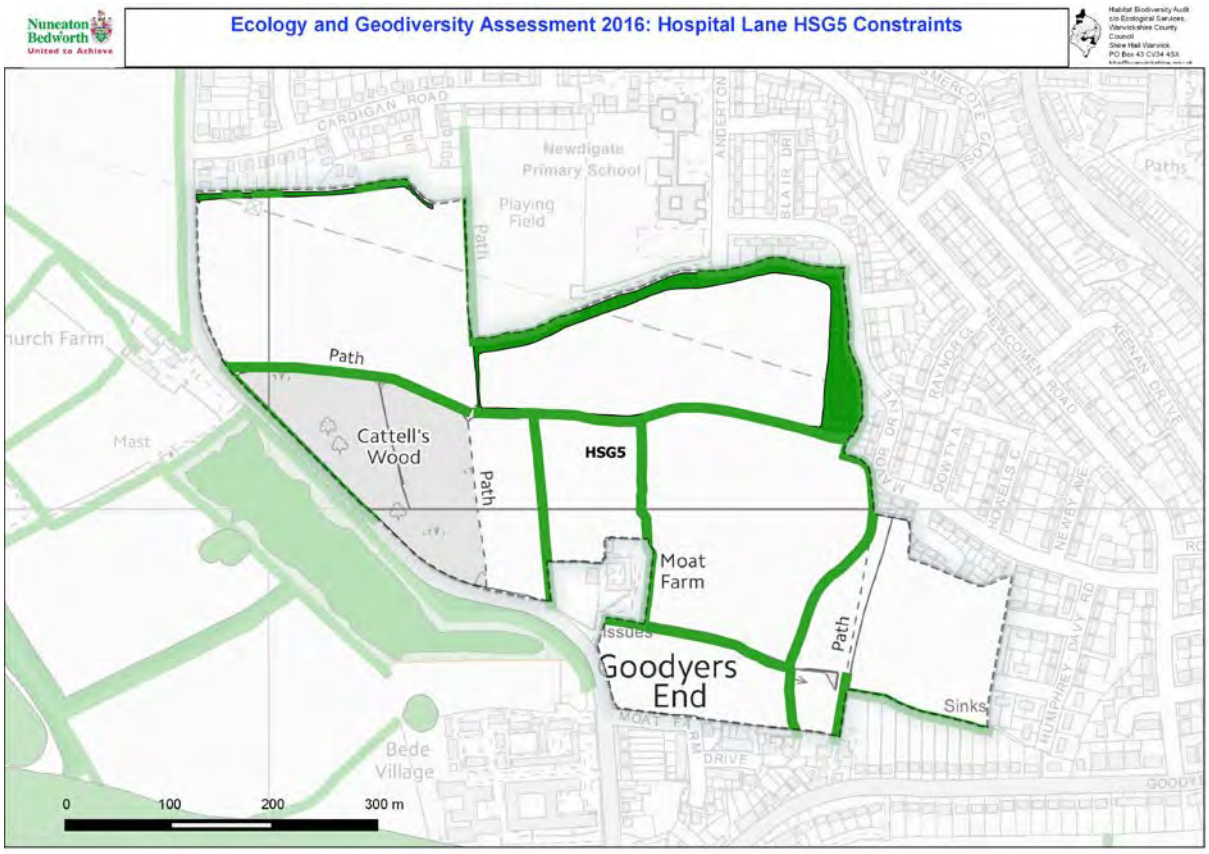
There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate Bat and Common Pipistrelle
- Amphibians and Reptiles: Great Crested Newt
- Mammals: Hedgehog
- Invertebrates: Small Heath, Wall and Dingy Skipper
- County Rare Plants: Harebell, Galingale, Needle Spike-rush, Green-winged orchid, Sherard's Downy-rose and Bog Pondweed.



[1] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG6 SCHOOL LANE

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG6 School Lane 3
Area: 16.5 HA 3
Overview 3
Key Features 3
Recommendations 3
Designated Sites: Local Sites 5
Phase 1 Habitat Distinctiveness 6
Target Notes 6
Phase 1 Habitat Connectivity 11
Protected Species 12
Constraints Map 13

Housing Site: HSG6 School Lane

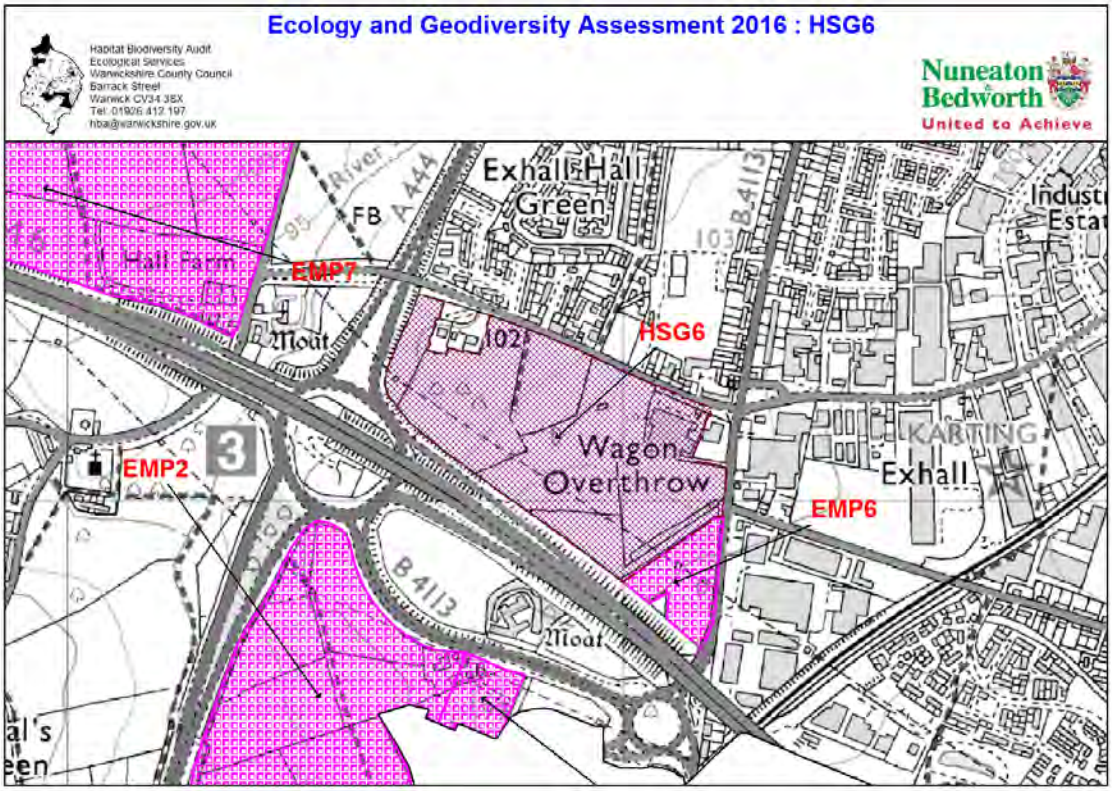


Figure 1 Location map

Area: 16.5 HA

Overview

HSG6 comprises a section of pasture farmland between Junction 3 of the M6 Motorway to the A444 Bedworth Bypass and the B4113 Longford Road. The northern boundary is marked by School Lane with the southern boundary the southbound M6 carriage way. The Site consists of seven improved grassland fields.

Key Features

- Poor semi-improved grassland
- Pond

Recommendations

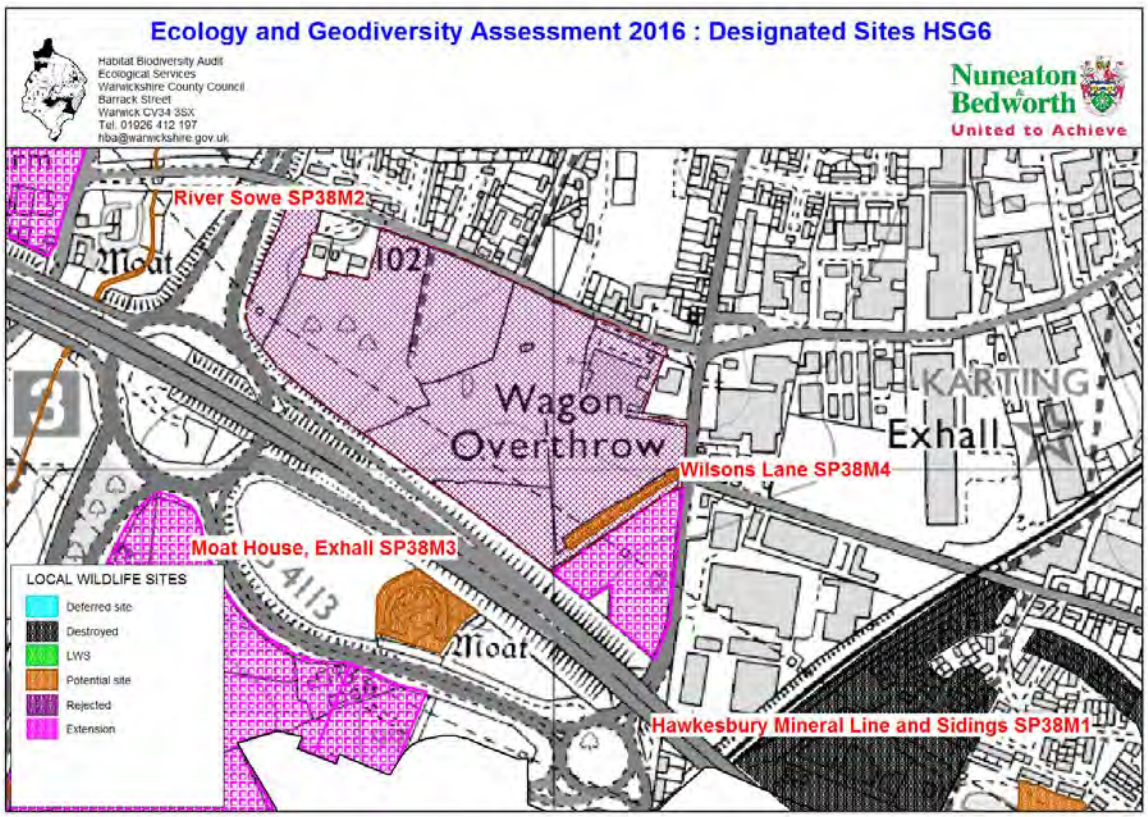
- The Wilsons Lane potential local wildlife site is surveyed for its ecological importance as a county important site (Local Wildlife Site)
- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

There are no statutory designated sites within 1km of the Site but there are two potential Local Wildlife Sites; Wilson's Lane (SP34M4) a species-rich hedgerow marks the boundary between HSG6 and EMP6 and Moat House Exhall sits the otherside of the M6 carriageway from the Site.

Figure 2 Site Designation Map



Phase 1 Habitat Distinctiveness

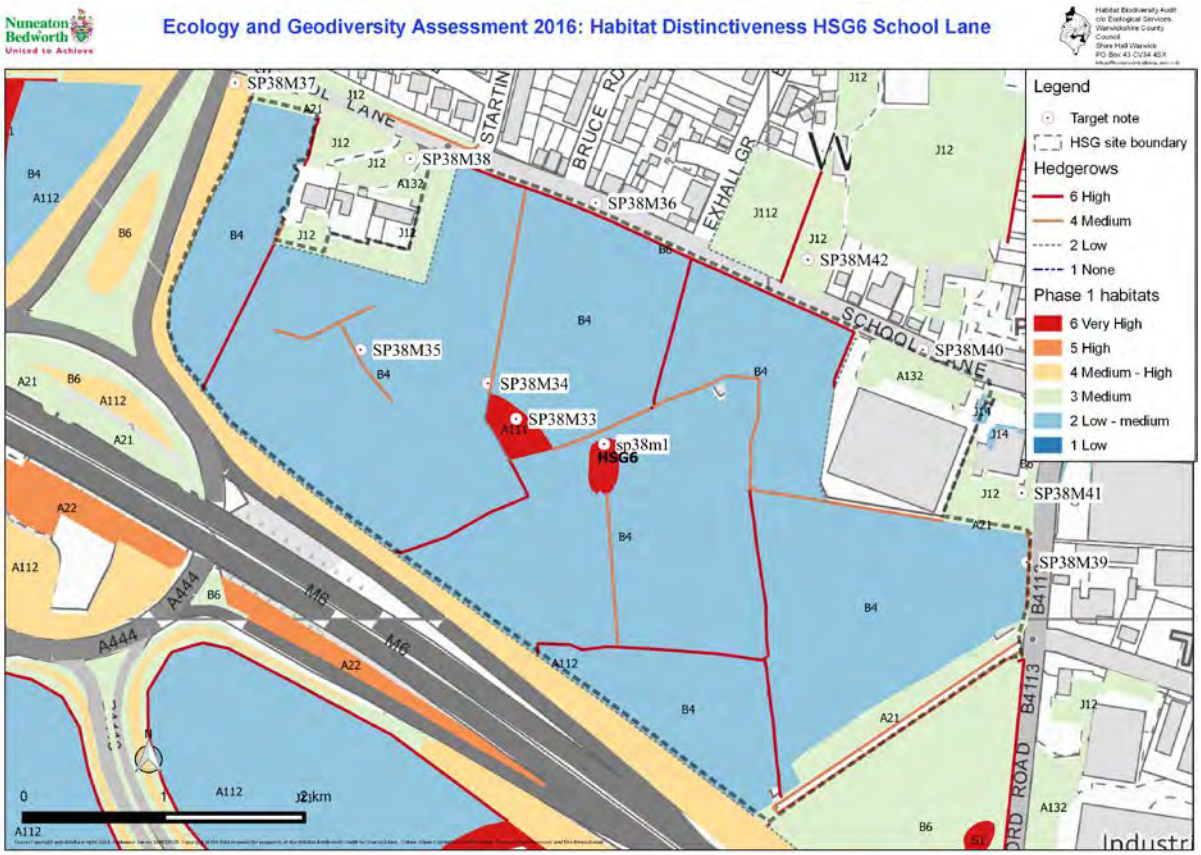


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference	Location
SP38M1	**SP3488285118**	

Low-lying pit of semi-improved damp neutral grassland surrounded by improved grassland on all sides. Frequent are soft rush (Juncus effusus). hard rush (J.inflexus), creeping bent (Agrostis stolonifera), crested dog's-tail (Cynosurus cristatus), white clover (Trifolium repens), Yorkshire-fog (Holcus lanatus), common spike-rush (Eleocharis palustris), creeping buttercup (Ranunculus repens) and occasional marsh willowherb (Epilobium

SP38M33 **SP3481985137**

A small copse bordered by improved grassland and scattered oak standards (Quercus robur) comprising of a relatively large turkey oak (Quercus cerris) and medium sized oak trees with occasional small ash trees (Fraxinus excelsior). The understorey is composed of elder (Sambucus nigra), holly (Ilex aquifolium) and ivy (Hedera helix). The ground flora, although high in leaf litter is dominated by lords-

and-ladies (Arum maculatum) alongside lesser celandine (Ranunculus ficaria), common nettle (Urtica dioica) and bramble (Rubus fruticosus agg.)

SP38M34 SP3479985162

Badger hair (Meles meles) found on barbed wire on the edge of the wooded copse.

SP38M35 SP3470885186

Oak standards (Quercus robur) border a fence and in addition mark the centre of improved grassland. The oaks comprise of large sections of dead wood with one particular tree occupying high bat potential.

SP38M36 SP3487685290

The hedge which borders School Lane is flailed and comprises of ash (Fraxinus excelsior), hawthorn (Crataegus monogyna), cow parsley (Anthriscus sylvestris), cleavers (Galium aparine), mugwort (Artemsia vulgaris) and common nettle (Urtica dioica).

SP38M37 SP3461985376

The broad-leaved planation is typical of those bordering car highways and includes alder (Alnus glutinosa), ash (Fraxinus excelsior) and bramble (Rubus fruticosus agg.).

SP38M38 SP3474485322

The mixed plantation present with Rivendell House contains Austrian pine (Pinus nigra), Scot's pine (P.sylvestris), beech (Fagus sylvatica) and holly (IIex aquifolium).

SP38M39 SP3518485034 Longford Road

The hedge separating poor semi-improved grassland and Longford Road is composed of predominately hawthorn (Crataegus monogyna) with oak (Quercus robur) and ash (Fraxinus excelsior) standards alongside smaller specimens of blackthorn (Prunus spinosa) and field maple (Acer campestre). The associated ground flora is comprised of common nettle (Urtica dioica), ivy (Hedera helix), cow parsley (Anthriscus sylvestris), smooth sow-thistle (Sonchus oleraceus), groundsel (Senecio vulgaris), garlic mustard (Alliaria petiolata) and white bryony (Bryonica dioica).

SP38M40 SP3511085186

Introduced scrub of darwin's barberry (Berberis darwinii), spotted laurel (Aucuba japonica) and silk-tassel (Garrya elliptica) accompanies planted holly (Ilex aquifolium) and yew (Taxus baccata).

SP38M41 SP3518085084

Recently mown grassland with coarse grasses at its side including perennial rye-grass (Lolium perenne), cock's-foot (Dactylis glomerata) and false oat-grass (Arrhenatherum elatius).

SP38M42 SP3502885250

Introduced scrub marks the entrance of Heckley Playing Fields particularly red-osier dogwood (Cornus sericea) with trees of oak (Quercus robur) and cherry (Prunus padus). The hedge of the allotment was predominately blackthorn (Prunus spinosa) and ivy (Hedera helix).

Biodiversity Units

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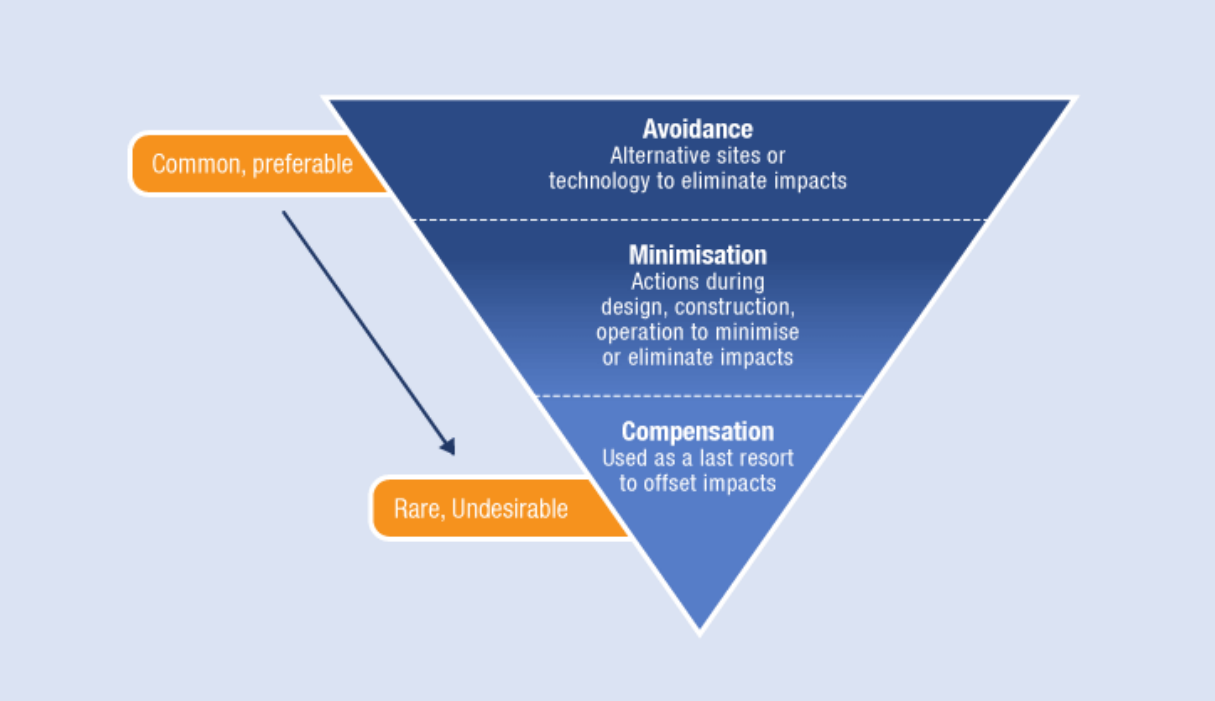

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- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG6	Improved grassland	1.76	2	1	3.53
HSG6	Broad-leaved semi-natural woodland	0.13	6	3	2.26
HSG6	Improved grassland	0.96	2	1	1.93
HSG6	Improved grassland	3.72	2	1	7.45
HSG6	Amenity grassland	0.25	2	1	0.50
HSG6	Mixed plantation	0.17	2	2	0.68
HSG6	Poor Semi-improved grassland	0.00	3	2	0.02
HSG6	Amenity grassland	0.03	2	1	0.05
HSG6	Poor Semi-improved grassland	0.00	3	2	0.01
HSG6	Improved grassland	1.07	2	1	2.15
HSG6	Inundation vegetation	0.03	6	3	0.62
HSG6	Standing water	0.04	6	3	0.73
HSG6	Improved grassland	2.45	2	1	4.90
HSG6	Dense/continuous scrub	0.36	3	2	2.17
HSG6	Poor Semi-improved grassland	0.01	3	2	0.06
HSG6	Improved grassland	1.24	2	1	2.47
HSG6	Improved grassland	3.21	2	1	6.41
HSG6	Introduced shrub	0.01	2	1	0.02
				Biodiversity Units	**35.97**

Phase 1 Habitat Connectivity

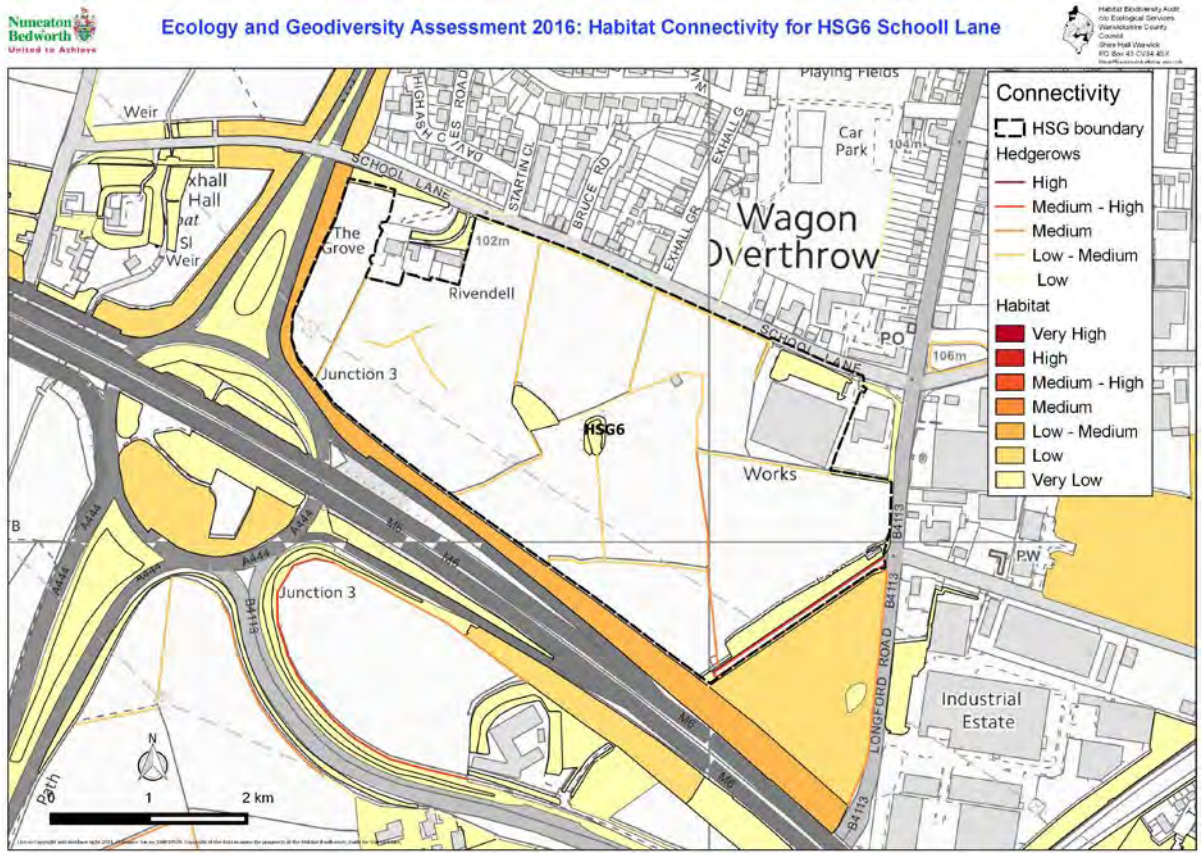


Figure 5 Habitat connectivity

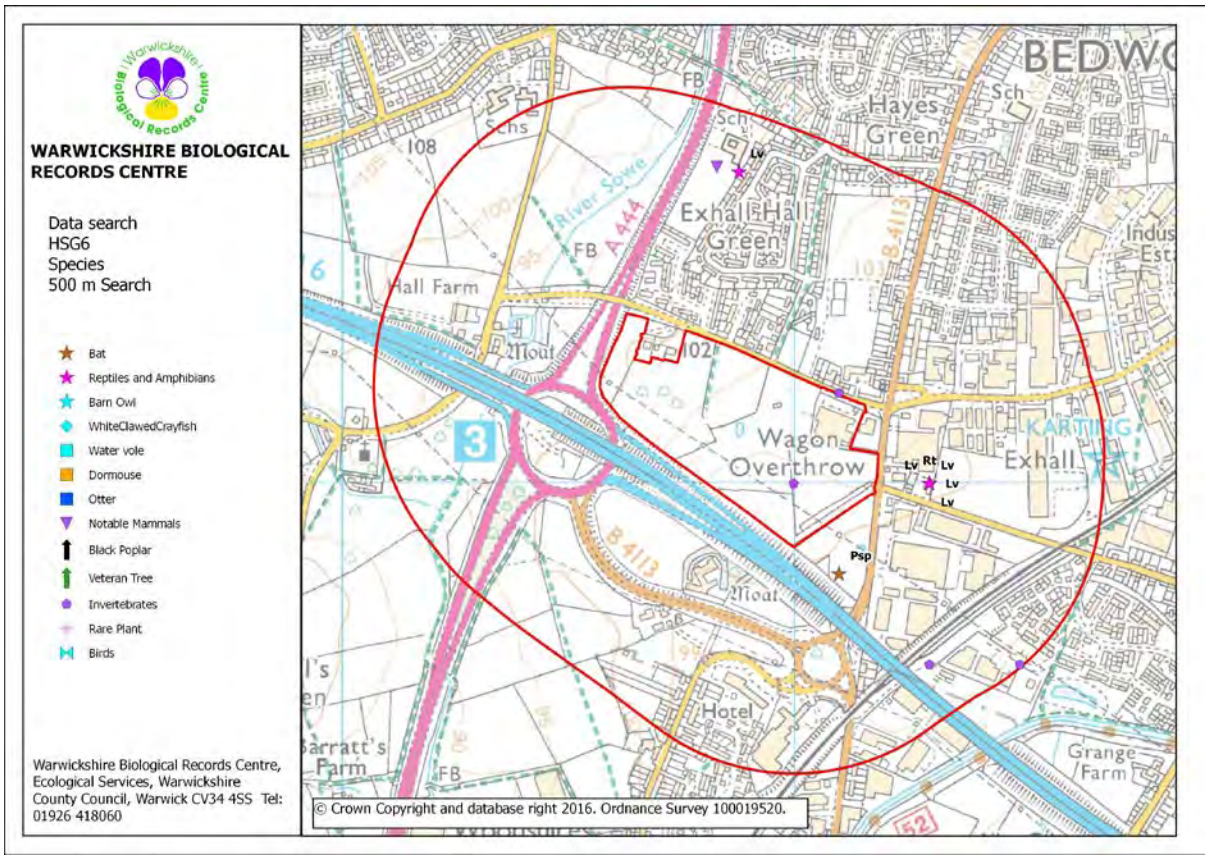
Protected Species

There are the following protected and/or important species[1] recorded within the proposed boundary:

- Invertebrates: Latticed Heath (moth)

There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Pipistrelle sp.
- Amphibians and Reptiles: smooth newt
- Mammals: Badger, Hedgehog
- Invertebrates: Small Heath, Large yellow-faces Bee and Andrea nigriceps (bee)
- County Rare Plants: Annual Beard-grass (*Polypogon monspeliensis*) and Stinking Hellebore (*Helleborus foetidus*)



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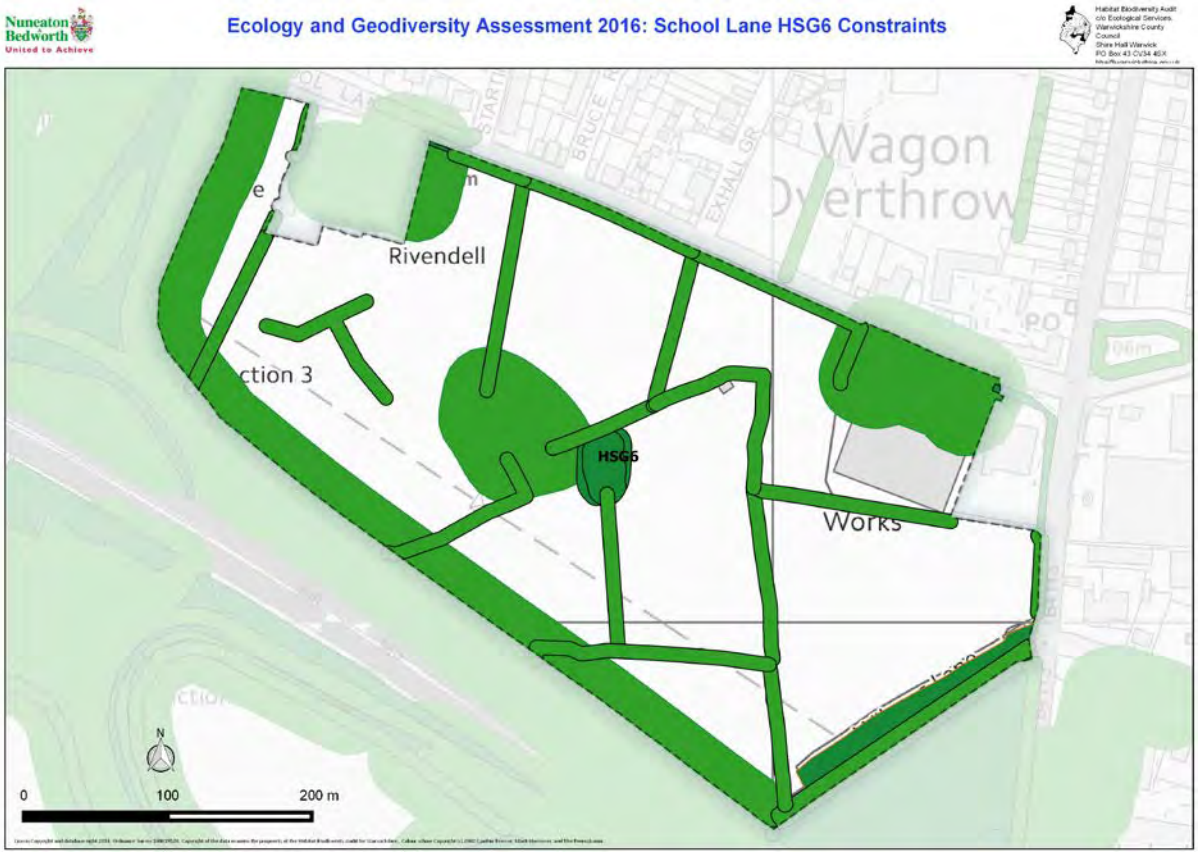
Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG7 EAST OF BULKINGTON

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG7 East of Bulkington 3
Area: 10.2 HA 3
Overview 3
Key Features 3
Recommendations 4
Designated Sites: Local Sites 5
Phase 1 Habitat Distinctiveness 6
Target Notes 6
Biodiversity Units 8
Phase 1 Habitat Connectivity 10
Protected & Important Species 11
Constraints Map 12

Housing Site: HSG7 East of Bulkington

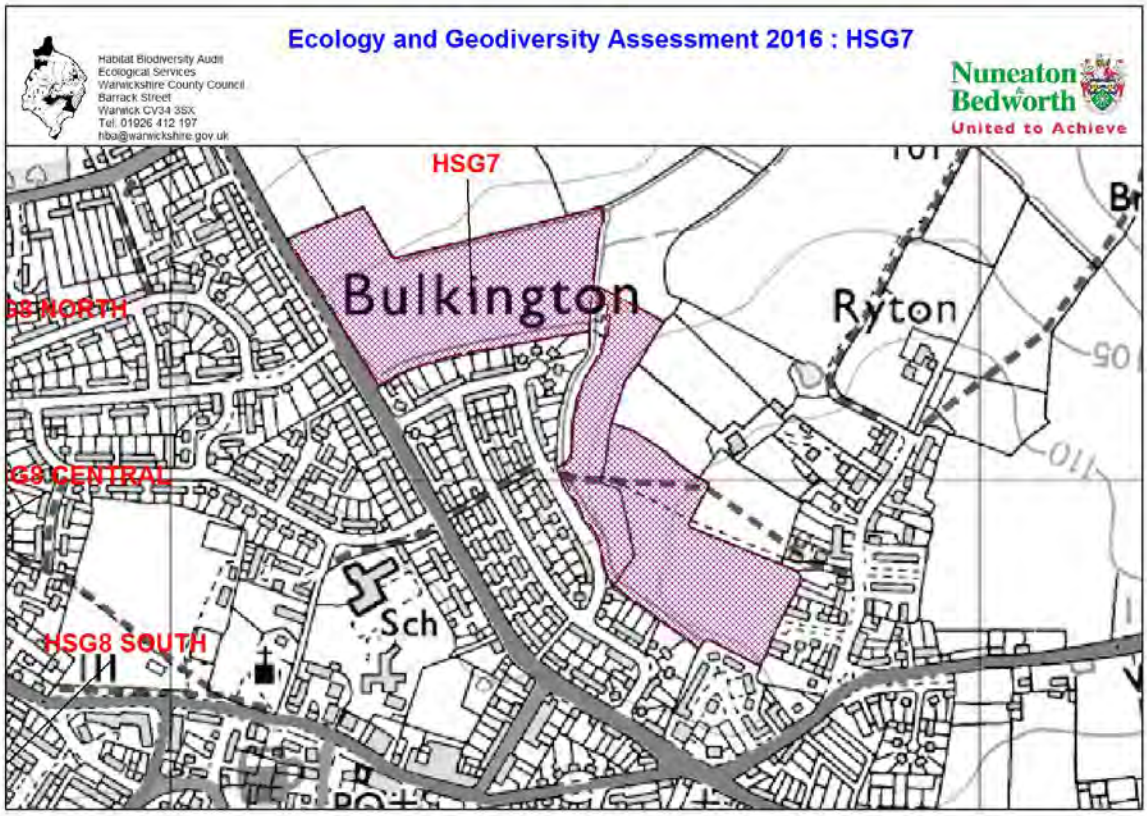


Figure 1 Location map

Area: 10.2 HA

Overview

HSG7 comprises one 5.01 ha improved grassland field intensively grazed short by sheep and a large arable field comprising of 5.22 ha surrounded by developing linear scrub becoming woody with medium sized trees. The development parcel fills mixed farmland on the sub-urban edge of Bulkington enclosed by the small hamlet of Ryton immediately beyond existing residential developments off Bramcote, Oakham Crescent, Lancing Road and Arundel Road.

Key Features

- Improved Grassland
- Linear Scrubland and Trees
- Running Water

Recommendations

The already prevalent scrub which surrounds the development parcel should be retained and enhanced with implementation of a decent buffer strip of scrub and grassland. Likewise the small brook for which much of the scrub follows on the south-western boundary should be priority and a main focus for enhancement. It is preferential that the development parcel be divided in two by the retention of existing boundaries between Lancing Road Pumping Station and the potential Local Wildlife Site SP38Y2. This area should be subject to a more thorough Local Wildlife Survey to determine its exact biodiversity value.

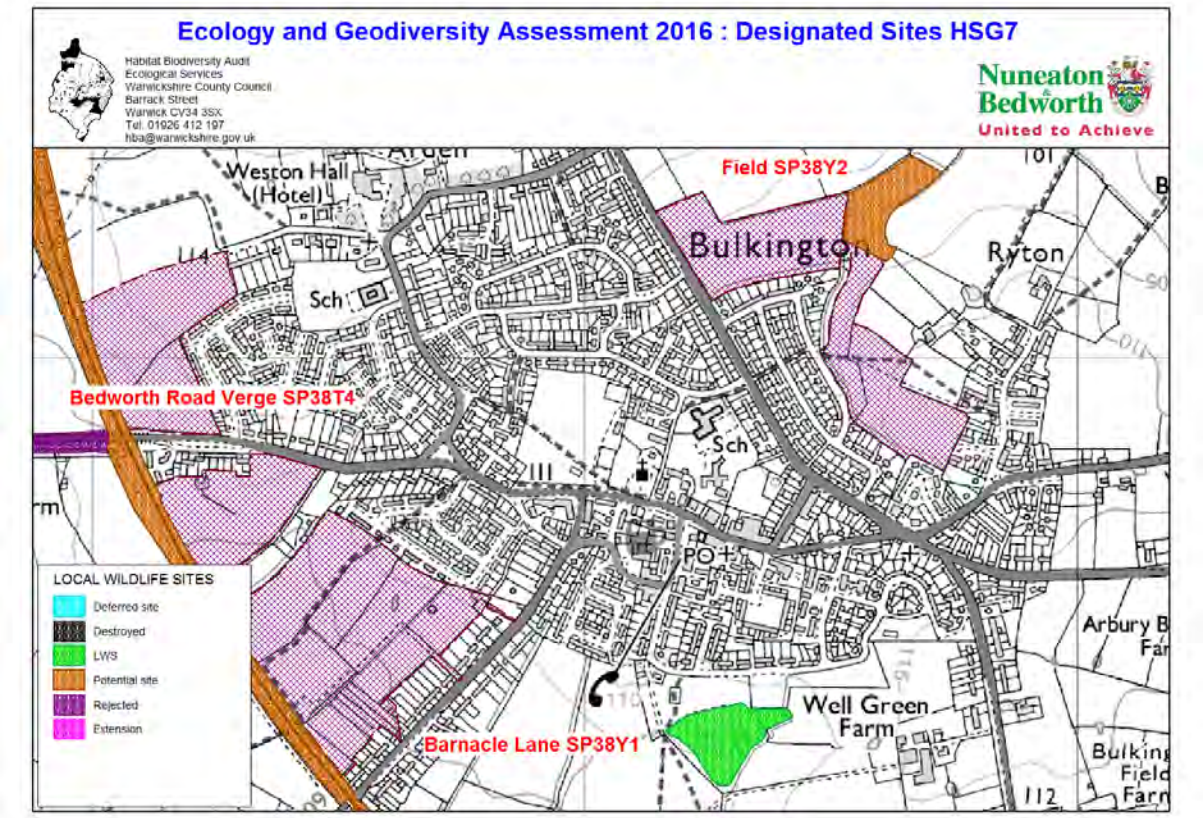
The retention of maturing boundary features as well as additional planting and appropriate management will go some way in retaining existing site diversity in addition to enhancing wildlife corridors.

Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

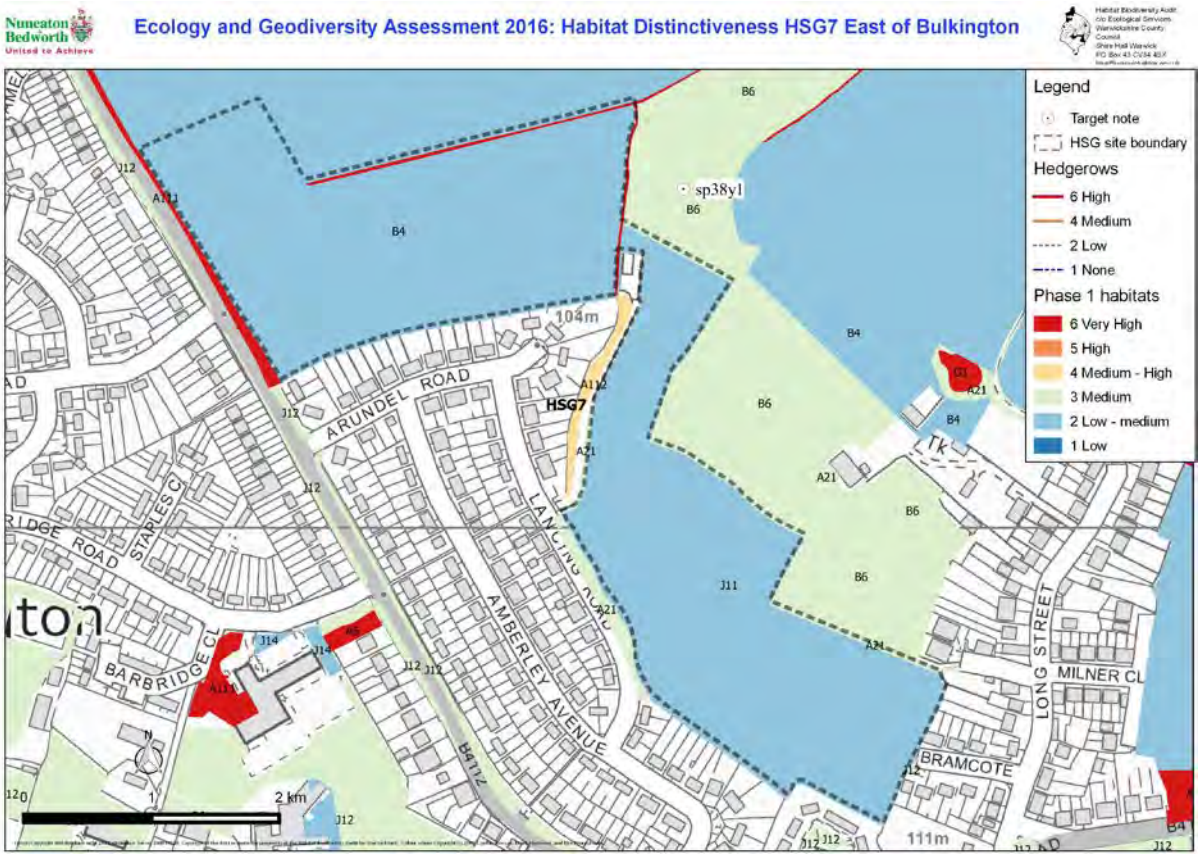
It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

Figure 2 Site Designation Map



Phase 1 Habitat Distinctiveness



Target Notes

Reference	Grid Reference	Location
SP38Y1	**SP3957287258**	**Bulkington**

Unable to gain full access to these semi-improved fields. The field to the north slopes gently to the south-east.The higher ground to the north and west is dominated by a stand of common reed (Phragmites australis), kept in check by mowing.

	SP3951686936	**Lancing Road, Bulkington**

Wide amenity grassland verge which borders a flucatuating dry ditch accompanied by developed linear scrub with ash (Fraxinus excelsior), sycamore (Acer pseudoplatanus), blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna), elder (Sambucus nigra) and dog rose (Rosa canina) with a ground flora of common nettle (Urtica dioica), cow parsley (Anthriscus sylvestris), Atlantic ivy (Hedera hibernica) and bittersweet (Solanum dulcamara). Redshank (Persicaria maculosa) encroachment within paving on the curb.

SP3969686920 Footpath Off Milner Close, Bulkington

Linear scrub marks a public footpath with medium sized trees of English elm, ash (Fraxinus excelsior) and pedunculate oak (Quercus robur) accompanied by a shrub layer of elder (Sambucus nigra), bramble (Rubus fruticosus agg.) and hawthorn (Crataegus monogyna). The ground flora dominated by false oat-grass (Arrhenatherum elatius) consists of hogweed (Heracleum sphondylium), cow parsley (Anthriscus sylvestris), rosebay willowherb (Chamerion angustifolium), common nettle (Urtica dioica), cleavers (Galium aparine), ivy (Hedera helix) and white dead-nettle (Lamium album). The stretch of scrub bordering the footpath near residential properties off Milner Close holds a mix of introduced specimens of green alkanet (Pentaglottis sempervirens), lilac (Syringa vulgaris), cherry (Prunus spp.) and sowbread (Cyclamen hederifolium).

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 3 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

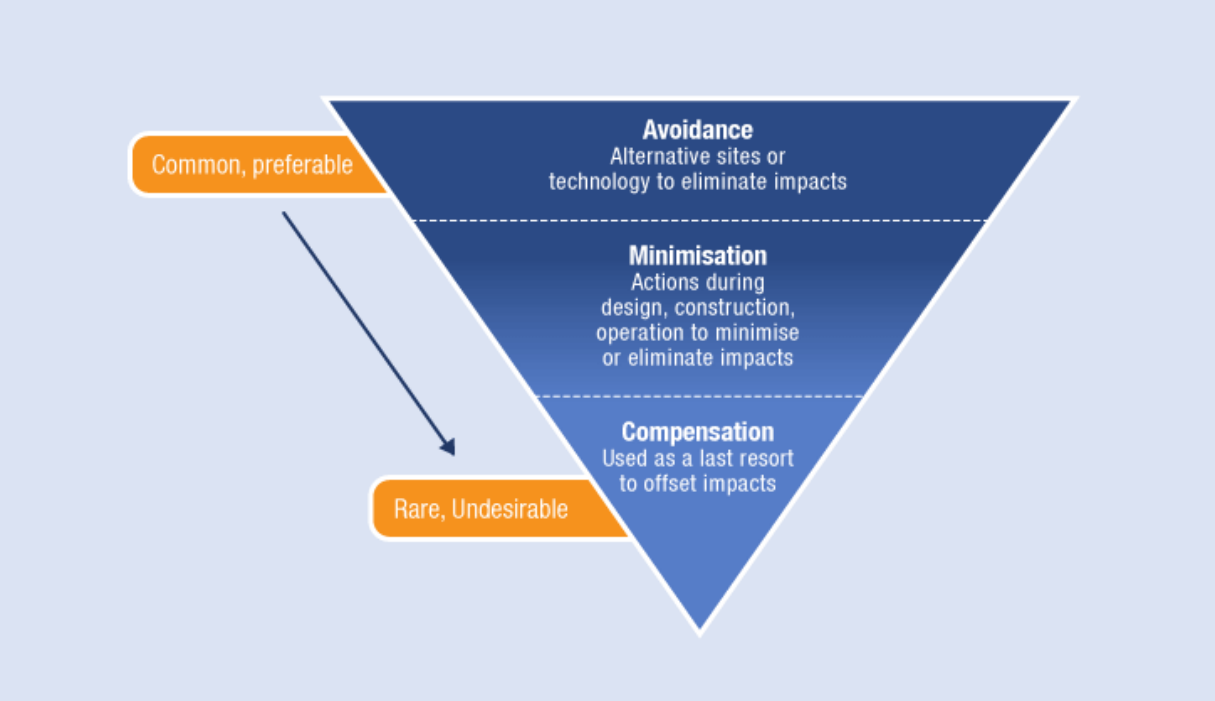


Figure 3: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG7	Improved grassland	5.06	2	1	10.12
HSG7	Arable	2.59	2	1	5.18
HSG7	Arable	0.84	2	1	1.67
HSG7	Arable	1.18	2	1	2.36
HSG7	Arable	0.55	2	1	1.11
				Biodiversity Units	**20.43**

Phase 1 Habitat Connectivity

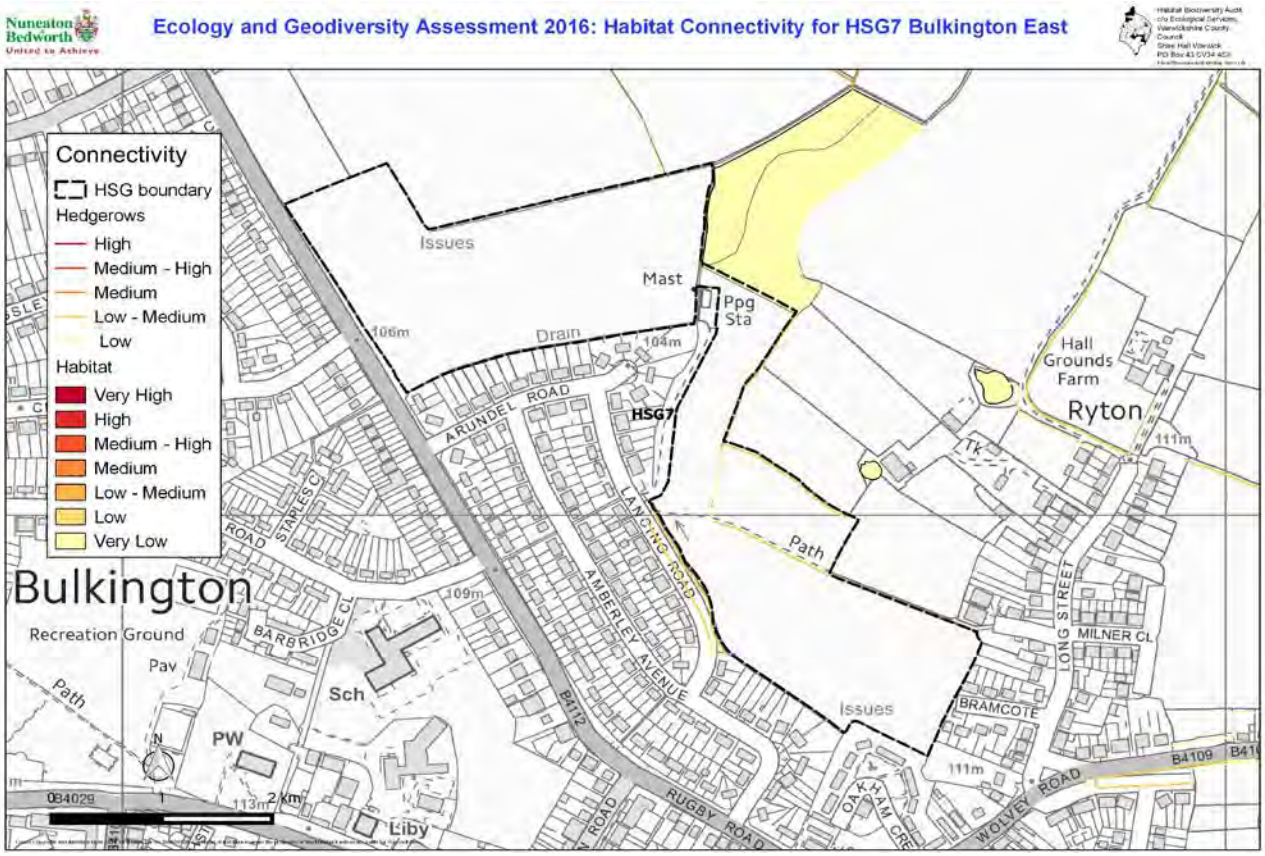


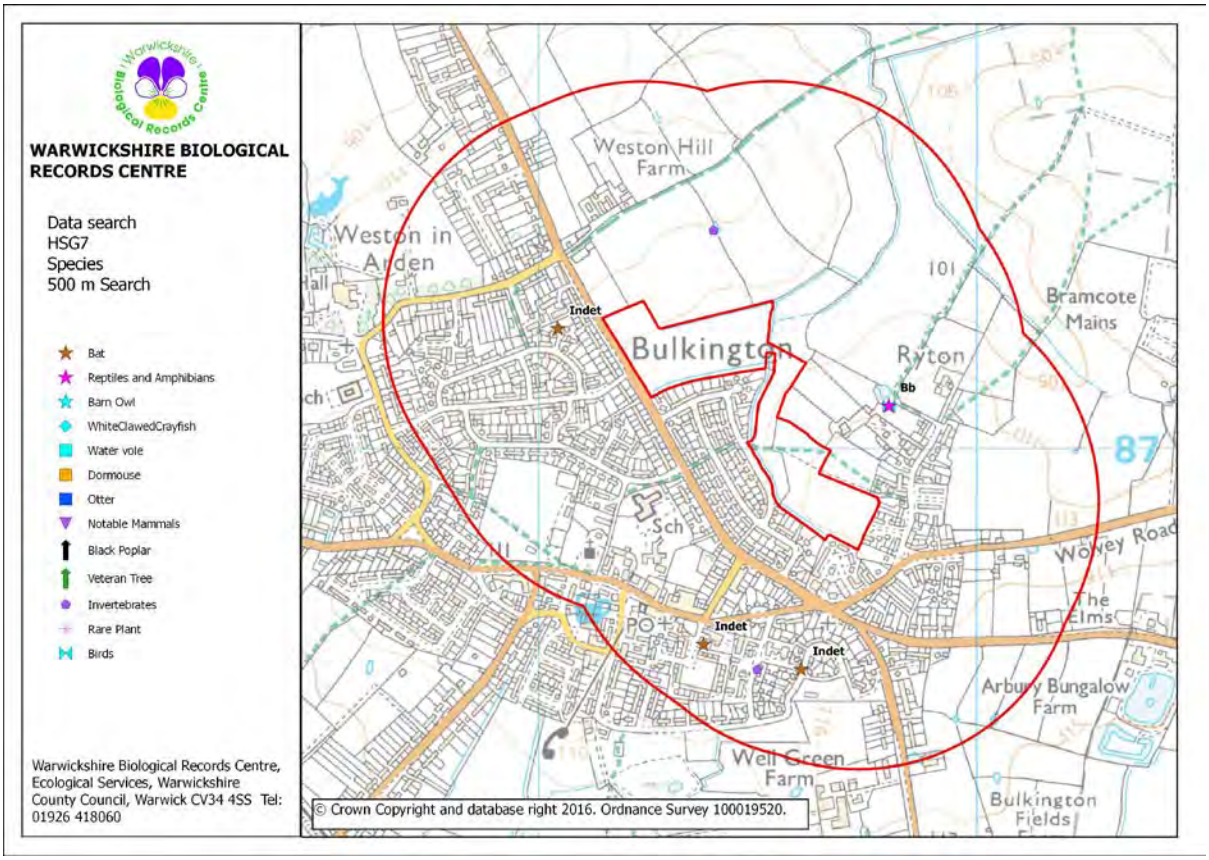
Figure 4 Phase 1 habitat connectivity

Protected & Important Species

There are no protected and/or important species[1] recorded within the proposed boundary.

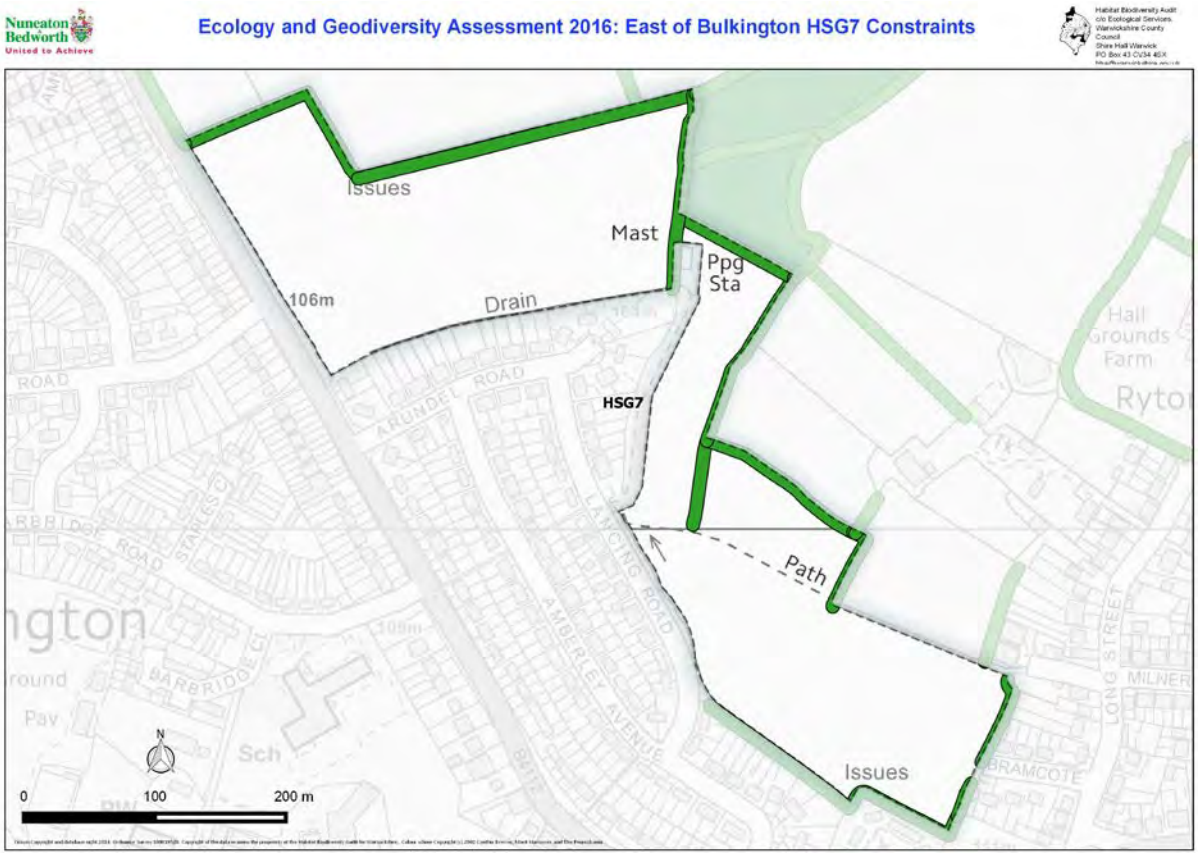
There are the following protected and/or important species recorded within 500m of the proposed site boundary.

- Bats: Indeterminate bat
- Amphibians and Reptiles: Common Toad
- Invertebrates: Wall and White-letter Hairstreak



[1] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG8 WEST OF BULKINGTON NORTH, CENTRAL AND SOUTH

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site HSG8 West of Bulkington North, Central & South 3

Area: 25.7 HA 3

Overview 3

Key Features 3

Recommendations 4

Designated Sites: Local Sites 6

Phase 1 Habitat Distinctiveness 8

Target Notes 8

Phase 1 Habitat Connectivity 11

Protected & Important Species 12

Constraints Map 13

Housing Site HSG8 West of Bulkington North, Central & South

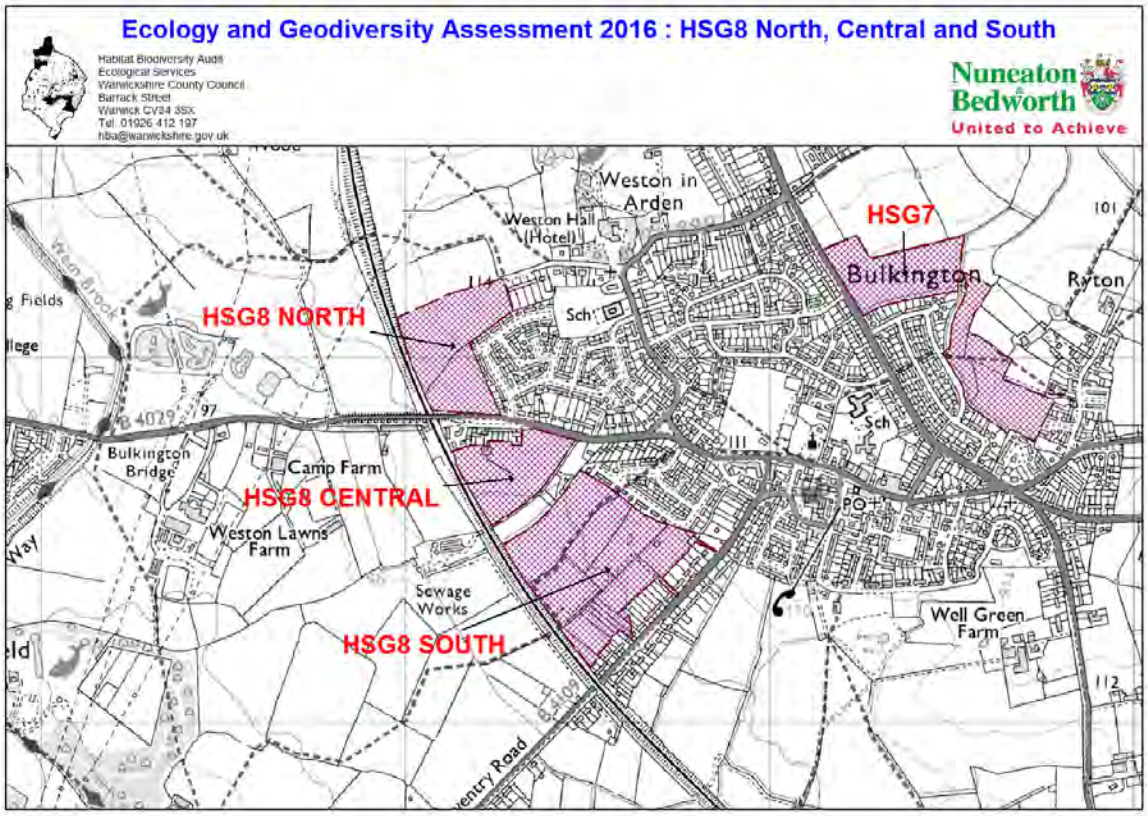


Figure 1 Location map

Area: 25.7 HA

Overview

All three HSG8 development parcels are wedged between the London Midland Railway Line and housing within the sub-urban landscape of west Bulkington. The northern development parcel comprises of 7.06 ha of arable farmland divided into two field parcels with an hedge and . Furthermore, the central development
Parcel comprises of ha . Finally, the southern development parcel contains 5/6arable fields totalling --- ha bordered in the majority by hedges with trees.

Key Features

- Species rich hedgerows

Recommendations

The most valuable habitats identified are mature scrub and boundary hedgerows. Opportunities to improve ecological connectivity both within the parcels and in the surrounding wider landscape should be provided. Particularly large habitat buffers around the existing curitage of the Site, along the London Midland Railway Line, existing housing development and the retention of all or the majority of hedgerows.

Careful site design should include the retention, enhancement and buffering of these existing hedgerows as features of ecological value. The hedgerows abounding small field parcels should be retained in-situ forming a belt of green space of high ecological value retaining Site biodiversity and enhancing wildlife corridors which can facilitate the principal goal to improving access to existing green infrastructure without the need for any replanting. The retention of this hedgerow network will connect wooded areas and veteran trees that would otherwise be separated by development.

Likewise, veteran and mature trees particularly within hedgerows and alongside scrub should be retained and incorporated within the development as areas of open space, native tree planting should occur along the London Midland Railway Line in addition to a large habitat buffer of mixed grassland and scrub.

Veteran hedgerows are irreplaceable and therefore compensation measures can only partially compensate for damage, the replacement of lost hedgerows is a last resort. The time period between a planted hedge becoming fully functional is sufficient enough to warrant retention of hedgerows particularly in the southern development parcel

Given the presence of all hedgerows on the first edition of the Six-inch Ordnance Survey Map, any hedgerow should be subject to a full hedgerow survey detailed in the Hedgerow Survey Handbook [1].

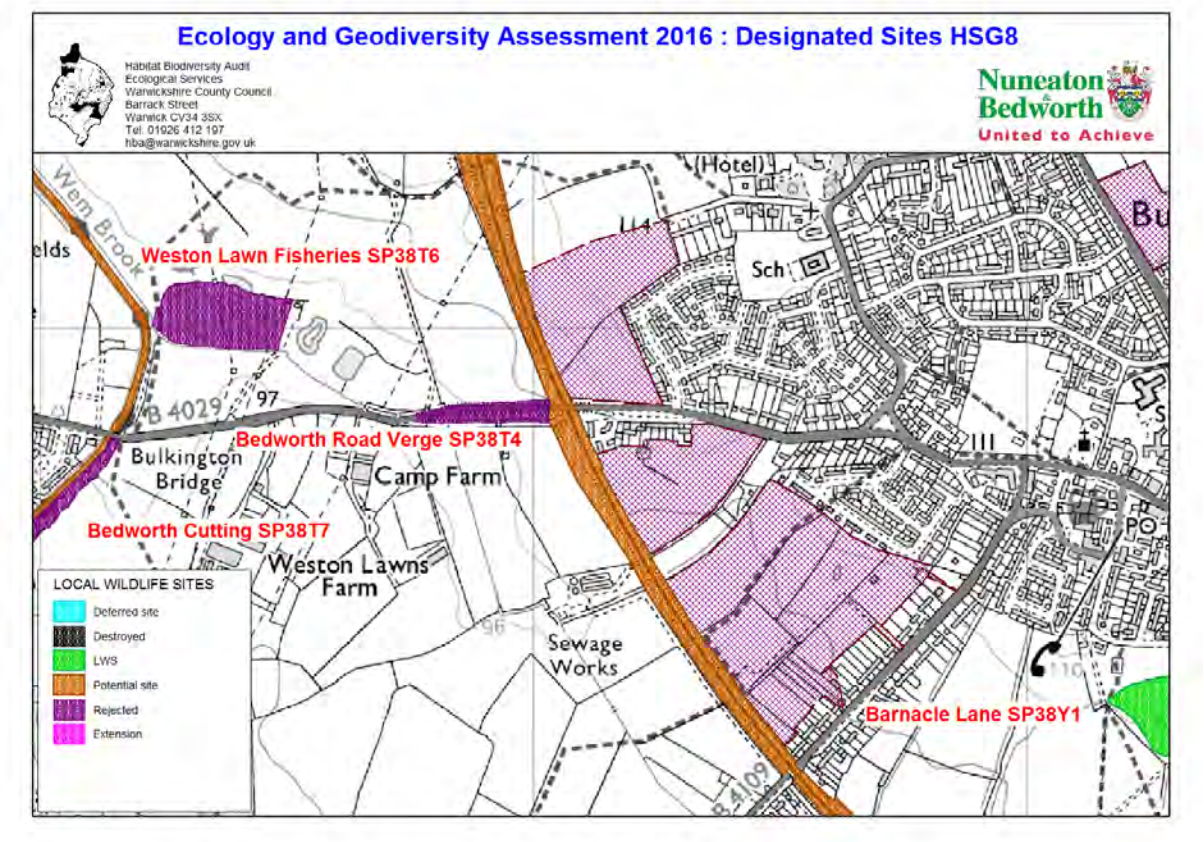
Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that there are records of great crested newt in the surrounding area and, therefore, until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

[1] Hedgerow Survey Handbook: A standard procedure for local surveys in the UK defra 2007 2nd ed.

Designated Sites: Local Sites

Figure 2 Site Designation Map



Barnacle Lane SP38Y129/10/02 2.1 ha

Barnacle Lane is situated on the southern edge of Bulkington and is a varied site containing semi-improved grassland, scrub, tall herb, ponds, hedgerows and stream. It is an area of public open space with several surfaced footpaths. The land is generally flat, but becomes more undulating in the south. The site is surrounded by rough grassland then housing to the north with arable to the west and south and allotments to the east.

In the north of site the grassland is comprised of abundant Meadow Foxtail (Alopecurus pratensis), Common Bent (Agrostis capillaris) and Yorkshire Fog (Holcus lanatus) with frequent Creeping Buttercup (Ranunculus repens), Pignut (Conopodium majus) and Common Sorrel (Rumex acetosa). There is also occasional Soft Rush (Juncus effusus), Tufted Hair-grass (Deschampsia cespitosa) and Hairy Sedge (Carex hirta) with scattered scrub of Hawthorn (Crataegus monogyna), Hazel (Corylus avellana), Alder (Alnus glutinosa) and Bramble (Rubus fruticosus agg.).

The grassland in the south is generally less interesting consisting of abundant False oat-grass (Arrhenatherum elatius) and Common Couch (Elytrigia repens) with frequent Cocksfoot (Dactylis glomerata), Dandelion (Taraxacum officinale agg.), Perennial Rye-grass (Lolium perenne), White Clover (Trifolium repens) and areas of locally abundant Cow Parsley (Anthriscus sylvestris), Hogweed, Cleavers (Galium aparine) and Nettle.

The eastern spur of the site has a tall herb vegetation of Russian Comfrey (Symphytum X uplandicum), Hogweed (Heracleum sphondylium), Bramble, Rosebay Willowherb (Chamerion angustifolium) and Nettle (Urtica dioica) with a small area of woodland to the south of abundant English Elm (Ulmus procera) with occasional Hazel, Elder (Sambucus nigra), Honeysuckle (Lonicera periclymenum), Giant Fescue (Festuca gigantea) and Red Campion (Silene dioica). There are a significant amount of dead and dying trees in this area together with a lot of Elm regrowth.

A stream issues in the north west of the site forming wet areas surrounded by willow scrub. The first pool has frequent Water Cress (Rorippa nasturtium-aquatica), Brooklime (Veronica beccabunga) and Glaucous Sweet-grass (Glyceria declinata) while the second, has abundant Common Reedmace (Typha latifolia), frequent Common Duckweed (Lemna minor) and rare Celery-leaved Buttercup (Ranunculus sceleratus). The pond contains abundant Common Reedmace and has a dipping platform on its western side. To the south of the pond is a marshy area containing frequent Great Willowherb (Epilobium hirsutum) with Marsh Thistle (Cirsium palustre), Common Reedmace, Soft Rush, Nettle and Common Hemp-nettle (Galeopsis tetrahit). On the northern edge of the pond there is frequent Cuckooflower (Cardamine pratensis) with Soft Rush, Hard Rush (Juncus inflexus), Sharp-flowered Rush (J. acutiflorus), Meadowsweet (Filipendula ulmaria) and Ragged Robin (Lychnis flos-cuculi). This whole area is surrounded by scrub primarily of Willows (Salix spp.) with Alder, Hawthorn and Field Maple (Acer campestre).

Phase 1 Habitat Distinctiveness

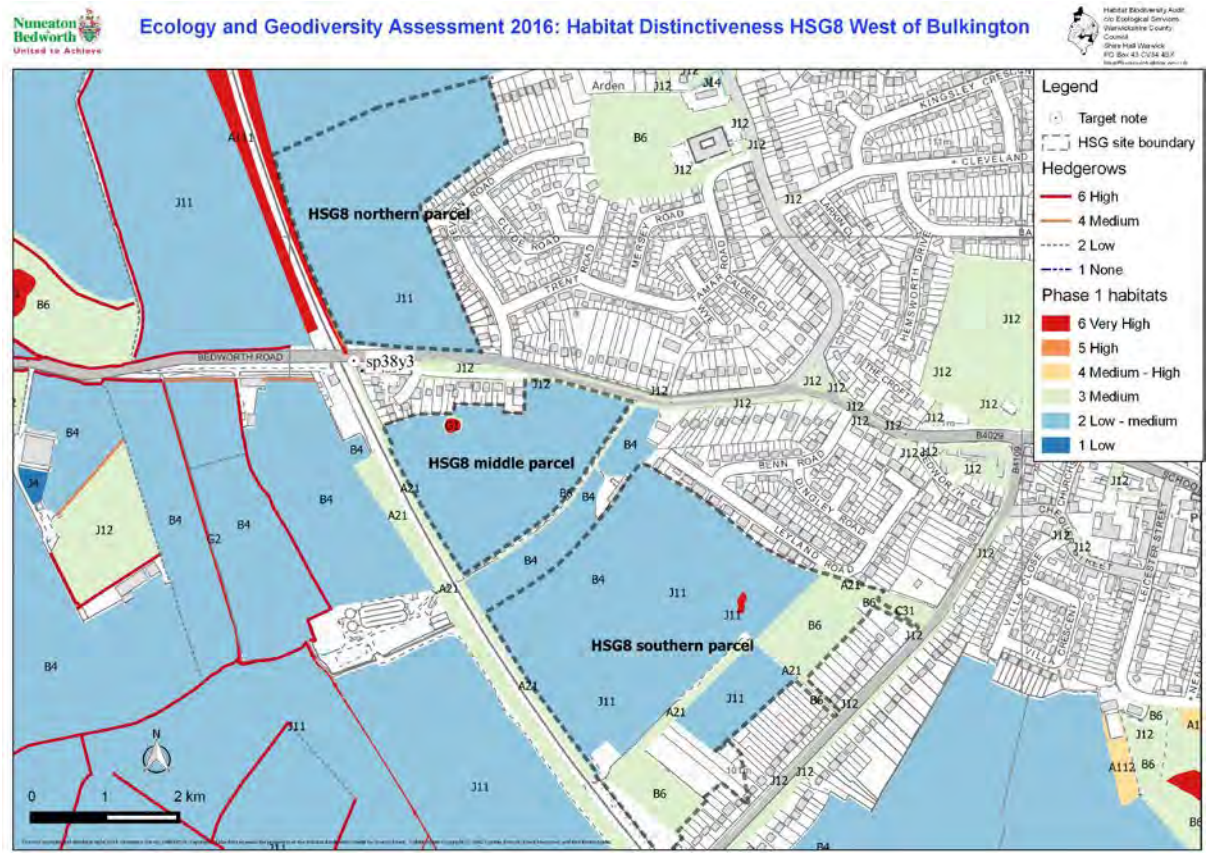


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference
SP38Y2	SP3925586259

Mosaic of improved and amenity grassland, tall ruderal, scattered and dense scrub, willow carr, alder plantation alongside a pond supporting frequent bulrush (Typha latifolia) with hard rush (Juncus inflexus) and tufted hair-grass (Deschampsia caespitosa) along its shallow banks. The structural diversity of the site makes it potentially good for invertebrate species.

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

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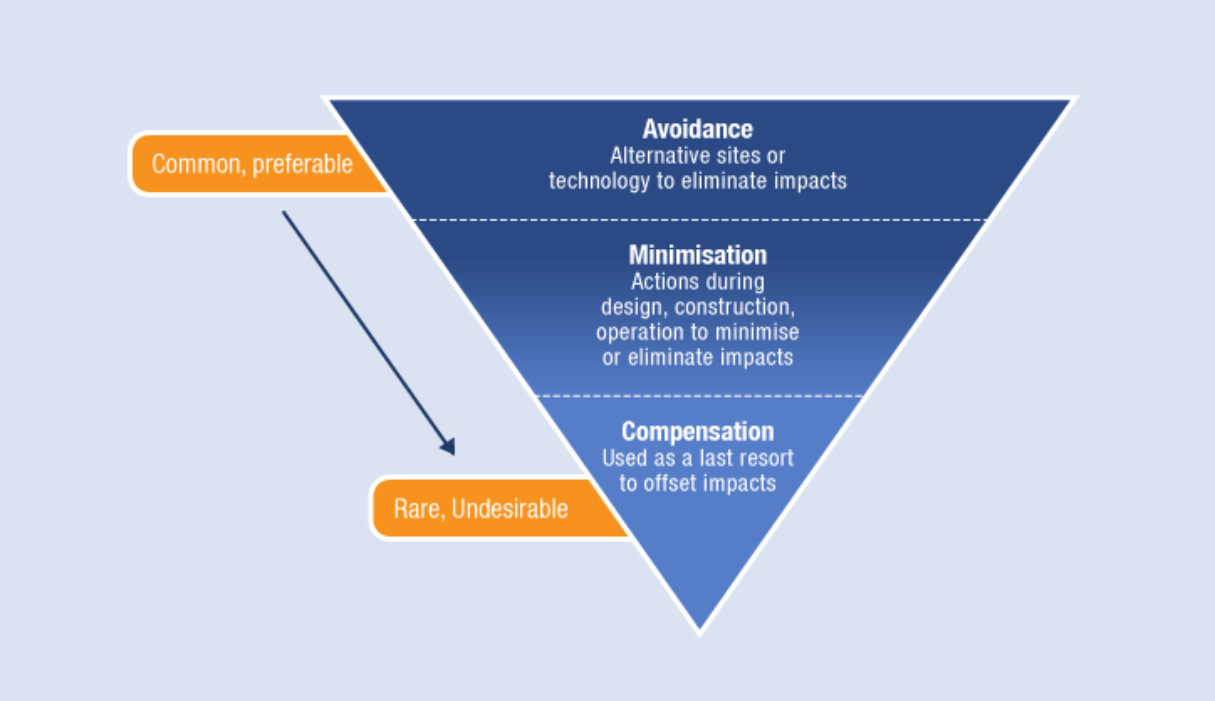


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG8 Middle	Improved grassland	2.28	2	1	4.56
HSG8 Middle	Improved grassland	2.51	2	1	5.01
HSG8 North	Arable	4.74	2	1	9.48
HSG8 North	Arable	2.30	2	1	4.61
HSG8 South	Improved grassland	1.22	2	1	2.44
HSG8 South	Improved grassland	0.67	2	1	1.34
HSG8 South	Arable	1.67	2	1	3.33
HSG8 South	Arable	1.99	2	1	3.98
HSG8 South	Broad-leaved semi-natural woodland	0.33	6	3	5.88
HSG8 South	Arable	1.19	2	1	2.39
HSG8 South	Arable	3.76	2	1	7.52
				Biodiversity Units	**50.54**

Phase 1 Habitat Connectivity

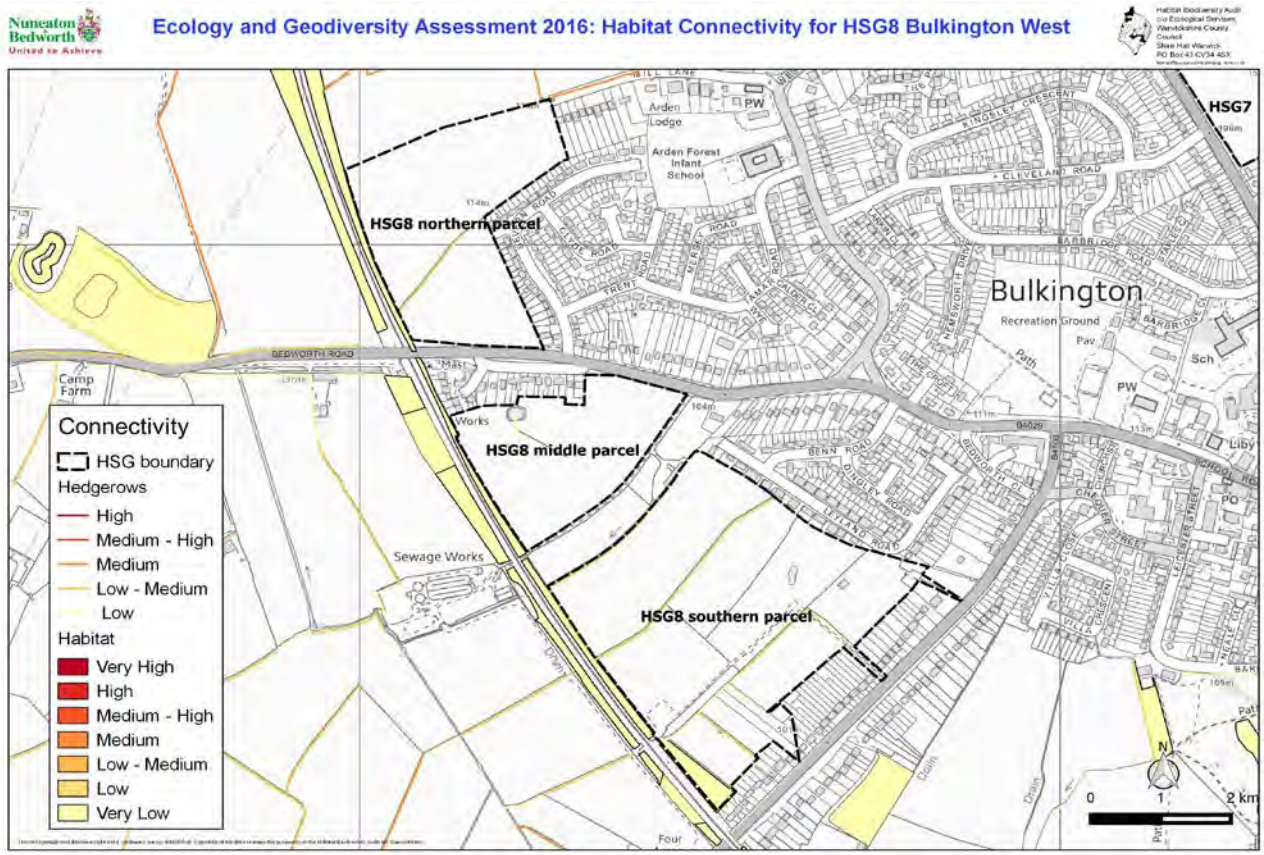


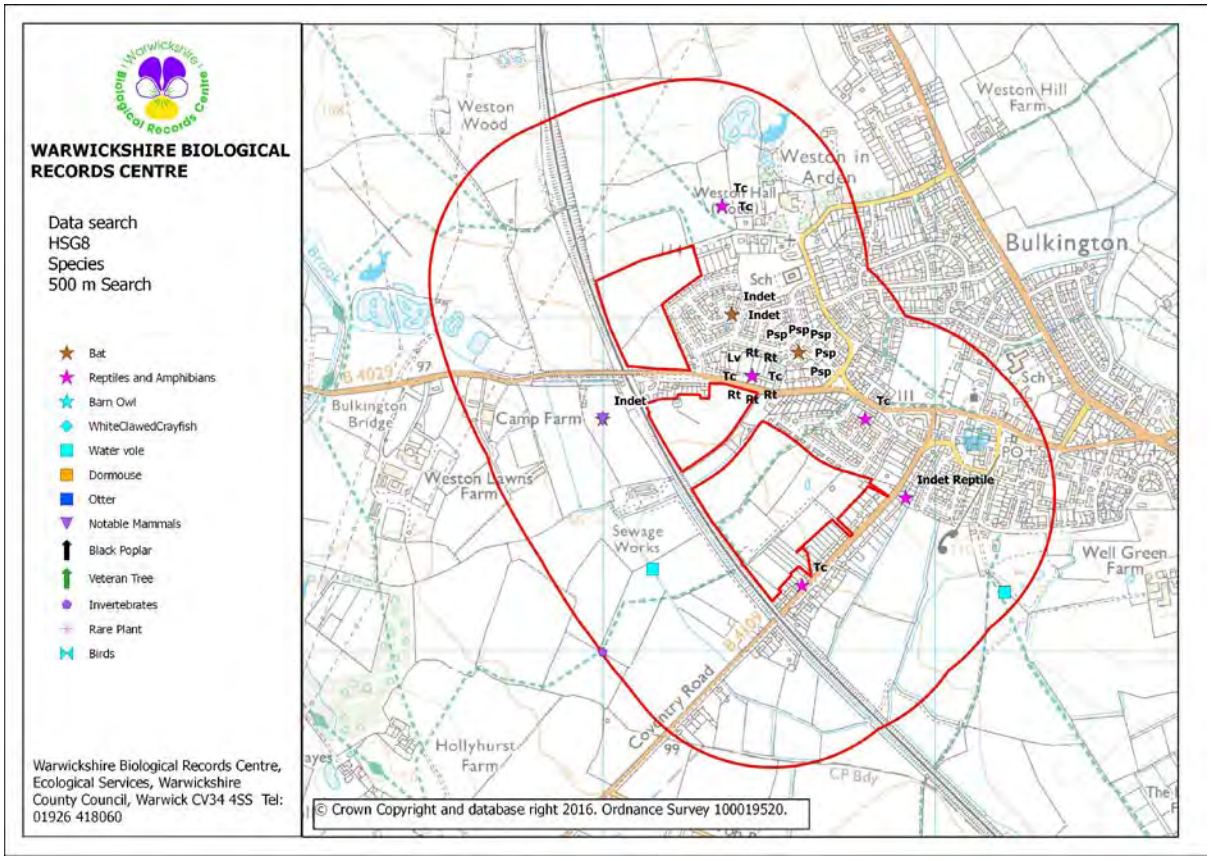
Figure 5 Phase 1 habitat connectivity

Protected & Important Species

There are no protected and/or important species[2] recorded within the proposed boundary.

There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate bat and pipistrelle species
- Amphibian and Reptiles: indeterminate reptile and Great Crested Newt
- Mammals: Badger, hedgehog and Water vole
- Invertebrates: Wall



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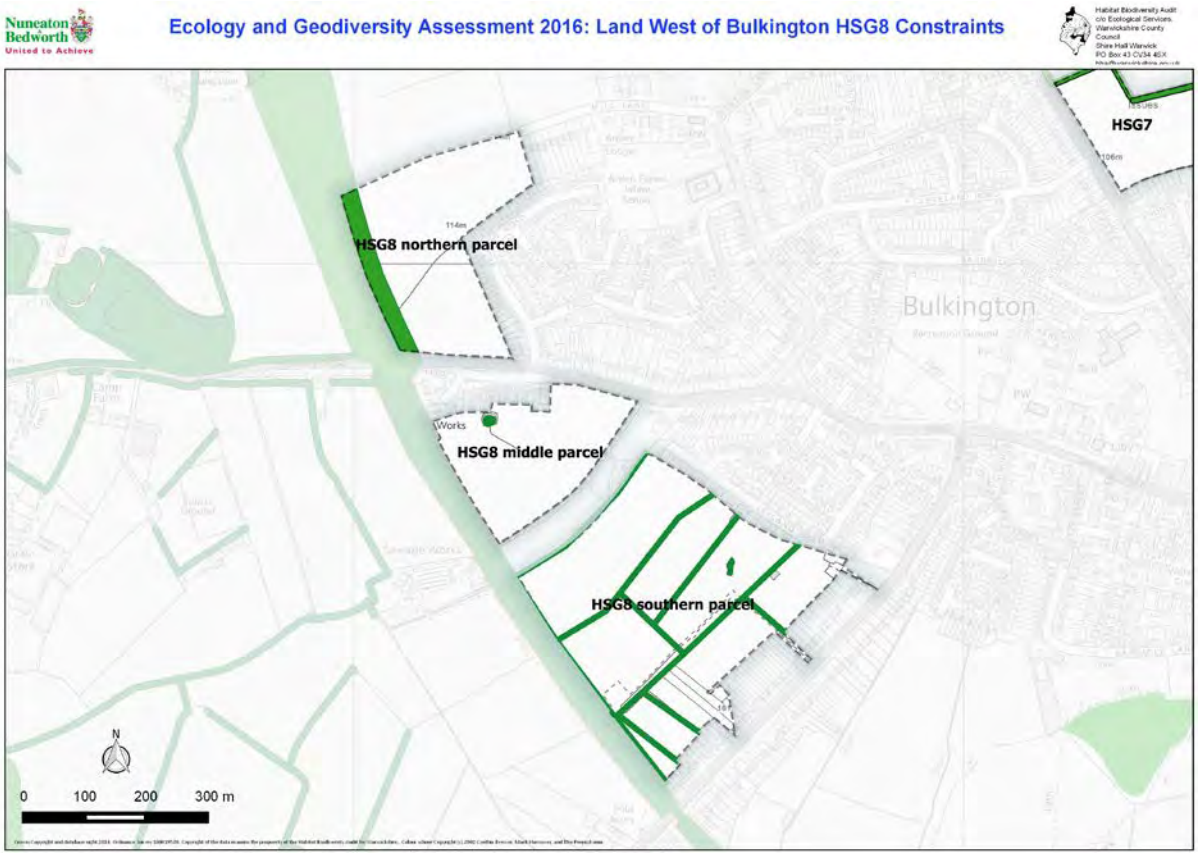
Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG9 GOLF DRIVE

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site: HSG9 GOLF DRIVE 3
Area: 33.7 HA 3
Overview 3
Key Features 3
Recommendations 4
Designated Sites: Local Sites 5
Potential Local Wildlife Sites 5
Phase 1 Habitat Distinctiveness 6
Target Notes 6
Biodiversity Units 8
Phase 1 Habitat Connectivity 10
Protected & Important Species 11
Constraints Map 12

Housing Site: HSG9 GOLF DRIVE

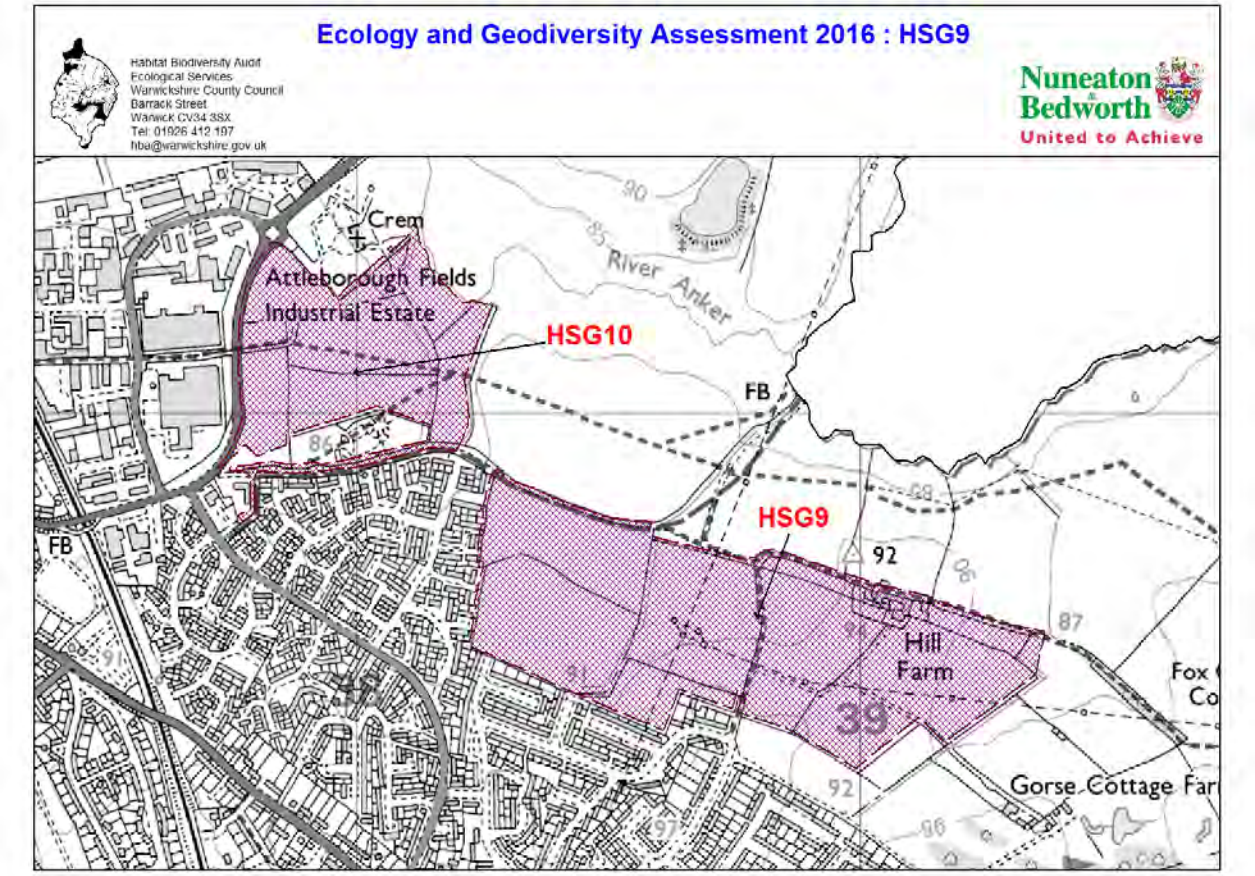


Figure 1 Location map

Area: 33.7 HA

Overview

HSG9 is situated between the continuous built area of Attleborough to the west and south and Attleborough Gorse Golf Course and open countryside to the east and north. The site is made up of a series of large arable fields with remnant hedgerows. A network of public footpaths connects the built-up areas with the open countryside beyond.

Key Features

- Potential wildlife areas associated with the golf course
- Green corridors along the existing footpaths and remaining hedgerows

Recommendations

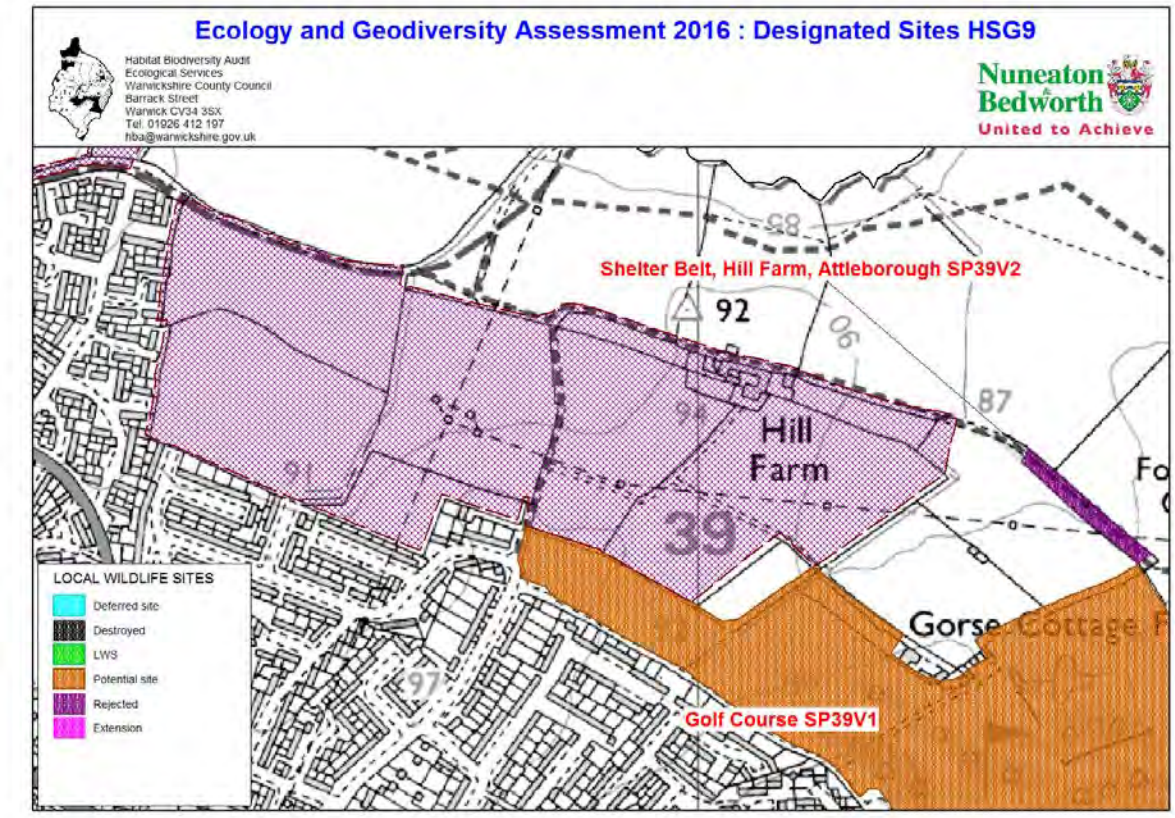
Maintain the connections across the site by retaining and enhancing the existing footpath network and their associated hedgerow, including a green corridor along Hill Farm track linking the golf course with the Eastboro Way.

Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species surveys, including over-wintering bird surveys, are undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

Figure 2 Site Designation Map



Potential Local Wildlife Sites

- Golf Course SP39V1 57.51 ha
- Shelter Belt, Hill Farm SP38V2

Phase 1 Habitat Distinctiveness

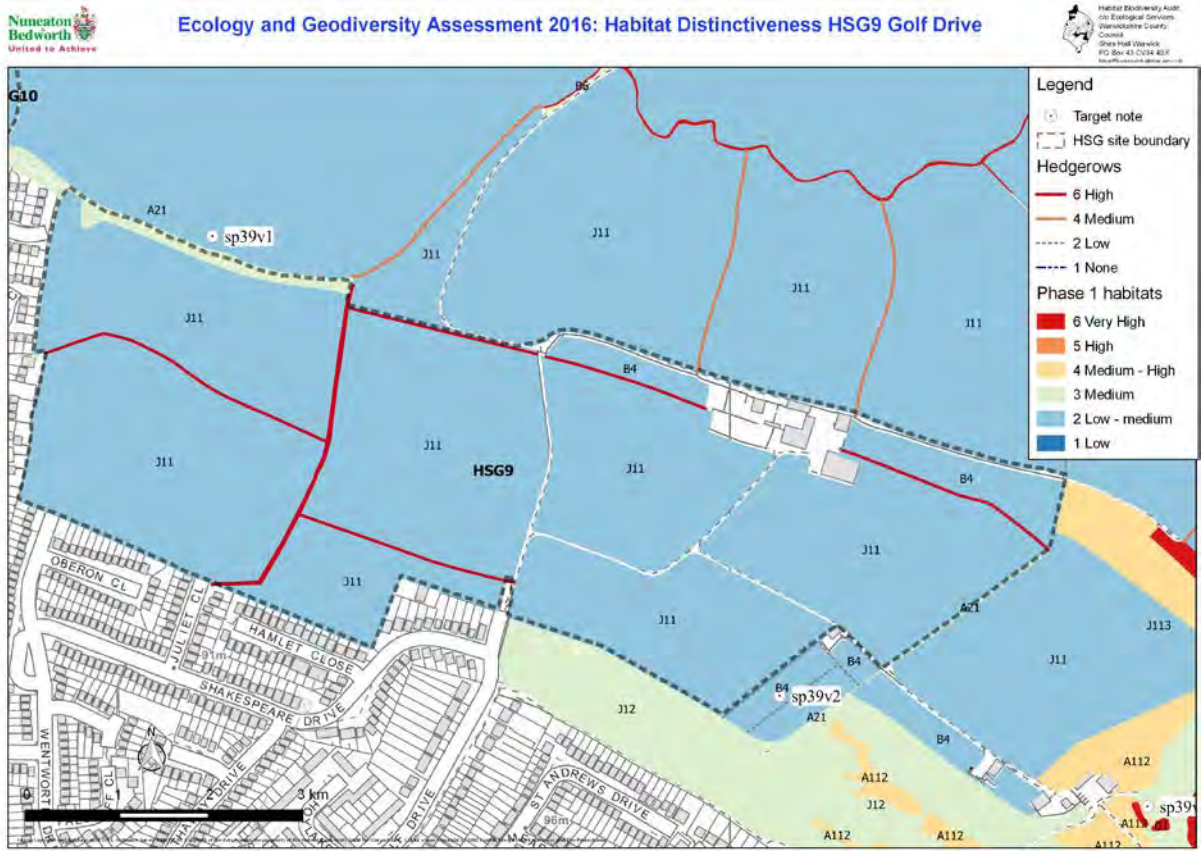


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference	Grid Reference	Location
SP39V1	**SP3843490833**	**Trackway**

Linear area containing a ditch alongside a strip of semi-improved grassland with un-managed and managed hedges. Within the ditch, frequent meadowsweet (Filipendula ulmaria) and great willowherb (Epilobium hirsutum) occurs alongside reed canary-grass (Phalaris arundinacea), male-fern (Dryopteris filix-mas), horsetail (Equisetum sp.) and a cress (Cardamine sp). The hedge is either dominated by blackthorn (Prunus spinosa) or hawthorn (Crataegus monogyna) with elder (Sambucus nigra), English elm (Ulmus procera), hazel (Corylus avellana), bramble (Rubus fruticosus agg.) honey suckle (Lonicera periclymenum) and dog rose (Rosa canina). The strip of grassland is generally dominated by cock's-foot (Dactylis glomerata) and false oat-grass (Arrhenatherum elatius). However, red fescue (Festuca rubra), common bent (Agrostis capillaris), Yorkshire-fog (Holcus lanatus) and perennial rye-grass (Lolium perenne) also occur with locally abundant common knapweed (Centaurea nigra), hogweed (Heracleum sphondylium), cow parsley (Anthriscus sylvestris) and common nettle (Urtica dioica). Water-filled ditch sections are dominated by plicate sweet-grass (Glyceria notate) and brooklime (Veronica beccabunga) .

SP39V2 SP3905490331

Heavily horse-grazed semi-improved grassland currently without management at the time of survey. Dominated by common bent (Agrostis capillaris) with timothy (Phleum pratense), cock's-foot (Dactylis glomerata), smooth meadow-grass (Poa pratensis), common couch (Elytrigia repens), common knapweed (Centaurea nigra), yarrow (Achillea millefolium), cat's-ear (Hypochaeris radicata) and locally abundant autumn hawkbit (Leontodon autumnalis). Locally abundant bulbous buttercup (Ranunculus bulbosus) and great burnet (Sanguisorba officinalis) occurs separately from trailing tormentil (Potentilla anglica) in the adjacent ditch.

SP39V3 SP3945690210

Three pools containing a variety of sub, floating and emergent vegetation including Canadian Waterweed (Elodea canadensis), pondweed (Potomogeton sp.), water-lily, bulrush (Typha latifolia) with hard rush (Juncus inflexus), false fox-sedge (Carex otrubae) and great willowherb (Epilobium hirsutum)on the periphery. Common knapweed (Centaurea nigra), selfheal (Prunella vulgaris) and wild teasel (Dipsacus fullonum) occur in surrounding grassland.

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 4 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

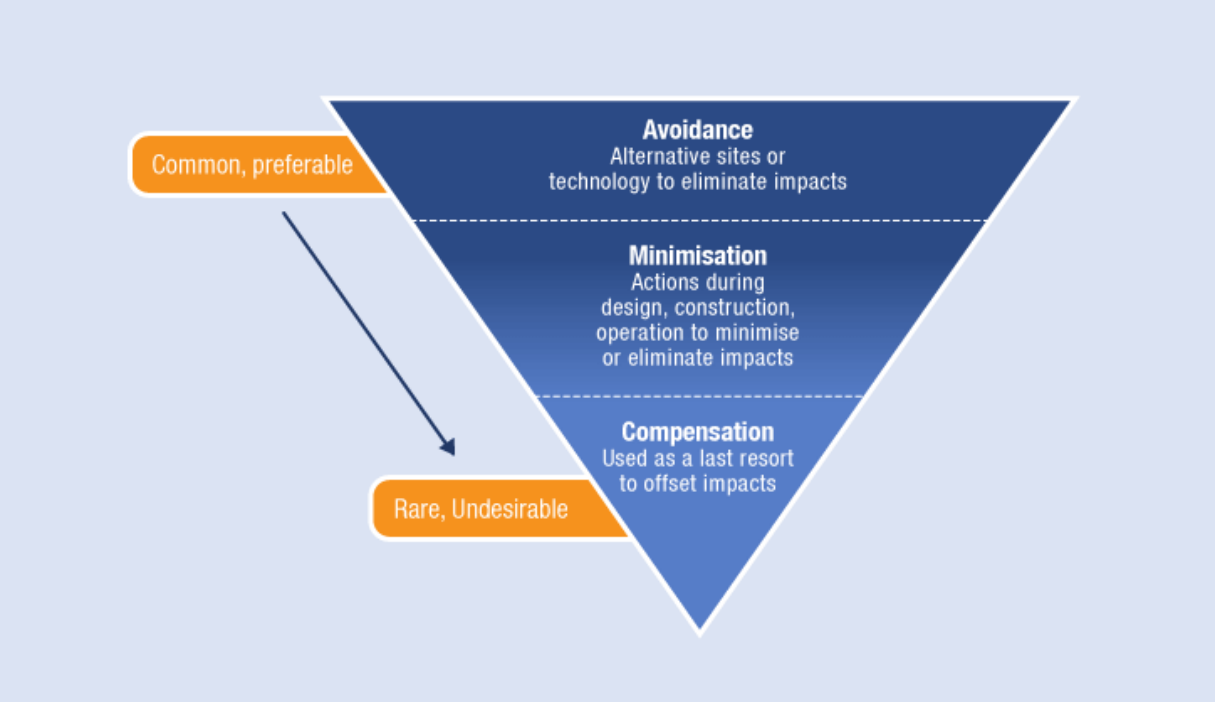


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG9	Arable	3.79	2	1	7.57
HSG9	Arable	5.72	2	1	11.44
HSG9	Improved grassland	0.48	2	1	0.96
HSG9	Improved grassland	1.06	2	1	2.12
HSG9	Dense/continuous scrub	0.05	3	2	0.30
HSG9	Arable	4.76	2	1	9.52
HSG9	Arable	1.89	2	1	3.78
HSG9	Arable	4.48	2	1	8.96
HSG9	Arable	5.96	2	1	11.92
HSG9	Arable	0.01	2	1	0.02
HSG9	Arable	3.66	2	1	7.31
HSG9	Dense/continuous scrub	0.28	3	2	1.68
				Biodiversity Units	**65.58**

Phase 1 Habitat Connectivity

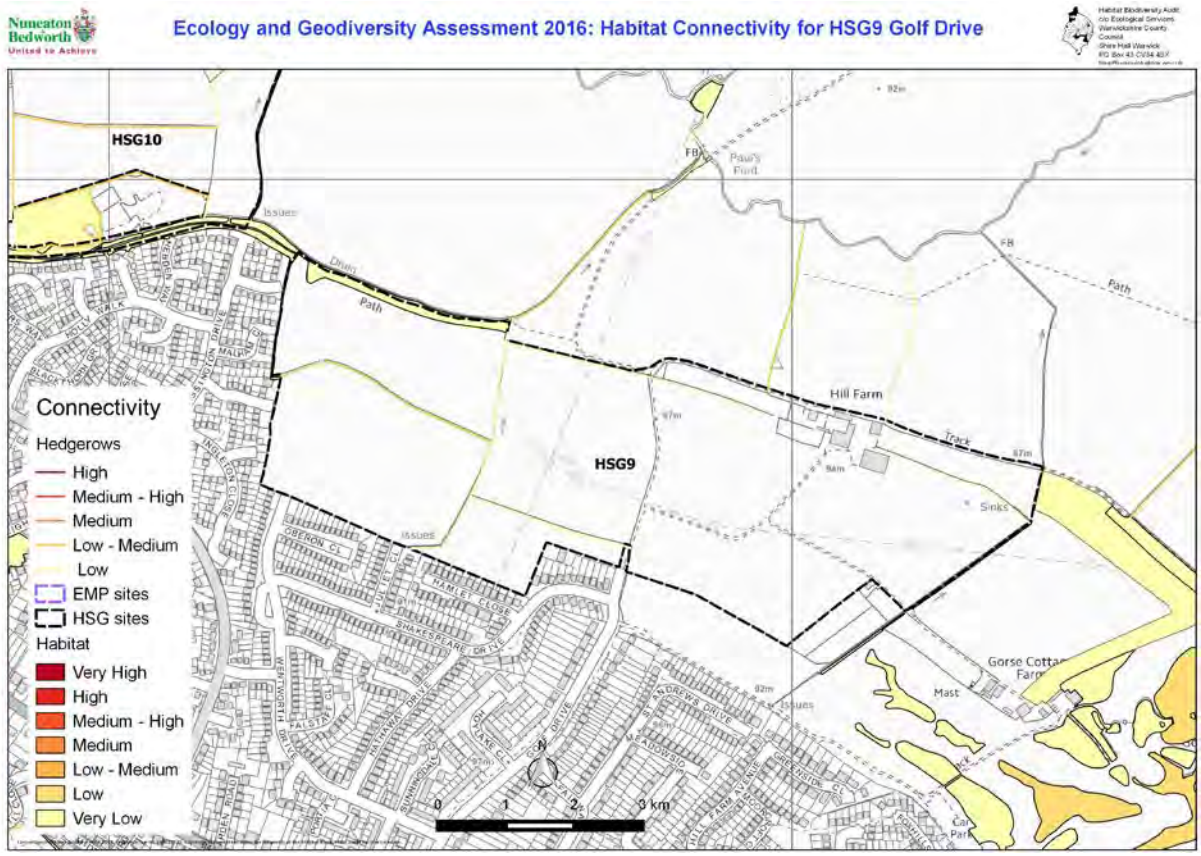


Figure 5 Phase 1 habitat connectivity

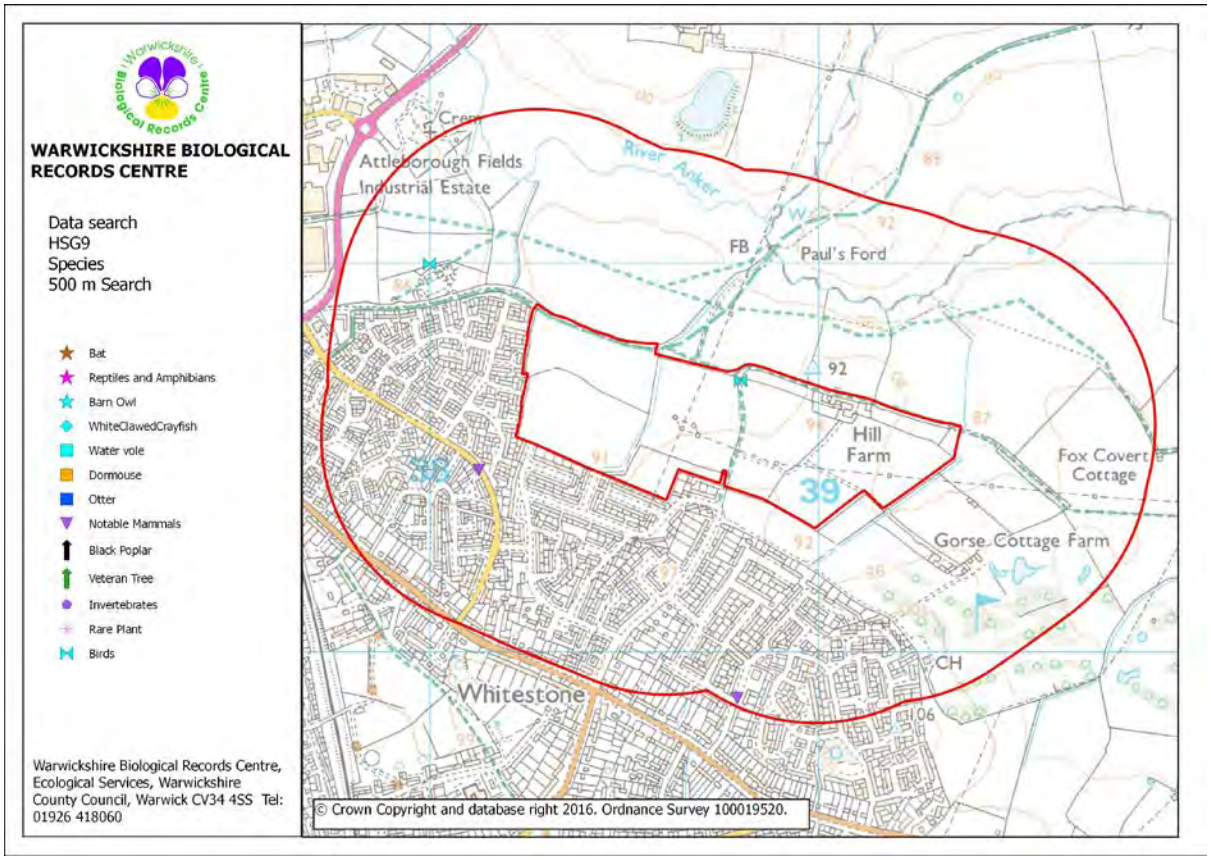
Protected & Important Species

There are the following protected and/or important species[1] recorded within the proposed boundary:

- Birds: Skylark, yellowhammer, reed bunting

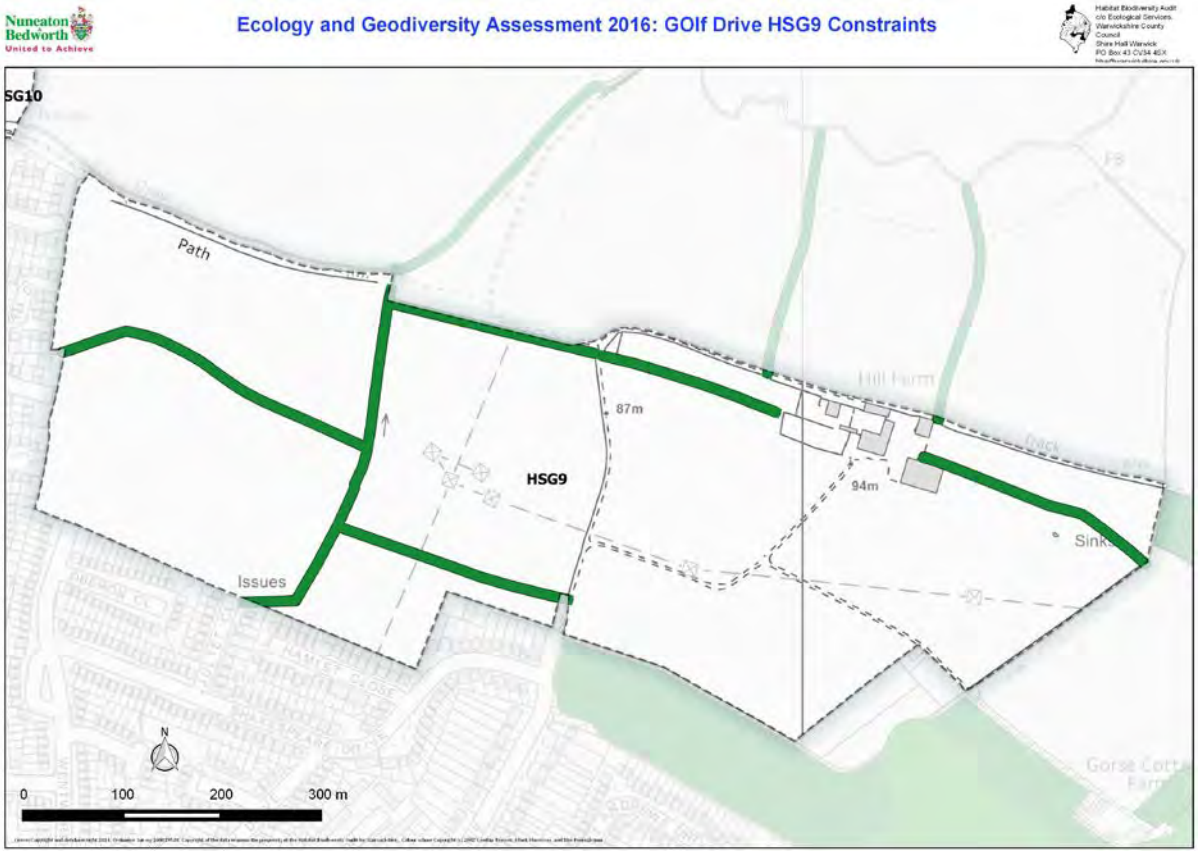
There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Mammals: Hedgehog
- Birds: Kingfisher, Hobby, Linnet, Redwing and Fieldfare



[1] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronic records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG10 ATTLEBOROUGH FIELDS

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site : HSG10 ATTLEBOROUGH FIELDS 3
Overview 3
Key Features 3
Recommendations 4
Designated Sites: Local Sites 5
Anker Mills SP39Q1 Area 9.3 ha 5
Phase 1 Habitat Distinctiveness 6
Target Notes 6
Biodiversity Units 9
Phase 1 Habitat Connectivity 11
Constraints Map 13

Housing Site : HSG10 ATTLEBOROUGH FIELDS

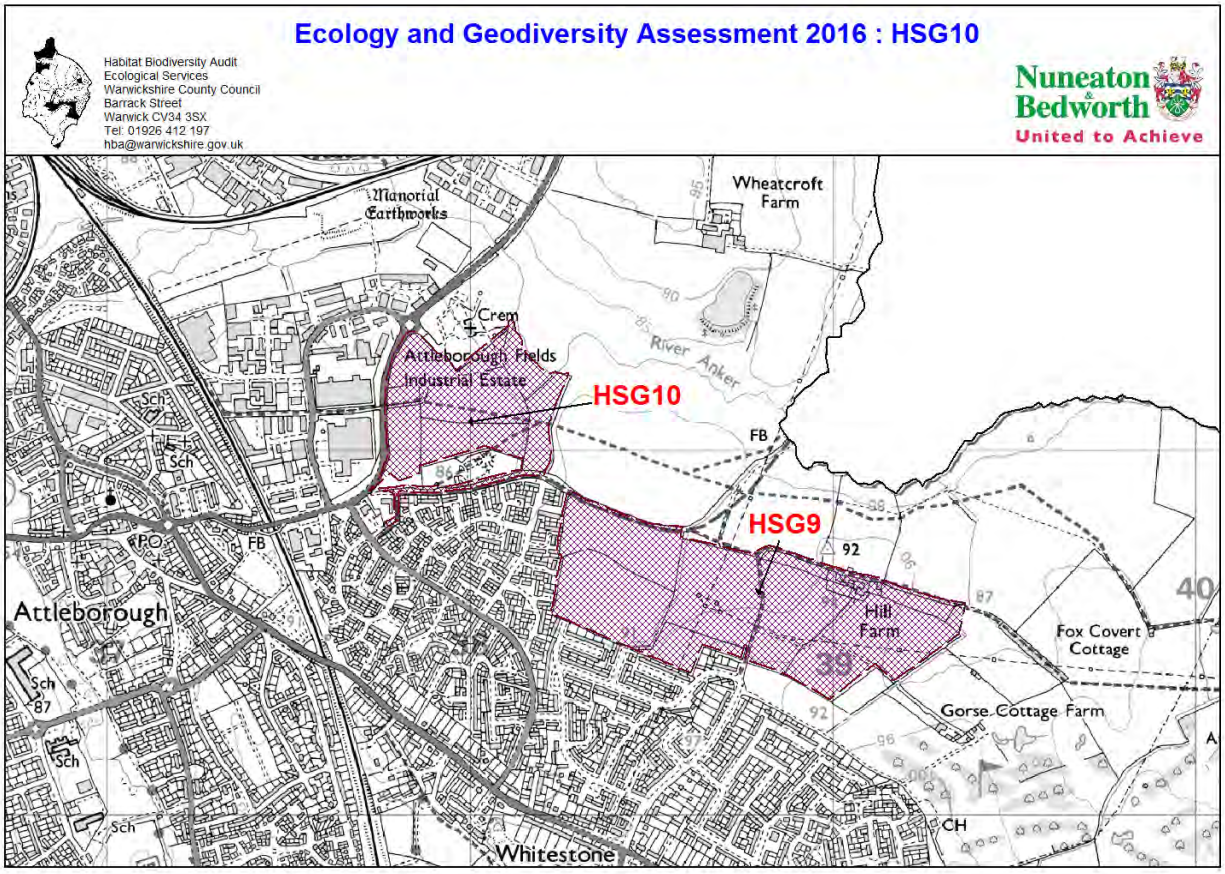


Figure 1 Location map

Area: 15.3 HA

Overview

Site HSG10 is adjacent to the Attleborough Fields Industrial Estate separated by Eastboro Way to the west. To the south is the built area of Attleborough. The northern section of the site is bounded by a crematorium. To the east is open countryside with the River Anker forming the western edge of the site.

The site itself consists of agricultural land with remnant hedgerows. On the southern edge of the site is an area of open public space with a play area and surrounding grassland.

Key Features

- River Anker
- Semi-natural grasslands

Recommendations

Anker Mills LWS (SP39Q1) lies 500 m from the northern section of the development parcel. Anker Mills is a relatively large (9.3 ha), but isolated area of semi-natural habitat within an extensive urban and industrial area. The LWS contains a range of sub-habitats including semi-improved grassland, tall herb, scrub, damp areas and a stream; it also has a high diversity of flowering plants. The stream is of importance as a wildlife corridor. The site is within walking distance of local communities and has value as a recreational resource.

The River Anker is part of a proposed living landscape area with the river to be surveyed as a local wildlife site. Priority consideration should be given to considering providing a buffered section along the river to ensure it remains an open wildlife corridor which connects to Anker Mills LWS.

Public area of open space could be managed as a local wildlife area incorporating both the formal amenity area and informal grassland areas and hedgerows.

Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Designated Sites: Local Sites

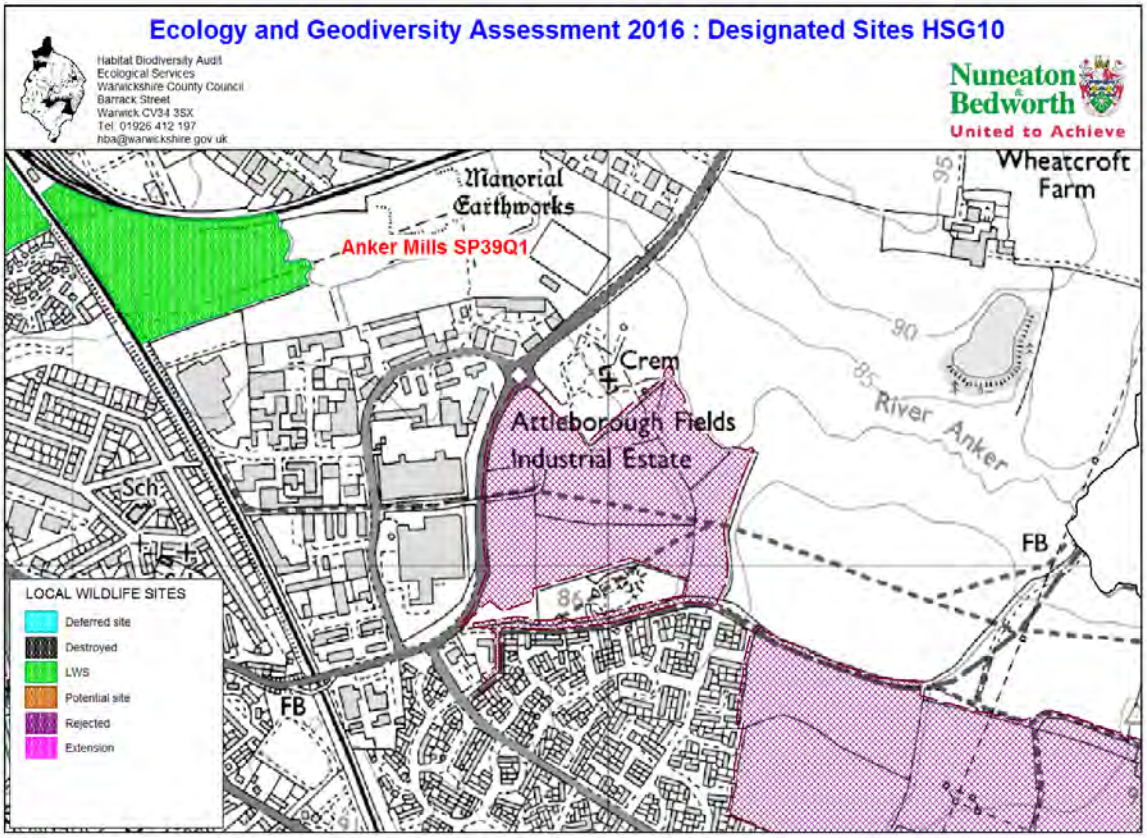


Figure 2 Site Designation Map

Anker Mills SP39Q1[1] Area 9.3 ha

Anker Mills is situated to the north of Attleborough Industrial Estate in Nuneaton. The site is divided into two areas by a railway line. Although there are no official public footpaths, public access is unrestricted and there is a well-used casual footpath across the site. Anker Mills is a relatively large, but isolated area of semi-natural habitat within an extensive urban and industrial area. The site contains a range of sub-habitats including semi-improved grassland, tall herb, scrub, damp areas and a stream; it also has a high diversity of flowering plants. The stream is of importance as a wildlife corridor. The site is within walking distance of local communities and has value as a recreational resource.

River Anker potential Local Wildlife Site

[1] Anker Mills SP38Q1 LWS 01/03/2004 LWSP

Phase 1 Habitat Distinctiveness

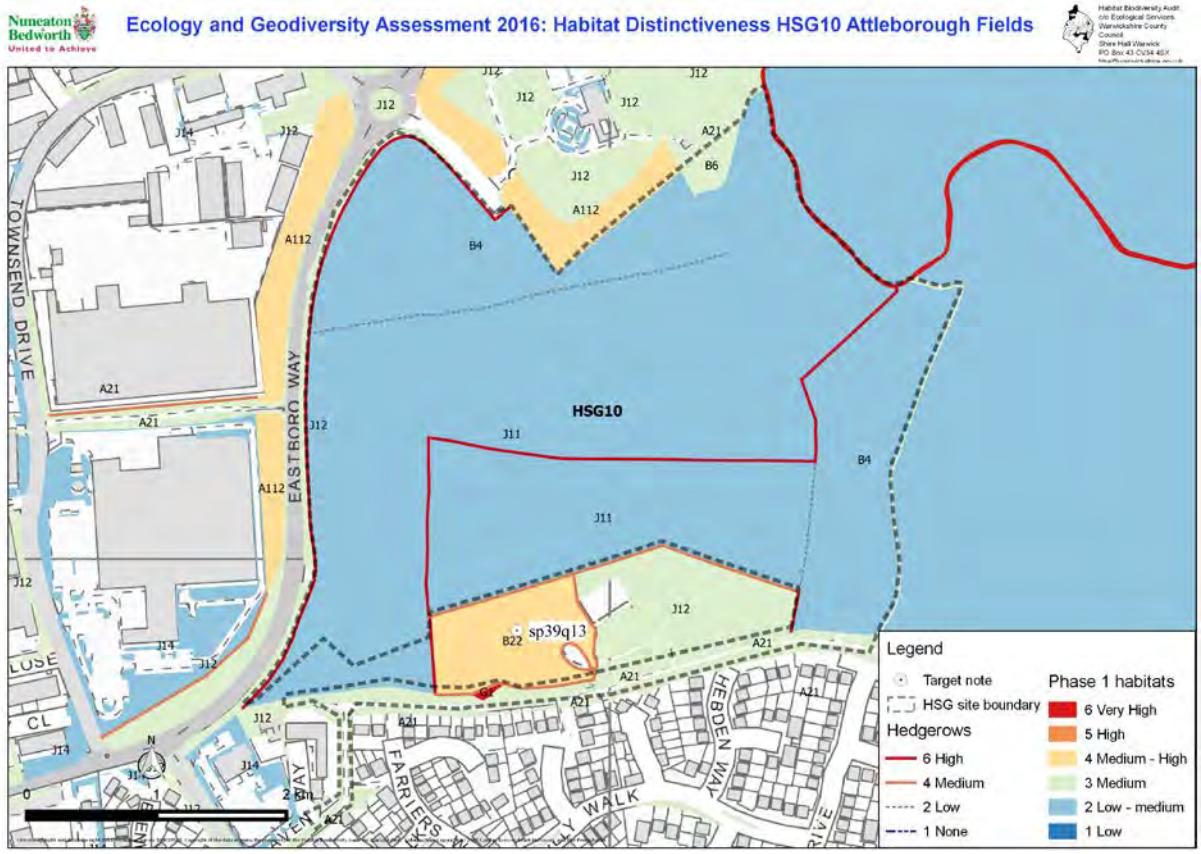


Figure 3 Phase 1 habitat distinctiveness

Target Notes

Reference Grid Reference

SP39Q13 SP3792890938

Managed poor semi-natural grassland dominated by false oat-grass (Arrhenatherum elatius), cock's-foot (Dactylis glomerata), common bent (Agrostis capillaris) with abundant ribwort plantain (Plantago lancelota) and frequent hogweed (Heracleum sphondylium), common sorrel (Rumex acetosa) and cat's-ear (Hypochaeris radicata). A dry pool to the south supports a small amount of yellow iris (Iris pseudacorus), reed canary-grass (Phalaris arundinacea) and soft rush (Juncus effusus). Damp dessicated ground contains frequent willowherb (Epilobium spp.), frequent redshank (Persicaria maculosa), rare wood avens (Geum urbanum), occasional butterfly-bush (Buddleja davidii), occasional common ragwort (Senecio jacobaea) ,frequent greater plantain (Plantago major), yarrow (Achillea millefolium), frequent mugwort (Artemisia vulgaris), frequent broad-leaved dock (Rumex acetosa), occasional creeping thistle (Cirsium arvense), occasional spear thistle (C. vulgare), occasional dandelion (Taraxacum officinale agg)., occasional common nettle(Urtica dioica), hop trefoil (Trifolium campestre), rare selfheal (Prunella vulgaris), occasional scented mayweed (Matricaria recutita), occasional perennial rye-grass (Lolium

perenne), frequent Yorkshire-fog (Holcus lanatus), cock's-foot (Dactylis glomerata), rare bent sp. (Agrostis spp.), rare white clover (Trifolium repens) , rare ribwort plantain (Plantago lancelota), occasional spear-leaved orache (Atriplex prostrata) and occasional great mullein (Verbascum thapsus).

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metircs (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

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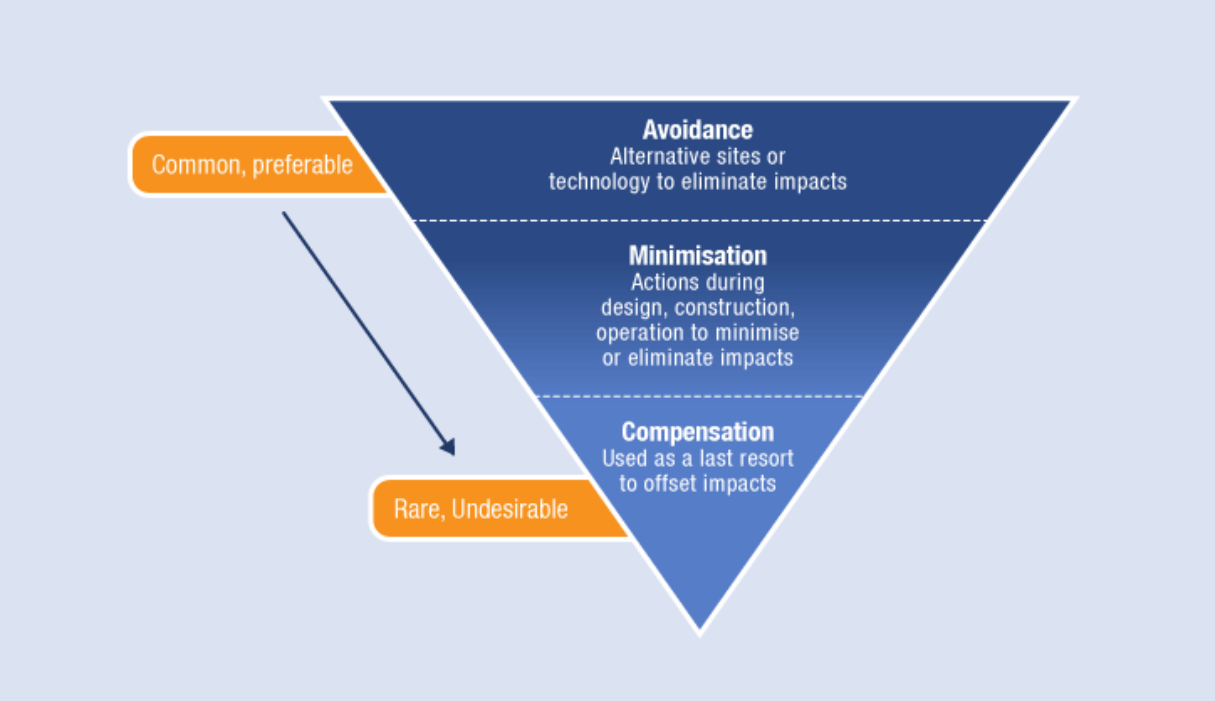


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG10	Arable	2.75	2	1	5.49
HSG10	Arable	6.11	2	1	12.21
HSG10	Improved grassland	2.24	2	1	4.48
HSG10	Broad-leaved plantation	0.00	4	2	0.02
HSG10	Standing water	0.01	6	3	0.22
HSG10	Dense/continuous scrub	0.07	3	2	0.43
HSG10	Dense/continuous scrub	0.04	3	2	0.21
HSG10	Dense/continuous scrub	0.03	3	2	0.20
HSG10	Dense/continuous scrub	0.01	3	2	0.04
HSG10	Improved grassland	1.87	2	1	3.74
HSG10	Poor Semi-improved grassland	0.11	3	2	0.69
HSG10	Dense/continuous scrub	0.01	3	2	0.04
HSG10	Semi-improved neutral grassland	0.01	4	3	0.15
HSG10	Amenity grassland	0.02	2	1	0.05
HSG10	Dense/continuous scrub	0.02	3	2	0.14
HSG10	Dense/continuous scrub	0.27	3	2	1.65
HSG10	Dense/continuous scrub	0.16	3	2	0.94
HSG10	Amenity grassland	0.02	2	1	0.04
HSG10	Arable	1.33	2	1	2.66
				Biodiversity Units	**33.39**

Phase 1 Habitat Connectivity

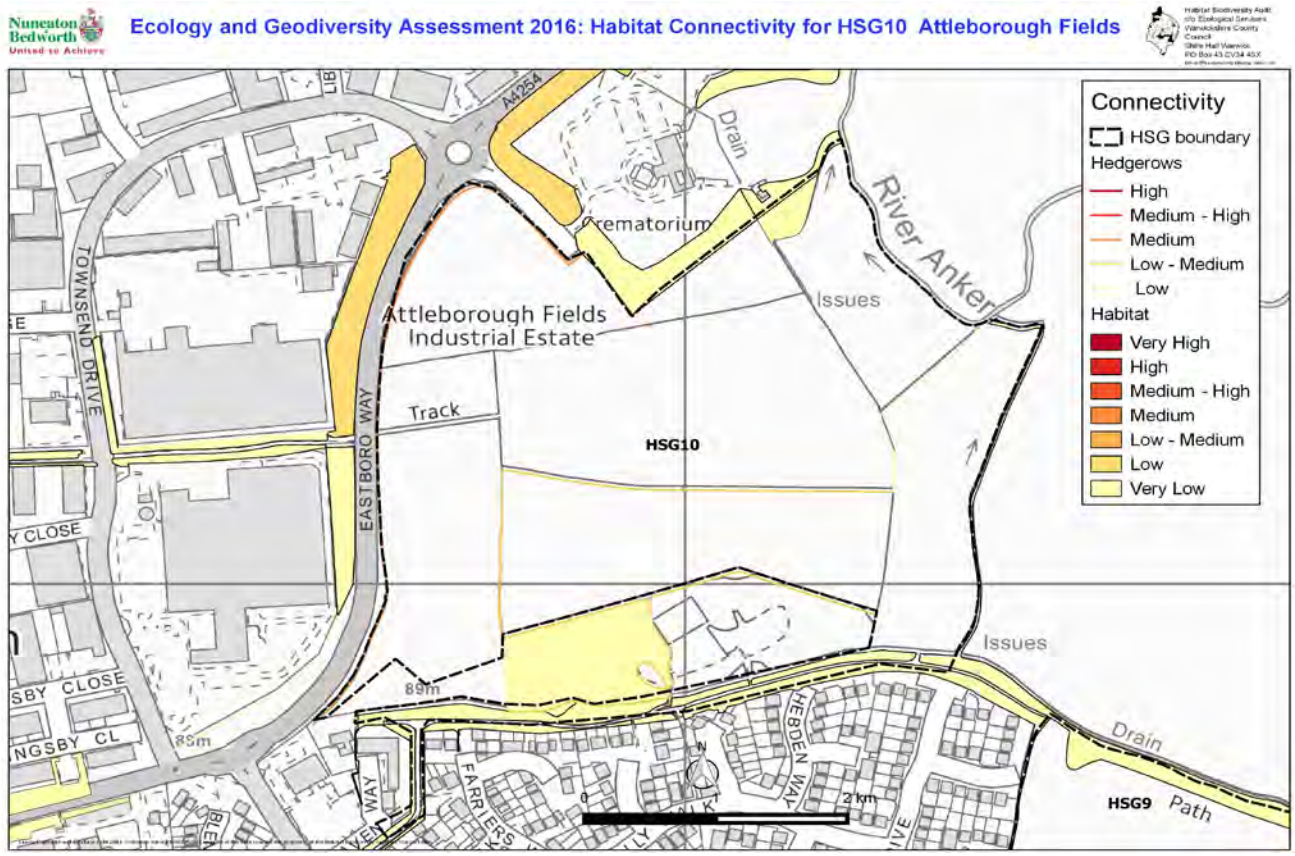


Figure 5 Phase 1 habitat connectivity

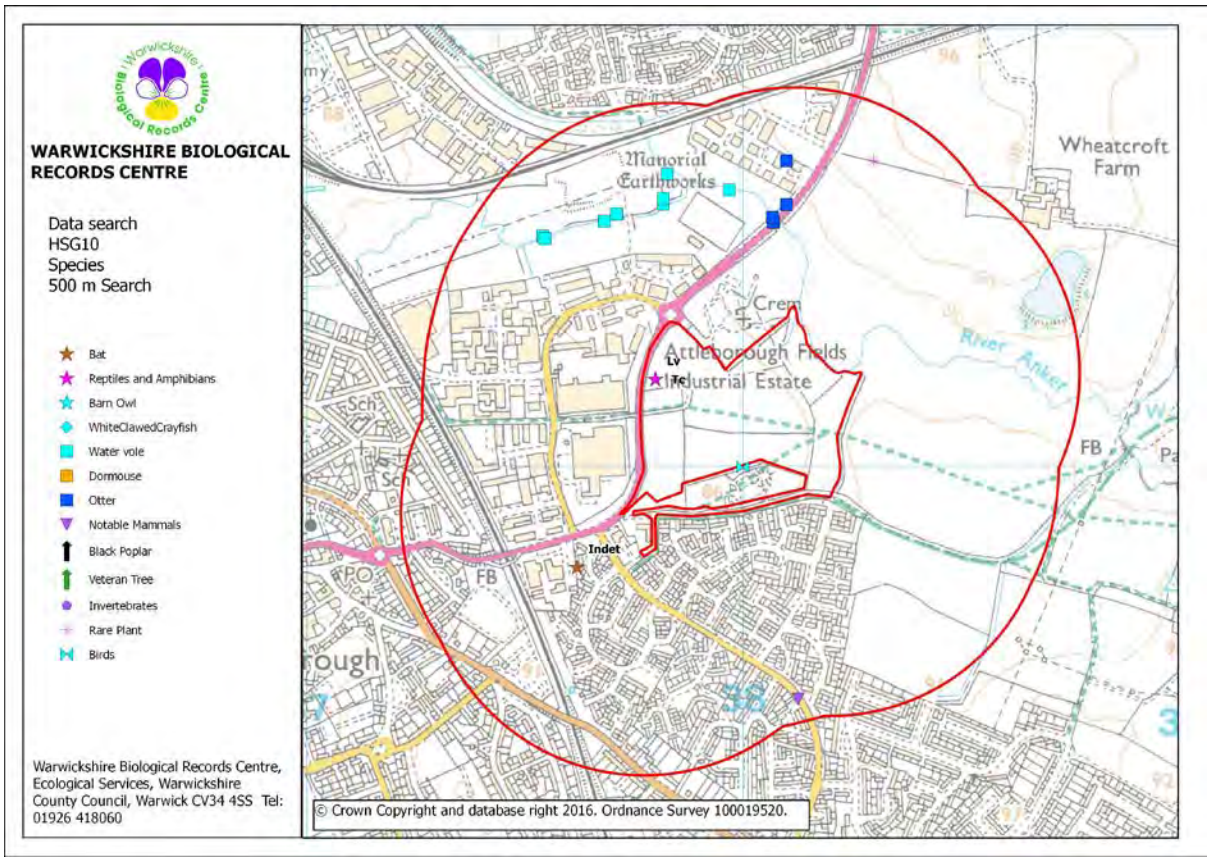
Protected & Important Species

There are the following protected and/or important species[2] recorded within the proposed boundary:

- Reptiles & Amphibians: Great Crested Newt

There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate bat
- Mammals: Water vole, Otter and Hedgehog
- Birds: Kingfisher
- County Rare Plants: Royal Fern



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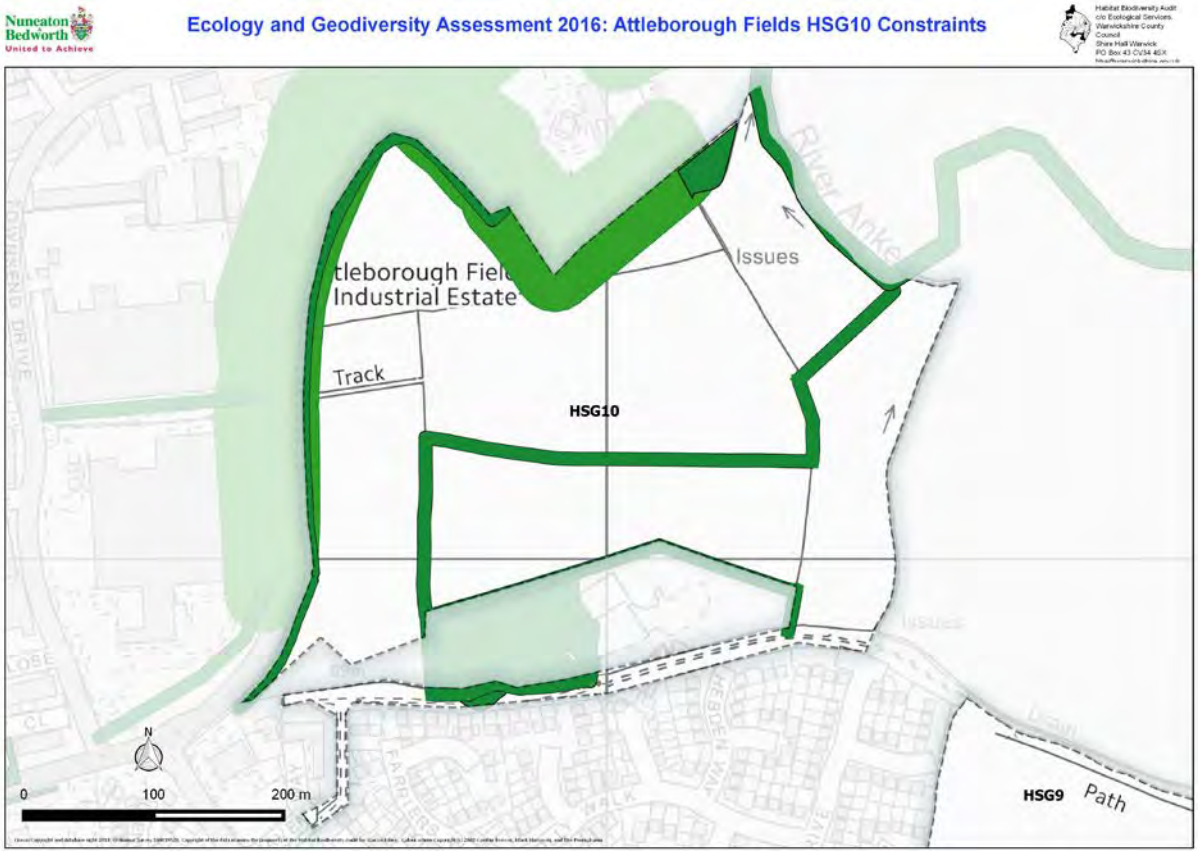
Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)

Nuneaton and Bedworth Borough Council Ecology and Geodiversity Assessment (EGA) Borough Plan Publication Version

HSG11 Tuttle Hill

Prepared by

Habitat Biodiversity Audit Partnership for Warwickshire, Coventry and Solihull, Warwickshire Wildlife Trust

Habitat Biodiversity Audit

and

Warwickshire Biological Record Centre

Ecological Services, Warwickshire County Council

September 2016

Contents

Housing Site HSG11 Tuttle Hill 3

Area: HSG11 8.1 hectares and HSG11 Tuttle Hill 4.7 hectares 3

Key Features 3

Overview 3

Summary 4

Recommendations 5

Opportunities 5

DESIGNATED SITES: LOCAL SITES 6

Phase 1 Habitat Distinctiveness 9

Target Notes 9

Biodiversity Units 17

Phase 1 Habitat Connectivity 19

Protected & Important Species 20

Constraints Map 21

Housing Site HSG11 Tuttle Hill

Area: HSG11 8.1 hectares and HSG11 Tuttle Hill 4.7 hectares

Key Features

- Local Wildlife Sites: Post–industrial habitats
- Atherstone-Hartshill (Cambrian) Ridge
- Coventry Canal
- Local geological sites

Overview

Both housing sites lie at the southern end of an important series of post-industrial, grassland and woodland Local Wildlife Sites (LWS) and Local Geological Sites (LGS) situated along the Atherstone - Hartshill (Cambrian) ridge. The Tuttle Hill HSG11 proposed site will have a direct impact on a section of the Judkins Quarry LWS which contains a large area of post-industrial habitats that have become established on quarry spoil, an area of disused settlement lagoons and a connective belt of planted deciduous woodland adjoining the Coventry Canal potential Local Wildlife Site (pLWS).

Prior to quarrying the underlying geology comprised Cambrian Quartzite (Granite) and a belt of Pre-Cambrian igneous rocks, this underlays the northern section of the area of proposed sites. In all at least 26 different minerals have been identified within the quarry and cliff faces, which was once designated as a geological SSSI, but following de-notification is now Judkin's Quarry Local Geological Site (LGS).

Open Mosaic Habitats on previously developed land (OMH) are found mainly in urban and formerly industrial areas and have a high biodiversity value. This value includes rare plants, mosses and lichens and a large number of rare invertebrates, especially bees, wasps and beetles. Another key feature of OMH are the unusual groups of plants that may be present; combinations which are often unique to OMH and currently little studied[1]. The importance of OMH is recognised nationally as a UK Biodiversity Action Plan (BAP)[2] and as a

[1] Open Mosaic Habitat Survey Handbook 2013, Lush Mike J. et al. exeGisis.

[2] UK Biodiversity Action Plan Priority Habitat Description: Open Mosaic Habitats on Previously Developed Land (Updated July 2010) JNCC.

Warwickshire Local Biodiversity Action Plan (LBAP) priority habitat[3]. Such sites are threatened by redevelopment (due to their common status as brownfield sites), inappropriate restoration, inappropriate management or natural succession. The Local Wildlife Sites Project (LWSP) for Warwickshire, Coventry and Solihull records and designates OMH as Post-industrial sites using a set of criteria that aims to recognise the importance of these sites for wildlife and people[4].

There are a number of protected and important species on and adjacent to the site, including badger, great crested newt, grass snake, common lizard and bats.

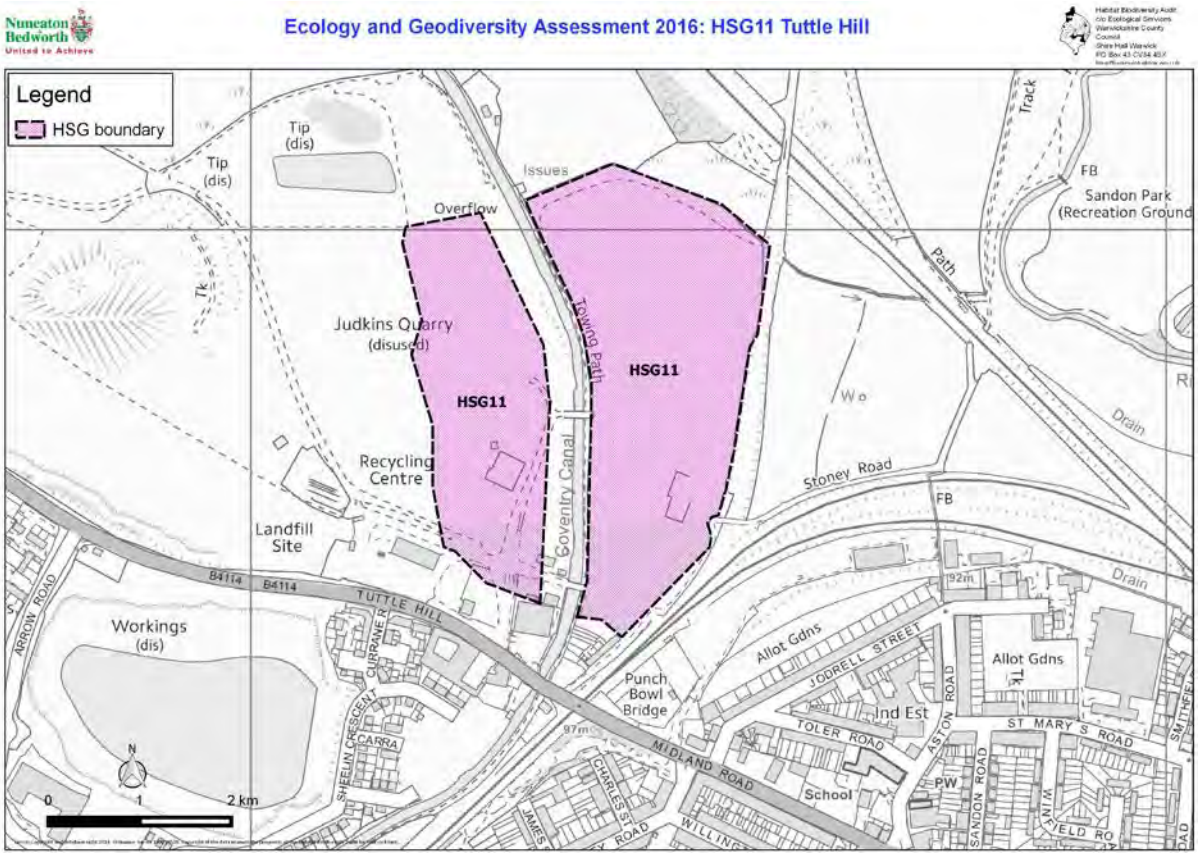


Figure 1 Location map

Summary

HSG11 is a very sensitive ecological site supporting a number of valuable habitats and species. It is suggested that the eastern (8.1ha) allocation is of less

[3] Open Mosaic Habitats on Previously Developed Land. Draft revised plan September 2015. Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

[4] The Green Book Guidance for the Selection of Local Wildlife Sites in Warwickshire Coventry and Solihull: Revised April 2015: Section 10.7 Post industrial sites: Local Wildlife Sites Project.

ecological value and has the greater potential for development. The western (4.7) allocation is regenerating well and is more ecologically valuable.

Recommendations

- To release the eastern area for development with appropriate ecological surveys.
- To retain the western area for ecological benefit
- Areas of Medium to High Distinctiveness category (value: 4, 5 & 6) are retained and enhanced within any proposal.

It is important to note that until protected species survey work is undertaken there cannot be certainty over the potentially developable area and the quantity and scale of retained / enhanced habitat that may be required to adequately address protected species issues.

Opportunities

- Planning gain through obligations to:
  - promote green infrastructure through 'greening' existing infrastructure over the canal
  - retaining and enhancing green infrastructure along the canal and disused railway corridors
  - To provide a bridge (or equivalent) over the main railway line to promote access to the Weddington Green Track.
- Retain and enhance biodiversity on the remaining quarry site as a publically accessible area (where safe to do so)
- Development of a Cambrian Ridge Visitor Centre attraction (akin to Conkers)
  - Enhances, maintains and creates the Cambrian Ridge – River Anker Post-industrial Living Landscape sites along the north-west south-east axis from Judkins Quarry/Midlands Quarry in Nuneaton to the quarry sites on the outskirts of Atherstone.
  - Promotes cycle routes around Nuneaton & Bedworth and into Leicestershire and North Warwickshire.

DESIGNATED SITES: LOCAL SITES

Local Sites for both wildlife and geological within a 1km radius of the proposed development sites:

Site ID	Site Name	Area (ha)	Type	Status	Date
SP39L2	Judkin's Quarry	19.45	Wildlife	LWS	25/02/2016
Sp39L5	Boon's Wharf	2.24	Wildlife	LWS	29/10/2001
SP39L4	Holly Stiches Dell	1.1	Wildlife	LWS	29/10/2002
SP39L6	Weddington Meadows	7.62	Wildlife	LWS	03/04/2003
SP39L1.1	Weddington Country Walk	7.94	Wildlife	LWS	13/12/2012
SP38Li29b3	Coventry Canal		Wildlife	pLWS	
Sp39L1	Railway embankments	7.55	Wildlife	pLWS	
SP39L8	Holly Stiches and Midlands Quarry	15.33	Wildlife	pLWS	
13	Midlands Quarry	9.9	Geological	LGS	14/06/2010
12	Judkins Quarry	21	Geological	LGS	02/06/2010

Table 1 Site Designations

Judkin's Quarry Local Wildlife Site[5].

The site can be divided into three sections;

1. The mounds in the northern section of the LWS are the longest-established and least disturbed section of the site. The hill top includes a large area of semi-improved and herb rich grassland. Grazing by rabbits has kept the sward short. Areas of exposed quarry spoil, rocks and bare ground has led to a diverse range of habitats.

2. The border woodland is mature and even-aged closed canopy plantation woodland which is important to the LWS as it provides connectivity to the two adjoining sections as well as to Coventry Canal and Boon's Wharf LWS.

3. Southern mounds and settling lagoons contains the largest area of the LWS and comprises a high plateau of tipped spoil containing a rich mosaic of habitats,

[5] Judkins Quarry Local Wildlife Site SP39L2 25/02/106

ranging from rocks and scree, through pioneer habitats and short semi-improved grassland to longer tussock grassland and tall herb, to both scattered and dense scrubland. There are also sections of young planted woodland along the canal. The most important features of the site are the six large disused settling lagoons, which provide area of open water and reed swamps. Large wet reed bed areas are uncommon in Warwickshire and are subject of two Local Biodiversity Action Plans (LBAP) priority habitats for the county[6].

Boons Wharf Local Wildlife Site[7]

Boons Wharf is located to the north of Judkin's Quarry LWS adjacent to the Coventry Canal and comprises of semi-improved grassland, encroaching scrub and woodland. The site is surrounded by arable fields on three sides and the canal and Judkin's Quarry on the other.

Coventry Canal potential Local Wildlife Sites

Coventry Canal was surveyed as a local wildlife site in 2012 as far as the Nuneaton and Bedworth Borough boundary. The completed sections of the survey(s) still need to be written up and is currently a work in progress. However the results of the survey are available.

Weddington Meadows and Weddington Country Walk Local Wildlife Sites

Both of these sites[8] are not directly impacted by the potential development but are important sites to note as they provide a valuable wildlife corridor across the north side of Nuneaton which connects directly with the Coventry Canal corridor and the River Anker (also a potential local wildlife site).

Holly Stiches and Midlands Quarry potential Local Wildlife Site and Midland Quarry Local Geological Site (formerly RIGS)[9]

This is an example of a combined local site incorporating both the importance for wildlife and geology. The geology of the site is recorded as largest exposure of Caledonian diorite sill exposed in the county intruded into the Lower Cambrian Hartshill Sandstone Formation.

Judkins Quarry Local Geological Site (formerly RIGS)

[6] Reed Beds Draft revised plan 2015 and Fen and Swamp draft revised plan September 2015 Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

[7] Boons Wharf Local Wildlife Site SP39L5 29/10/2002

[8] Weddington Country Walk Local Wildlife Site SP39L1.1 02/07/2012 and Weddington Meadows Local Wildlife Site SP39L6

[9] Midland Quarry Regionally Important Geological Site (RIGS) 13 14/03/2010 Warwickshire Geological Conservation Group

Judkins Quarry LGS is not a part of the Judkins Quarry LWS comprising a former roadstone quarry which is now largely a landfill site. The quarry exposes geological formations ranging from more than 603 million years to 230 million years and exposes a range of rock types and structures that are unique in Warwickshire and the Midlands. The site has an usual history of development and is of great educational value and research potential to students and researchers[10]

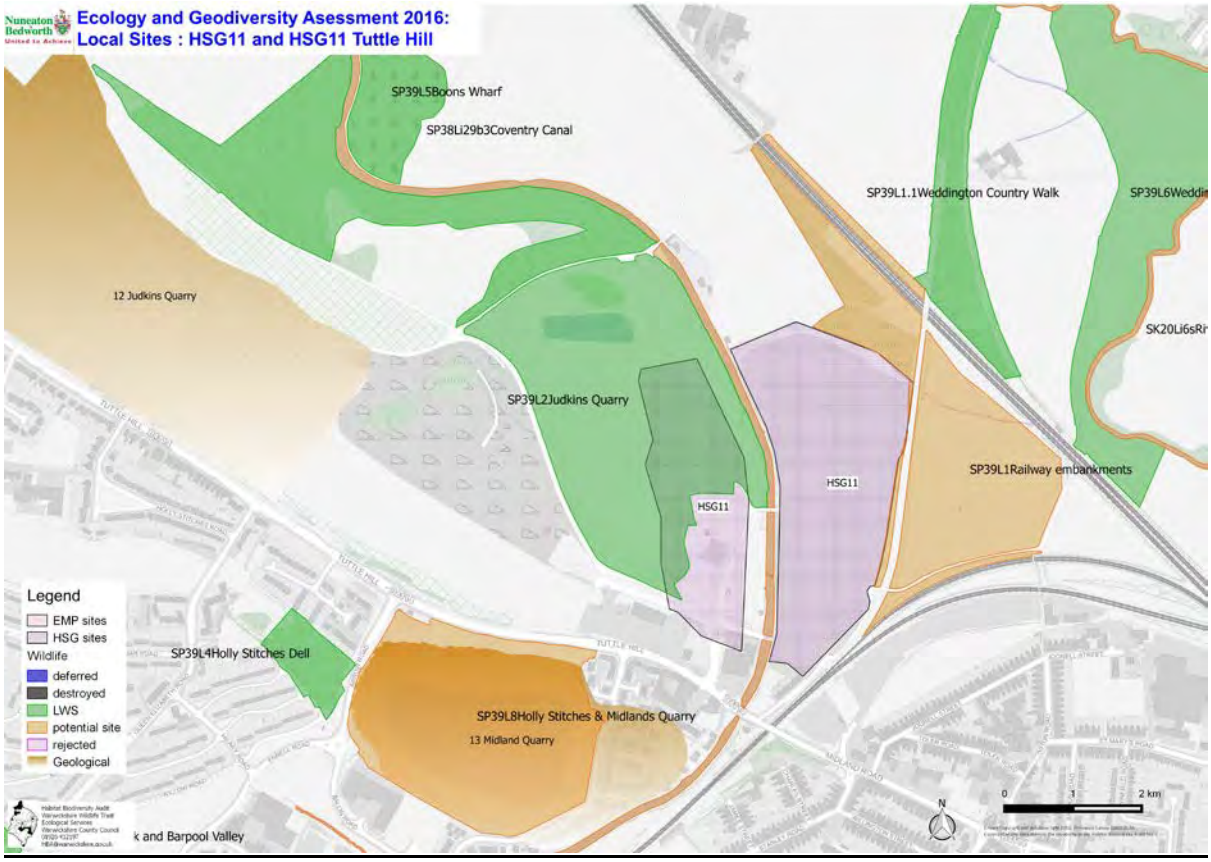


Figure 2 Site Designation Map

[10] Judkins Quarry Regionally Important Geological Site (RIGS) 02/06/2010 Warwickshire Geological Conservation Group.

Phase 1 Habitat Distinctiveness

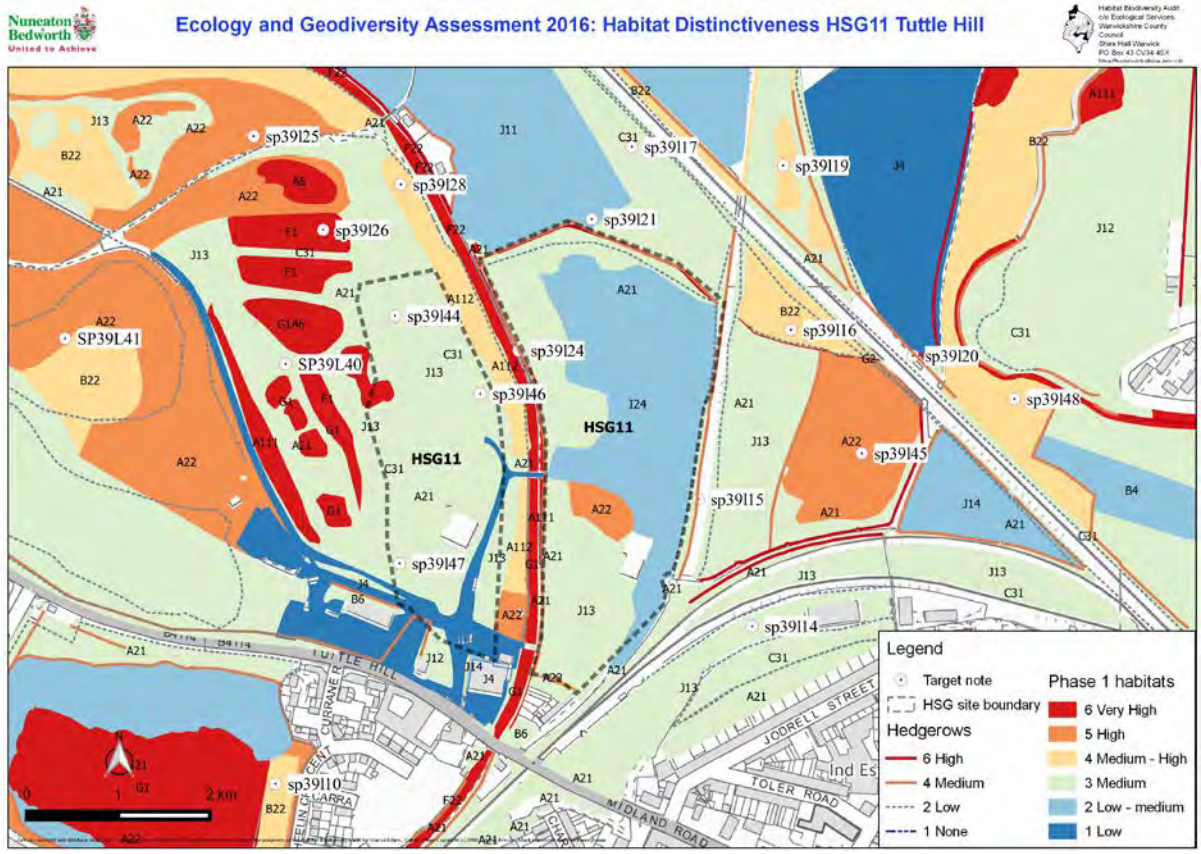


Figure 3 Habitat Distinctiveness

Target Notes

Reference	Grid Reference	Location
Sp39L10	**SP3507692460**	**Midland Quarry GLS/pLWS**

0/10/1997 Bund of dense hawthorn scrub with goat willow (Salix caprea) and crack willow at the base and areas of bramble (Rubus fruticosus agg.) dog rose, elder (Sambucus nigra) and some snowberry. The ground flora is typically sparse but does include tutsan, male-fern (Dryopteris filix-mas), wood avens and wild strawberry. Evidence of badgers.

18/08/2016 Midlands Quarry GLS/pLWS. Quarry is now a lake with steep cliff sides with some scrub vegetation otherwise is exposed bare rock. The section alongside housing has a steep grassy bank with scattered scrub along the edge of the former quarry along the top is open scrub consisting of Butterfly-bush (Buddleja davidii), Gorse (Ulex europaeus), Broom (Cytisus scoparius), young Silver Birch (Betula pendula), Red Valerian (Centranthus ruber), Tufted Hair-grass (Deschampsia caespitosa)and very occasionally Japanese Knotweed (Fallopia japonica). The site is surrounded by a tall fence but there is a locked gate with access to grassland area via steps. Section along the B4114 has a mix of semi-improved grassland, short

perennial and open scrub.

Sp39L11 SP3485192310 Midlands Quarry GLS

30/10/1997 Poor semi-improved grassland at the head of a quarry dominatedby Tufted Hair-grass (Deschampsia caespitosa), False oat-grass (Arrhenatherum elatius), Common Bent (Agrostis capillaris),Crested Dogstail (Cynosurus cristatus) and Perennial Rye-grass (Lolium perenne) with dock, ragwort, Ribwort Plantain (Plantago lanceolata), Oxeye Daisy (Leucanthemum vulgare), Birdsfoot-trefoil (Lotus corniculatus), Yarrow (Achillea millefolium), Common Centaury (Centaurium erythraea),Spear Thistle (Cirsium vulgare), Common cat's Ear (Hypochaeris radicata), Lesser trefoil (Trifolium dubium) and banks of Smooth Tare (Vicia tetrasperma) and other vetches. The ground suffers from compaction and contains some shallow hollows dominated by Soft Rush (Juncus effusus), Hard Rush (Juncus inflexus) or Wood small-reed (Calamagrostis epigejos). A good deal of scrub invasion is occurring.18/08/2016 Area is now a warehouse building with parking.

Sp39L12 SP3494892266 Midlands Quarry GLS

30/10/1997 Canal overflow which consists of steep sided brick lined pools. The pools contain submerged Callitriche sp with floating duckweed and emergent Glyceria maxima with Fool's Watercress (Apium nodiflorum), Celery-leaved Buttercup (Ranunculus sceleratus), Great Willowherb (Epilobium hirsutum) and Yorkshire Fog (Holcus lanatus). The area has potential for amphibians. The ditch that from the pools is periodically wet and contains Gypsywort (Lycopus europaeus), Reed Canary-grass (Phalaris arundinacea), Common Nettle (Urtica dioica) and Great Willowherb (Epilobium hirsutum). Much of its length is covered by hawthorn (Crataegus monogyna) and bramble scrub.18/08/2016 Now part of a housing development.

Sp39L14 SP3559792632 Railway sidings

Typical abandoned railway siding containing an interesting assemblage of plants over nutrient poor soil. Generally short grassland with birch and bramble encroachment and some tracks of bare stony ground. Patches of bryophytes with stands of willowherb species and st john's wort occur throughout. Full assessment impossible due access restrictions.

Sp39L13 SP3507692313 Midlands Quarry GLS

30/10/1997 Poor False oat-grass (Arrhenatherum elatius) grassland with frequent Cow Parsley (Anthriscus sylvestris), Hogweed (Heracleum sphondylium) and Creeping Thistle (Cirsium arvense). Sheep's Sorrel ssp. (Rumex acetosella) is particularly abundant on the higher ground - often in association with Autumn Hawkbit (Leontodon autumnalis), Creeping Bent (Agrostis stolonifera) and Yorkshire Fog (Holcus lanatus). Much of the grassland had been set alight during the late summer and this has hindered the assessment.18/08/2016 This area is now a recently built housing development alongside Midlands Quarry GLS/pLWS.

Sp39L15 SP3553892770 Railway Embankment plws

30/10/1997 Dismantled railway line lined either side by hawthorn (Crataegus monogyna), dog rose (Rosa canina), bramble (Rubus fruticosus agg.) with some oak (Quercus robur) and ash (Fraxinus excelsior) standards in addition to occasional travellers-joy (Clematis vitalba). Quite wet in places with frequent pools and containing hard rush (Juncus inflexus), bulrush (Typha latifolia), toad rush (Juncus bufonius), Yorkshire-fog (Holcus lanatus), annual meadow-grass (Poa annua), marsh foxtail (Alopecurus geniculatus), creeping buttercup (Ranunculus repens), great willowherb (Epilobium hirsutum) and broad-leaved dock (Rumex obtusifolius). On the drier ground oxeye daisy (Leucanthemum vulgare) is very frequent as is broad-leaved willowherb (Epilobium hirsutum) and ribwort plantain (Plantago lancelota) with autumn hawkbit (Leontodon autumnalis), selfheal (Prunella vulgaris), mouse-ear hawkweed (Pilosella officinarum), blue fleabane (Erigeron acer), barren strawberry (Potentilla sterilis), smooth meadow-grass (Poa pratensis), Yorkshire-fog (Holcus lanatus), cock's-foot (Dactylis glomerata), red fescue (Festuca rubra), feverfew (Tanacetum parthenium) and bittersweet (Solanum dulcamara). The whole area is grazed by rabbits (Oryctolagus cuniculus) and contains an abundance of bird life.18/8/2016 Railway Embankments plws SP39L1

Sp39L16 SP3563992956 Railway Embankments plws

30/10/1997 Species poor grassland dominated by Yorkshire-fog (Holcus lanatus) and red fescue (Festuca rubra) with small patches of creeping cinquefoil (Potentilla reptans), oxeye daisy (Leucanthemum vulgare), meadow buttercup (Ranunculus repens), hogweed (Heracleum sphondylium), yarrow (Achillea millefolium), germander speedwell (Veronica chamaedrys) and lesser stitchwort (Stellaria graminae). The railway embankment to the north-west contains frequent oxeye daisy (Leucanthemum vulgare), yarrow (Achillea millefolium), common bird's-foot-trefoil (Lotus corniculatus) and common knapweed (Centaurea nigra). This area is grazed by rabbits (Oryctolagus cuniculus) and also contains some small wetland features dominated by hard rush (Juncus inflexus). The area has suffered recent disturbance.
18/08/2016 Railway Embankmens plws SP39L1 unmanaged grassland succeeding to Tall Ruderal with ares of Bramble (Rubus fruticosus), Oxford Ragwort (Senecio squalidus), Rosebay Willowherb (Chamerion angustifolium)and Creeping thistle (Cirsium arvense). Open rabbit grazed patches and along footpaths is Red Bartsia ssp. (Odontites vernus), Selfheal (Prunella vulgaris), Imperforate St John's-wort (Hypericum maculatum), Tufted vetch (Vicia cracca),White Clover (Trifolium repens) in addition to the above.Along the railway line a hedge has been planted with Wayfaring-tree (Viburnum lantana), Spindle (Euonymus europaeus), Hawthorn (Crataegus monogyna) and Field Maple (Acer campestre)

Sp39L17 SP3546593156 Railway-cutting

Rich railway-cutting grassland containing abundant common knapweed (Centaurea nigra) with yarrow (Achillea millefolium), wild carrot (Daucus carota), oxeye daisy (Leucanthemum vulgare), red fescue (Festuca rubra), yellow oat-grass (Trisetum

flavescens), ribwort plantain (Plantago lancelota) and vetches (Vicia spp.).

Sp39L19 SP3563193135 Weddington Country Walk LWS

30/10/1997 Rich grassland bounded by two dismantled railway lines. Very diverse with abundant common knapweed (Centaurea nigra), Oxeye Daisy (Leucanthemum vulgare) with Wild Carrot (Daucus carota), Yellow Oat-grass (Trisetum flavescens), Oxford Ragwort (Senecio squalidus), Red Fescue ssp. (Festuca rubra), Cock's-foot (Dactylis glomerata), False Brome (Brachypodium sylvaticum), Tufted Hair-grass (Deschampsia caespitosa), Agrimony (Agrimonia eupatoria), Yarrow (Achillea millefolium), Hogweed (Heracleum sphondylium), Meadow Vetchling (Lathyrus pratensis), Birdsfoot-trefoil (Lotus corniculatus), Goat's-beard (Tragopogon pratensis), Zigzag Clover (Trifolium medium), Fairy Flax (Linum catharticum), Meadow Buttercup (Ranunculus acris). Some Carex sp and Greater Knapweed (Centaurea scabiosa) also occur. Under severe threat from lack of management and scrub encroachment.18/08/2016 Weddington Country Walk LWS Former relic grassland with anthills is now mostly dense scrub - Hawthorn (Crataegus monogyna), young Ash (Fraxinus excelsior) and occasional Pedunculate Oak (Quercus robur). Small oak plantation. Some areas of the original grassland remain but not much; with Red Bartsia ssp.(Odontites vernus), Agrimony (Agrimonia eupatoria) etc.

Sp39L20 SP3577392927 River Anker LWS

30/10/1997 River Anker - Canalised channel with a little floating some emergent branched bur-reed, Brooklime (Veronica beccabunga) and watercress with dense nettle (Urica dioica) and patches of butterbur along the bank. Great willowherb also occurs with occasional stands of hawthorn (Crataegus monogyna), bramble (Rubus fruticosus agg.) andelder along the north bank.18/08/2016 Canalised section enters main river - River Anker plws at Weddington Meadows LWS along waterside is Orange Balsam (Impatiens capensis), Yellow Iris (Iris pseudacorus) and Unbranched Bur-reed (Sparganium emersum).

Sp39L21 SP3542293077 Railway Cutting

Tall rank grassland with abundant false oat-grass (Arrhenatherum elatius), cock's-foot (Dactylis glomerata), common bent (Agrostis capillaris) with frequent hogweed (Heracleum sphondylium), common knapweed (Centaurea nigra) and lesser stitchwort (Stellaria graminae). Autumn hawkbit (Leontodon autumnalis), tall fescue (Festuca arundinacea), vetches (Vicia spp.), cat's-ear (Hypochaeris radicata), common bird's-foot-trefoil (Lotus corniculatus), fairy flax (Linum catharticum) and oxeye daisy (Leucanthemum vulgare) are particularly abundant along the lower, rabbit grazed areas next to the railway line. UPDATED 30/08/2011 is now dense scrub.

SP39l24 SP3534292923 Coventry Canal

30/10/1997: Length of the Coventry Canal running between two quarries. Enclosed with steep banks dominated by hawthorn (Crataegus monogyna) scrub with elder

(Sambucus nigra), dog rose (Rosa canina), field maple (Acer campestre), bramble (Rubus fruticosus agg.) and planted elm (Ulmus sp.), silver birch (Betula pendula) and willow (Salix sp.). The ground flora is generally sparse and dominated by ivy (Hedera helix), however along the steep banks false wood-brome (Brachypodium sylvaticum), wood avens (Geum urbanum), red campion (Silene dioica) and greater stitchwort (Stellaria holostea) forms frequent clumps.
18/08/2016 Coventry Canal plws; eastern bank maturing semi-natural woodland (broad-leaved plantation) understorey is well established.

SP39l25 SP3505293157 Judkins Quarry (North)

30/10/1997 Dense gorse scrub (Ulex europaeus) with red fescue (Festuca rubra) and common bent (Agrostis capillaris) forming a mosaic with the scrub. Some weld (Reseda luteola), common knapweed (Centaurea nigra), ribwort plantain (Plantago lancelota) and thistles (Cirsium sp.) are frequent. 29/05/2015 Updated Phase 2 Judkins Quarry (North) LWS SP39L2 Attractive slope with abundant ferns, Traveller's-joy (Clematis vitalba), Rosebay Willowherb (Chamerion angustifolium), area of abundant Blue Fleabane (Erigeron acer) in relict grassland. Scattered Goat Sallow (Salix caprea), Elder (Sambucus nigra) and occasional Sycamore (Acer pseudoplatanus), Butterfly-bush (Buddleja davidii) Short grassland dominated by Creeping Bent (Agrostis stolonifera), Red Fescue ssp. (Festuca rubra), Yorkshire Fog (Holcus lanatus). Herb rich. Steep rocky slope with frequent Yellow-wort (Blackstonia perfoliata). No pools noted in this section. Along the edges are young plantation of Ash (Fraxinus excelsior), Larch, Oak,Gorse and Goal Sallow. Japanese Knotweed (Fallopia japonica) noted.

Sp39L26 SP3512893065 Judkins Quarry (South) LWS

Series of pools - possibly as part of a quarry restoration plan with a good deal of emergent vegetation including dense patches of Bulrush or Common Reed mace (Typha latifolia), Common Reed (Phragmites australis) and Calamagrostis epigejos. Some Gypsywort (Lycopus europaeus) , water dock, soft rush (Juncus effusus). Jointed Rush (Juncus articulatus) and Great Willowherb (Epilobium hirsutum) also occur. Young willow carr is present in places but much of the surrounding land is bare. UPDATED 30/08/2011 Pools are a connected series of waste water treatment ponds. 29/09/2015 Part of Judkins Quarry (South) LWS Reed swamp with Goat Sallow (Salix caprea)

Sp39L27 SP3465493343 Judkins Quarry (North) LWS

30/10/1997 Area of tall rank grassland on a flattened spoil heap which is dominated by cock's-foot (Dactylis glomerata) and common couch (Elytrigia repens) with frequent mugwort (Artemisia vulgaris), rosebay willowherb (Chamerion angustifolium), hogweed (Heracleum sphondylium), yarrow (Achillea millefolium), ribwort plantain (Plantago lancelota) and some hard rush (Juncus inflexus), lady's-mantle (Alchemilla sp.), common knapweed (Centaurea nigra) and a variety of vetches (Vicia sp.). Common centaury (Centaurium erthraea), wood sage (Teucrium scorodonia), yellow rattle (Rhinanthus minor) and abundant oxeye daisy

(Leucanthemum vulgare) occur on the slopes. Silver birch (Betula pendula), bramble (Rubus fruticosus agg.), elder (Sambucus nigra), raspberry (Rubus idaeus), goat willow (Salix caprea) and gorse (Ulex europaeus) form dense stands in places.

UPDATED 30/08/2011 As described, with common bird's-foot-trefoil (Lotus corniculatus) and St John's wort (Hypericum sp.). 18/08/2016 Section of Judkin's Quarry (north) LWS mixed scrubland and younger plantation woodland hawthorn (Crataegus monogyna) and sallow scrub.

SP39l28 SP3521393105 Judkins Quarry (South)

30/10/1997Tall bulrush (Typha latifolia) swamp with dense bramble (Rubus fruticosus agg.), willow (Salix sp.), hawthorn (Crataegus monogyna) and common nettle (Urtica dioica) that surround the area - often with tufted hair- grass (Dechampsia caespitosa) and soft-rush (Juncus effusus) and hard rush rush (Juncus inflexus) in damper areas alongside perforate St John's wort (Hypericum perforatum), hogweed (Heracleum sphondylium) and goat willow (Salix caprea). Wet woodland of alder (Alnus glutinosa) accompanies the bulrush swamp. 17/09/2015 Judkins Quarry (South) LWS Ash (Fraxinus excelsior), Goat Sallow (Salix caprea), Osier (Salix viminalis) scrub.

Sp39L29 SP3479593454 Boons Quarry LWS

30/10/1997 Rank semi-improved grassland over disturbed ground. Dominated by common bent (Agrostis capillaris), tufted hair-grass (Deschampsia caespitosa) and cock's-foot (Dactylis glomerata) with patches of Polytrichum formosum, cat's-ear (Hypochaeris radicata), a hawkweed (Hieracium sp.) and vetches (Vicia spp.). Some patches of sheep's sorrel (Rumex acetosella) also occur with common ragwort (Senecio jacobaea), zig-zag clover (Trifolium medium), common centaury (Centaurium erythraea) and yarrow (Achillea millefolium). Bramble (Rubus fruticosus agg.), hawthorn (Crataegus monogyna), silver birch (Betula pendula), willow (Salix sp.), larch (Larix sp.), dog rose (Rosa canina) and oak (Quercus robur) is encroaching onto the site.Boon's Wharf LWS semi-improved grassland with encroaching scrub Yellow Rattle (Rhinanthus minor), Common Spotted-orchid (Dactylorhiza fuchsii), Birdsfoot-trefoil (Lotus corniculatus), Common Knapweed (Centaurea nigra) etc. recorded here.

18/08/2016 Boons Quarry LWS Also dense hawthorn scrub which has largely shaded out ground flora, occasional mature Silver Birch Elder (Sambucus nigra) and young Pedunculate Oak (Quercus robur). Requires re-survey and possible incorporation into JudKins Quarry LWS

SP39l40 SP3515692923 Judkins Quarry (south)

30/08/2011 Area contains a number of settlement ponds to filter dirty water from the quarry. Pools contain fish and heron seen. 17/09/2015 Judkins Quarry (South) LWS - 17/09/2015 Pools surrounded by Reed/ Bulrush or Common Reed mace (Typha latifolia) with Goat Sallow (Salix caprea). Marshy areas with abundant Gypsywort (Lycopus europaeus), Common Skullcap (Scutellaria galericulata), Water milfoil, Willowherbs,; Sedges and Rushes.

SP39l41 SP3451693071 Judkins Quarry – Mount Judd

30/08/2011 Landfill operations are now finished here and the area is now grassland, which will be managed to prevent trees from breaking the capped landfill surface.30/08/2016 - Mount Judd - High mound overlooking Judkin's Quarry LGS, steep sided quarry with exposed rock and scree adjacent to Judkins' Quarry LWS with occasional scrub along cliff edge. Landfill site with no access.

Sp39L44 SP3527292919 Judkins Quarry (South) LWS

Judkins Quarry (South) LWS An area of thin soil surrounded by dense gorse (Ulex europaeus), containing abundant moss species such as springy turf-moss (Rhytidiadelphus squarrosus) and hair-cap moss (Polytrichum sp.) with locally abundant species such as sheep's fescue (Festuca ovina), wild strawberry (Fragaria vesca), sheep's sorrel (Rumex acetosella), common whitlowgrass (Erophila verna), mouse-ear-hawkweed (Pilosella officinarum), common ragwort (Senecio jacobea), common centaury (Centaurium erythraea), thyme-leaved speedwell (Veronica serpyllifolia), dog lichen (Peltigera sp), field forget-me-not (Myosotis arvensis), field wood-rush (Luzula campestris), sweet vernal-grass (Anthoxanthum odoratum), weld (Reseda luteola), common cudweed (Filago vulgaris), dove's foot-crane's-bill (Geranium molle), yarrow (Achillea millefolium), parsley-piert (Aphanes arvensis), lesser trefoil (Trifolium dubium), procumbent pearlwort (Sagina procumbens) and localised butterfly-bush (Buddleja davidii) and rosebay willowherb (Chamerion angustifolium

Sp39L45 SP3571792821 Railway Embankments

Raised rectangular area (covered reservoir) with banks and top containing abundant bluebell (Hyacinthoides non-scripta) with sweet vernal-grass (Anthoxanthum odoratum), hair-cap moss (Polytrichum sp.), sheep's sorrel (Rumex acetosella), field wood-rush (Luzula campestris), heath bedstraw (Galium saxatile), mouse-ear hawkweed (Pilosella officinarum), common ragwort (Senecio jacobaea), field forget-me-not (Myosotis arvensis), cat's-ear (Hypochaeris radicata), red fescue (Festuca rubra) and common vetch (Vicia sativa). Area is partly shown as a potential local wildlife sites boundary needs to be modified.

Sp39L46 SP3587792870 Judkins Quarry (South) LWS

Judkins Quarry (South) LWS 17/09/2015 Pioneer / ruderal vegetation with scattered Birch, Goat Sallow (Salix caprea) and Butterfly-bush (Buddleja davidii)

Sp39L47 SP3444293805 Judkins Quarry (South) LWS

Judkins Quarry LWS section of mature Ash (Fraxinus excelsior) Plantation with frequent Sycamore (Acer pseudoplatanus) Wild Cherry (Prunus avium) and Pedunculate Oak (Quercus robur), Alder (Alnus glutinosa), Crack Willow (Salix fragilis) and Goat Sallow (Salix caprea), Dense understorey Hawthorn (Crataegus monogyna), Rowan (Sorbus aucuparia), Hazel (Corylus avellana), Extends down to

canal edge with Bramble (Rubus fruticosus), Rosebay Willowherb (Chamerion angustifolium) and emergent vegetation.

Sp39L48 SP3496793245 Weddington Meadows LWS

Weddington Meadows LWS Small triangular shaped meadow between railway line and River Anker LWS. Mostly grasses and Great Burnet (Sanguisorba officinalis) across the site

Sp39L50 SP3471893419 Judkins Quarry (North) LWS

Judkins Quarry (North) area of mature woodland alongside Coventry Canal well established on steep bank with mature Pedunculate Oak (Quercus robur), Ash (Fraxinus excelsior), Alder (Alnus glutinosa), Goat Sallow (Salix caprea), Crack Willow (Salix fragilis). Dense understory with Rowan (Sorbus aucuparia), Hazel (Corylus avellana), Sycamore (Acer pseudoplatanus). Along canal side edge is emergent vegation.

Biodiversity Units

NBBC requests Biodiversity Impact Assessments (BIAs) to be carried out for all Minor and Major applications. BIAs are based on the Defra Offsetting Metrics (2012), as applied locally, to measure the gain or loss of habitat value as a result of development. It essentially is a mechanism of valuing the existing and future habitat of a development site and assessing if it is of more value (gain) or less value (loss). This assessment shows conformity to No Net Loss and Net Gain objectives within the NBBC Core Strategy and National Planning Policy Frameworks.

The BIA process also enables development to demonstrate sustainable development, assist in viability assessments and the application of the Mitigation Hierarchy. The Mitigation Hierarchy is illustrated in Figure 4 below. To avoid doubt one must not progress to a subsequent step until all opportunities have been demonstrably explored and discounted.

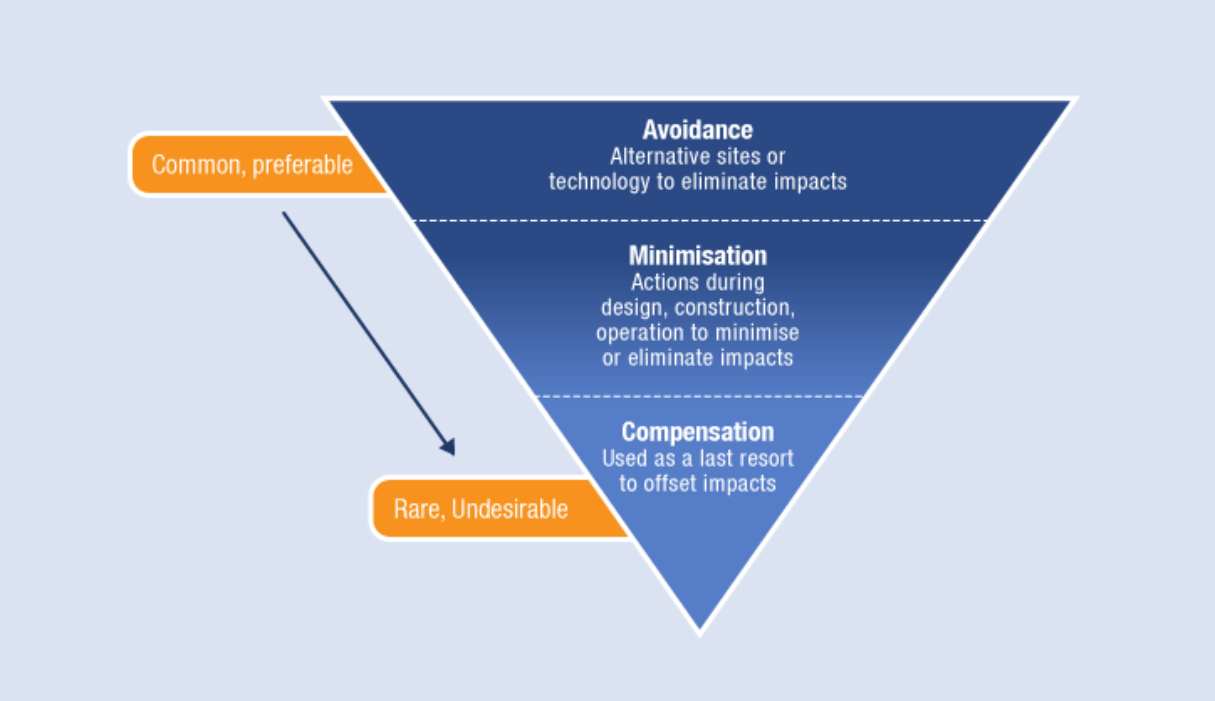


Figure 4: The Mitigation Hierarchy (UNU Online Learning, 2007)

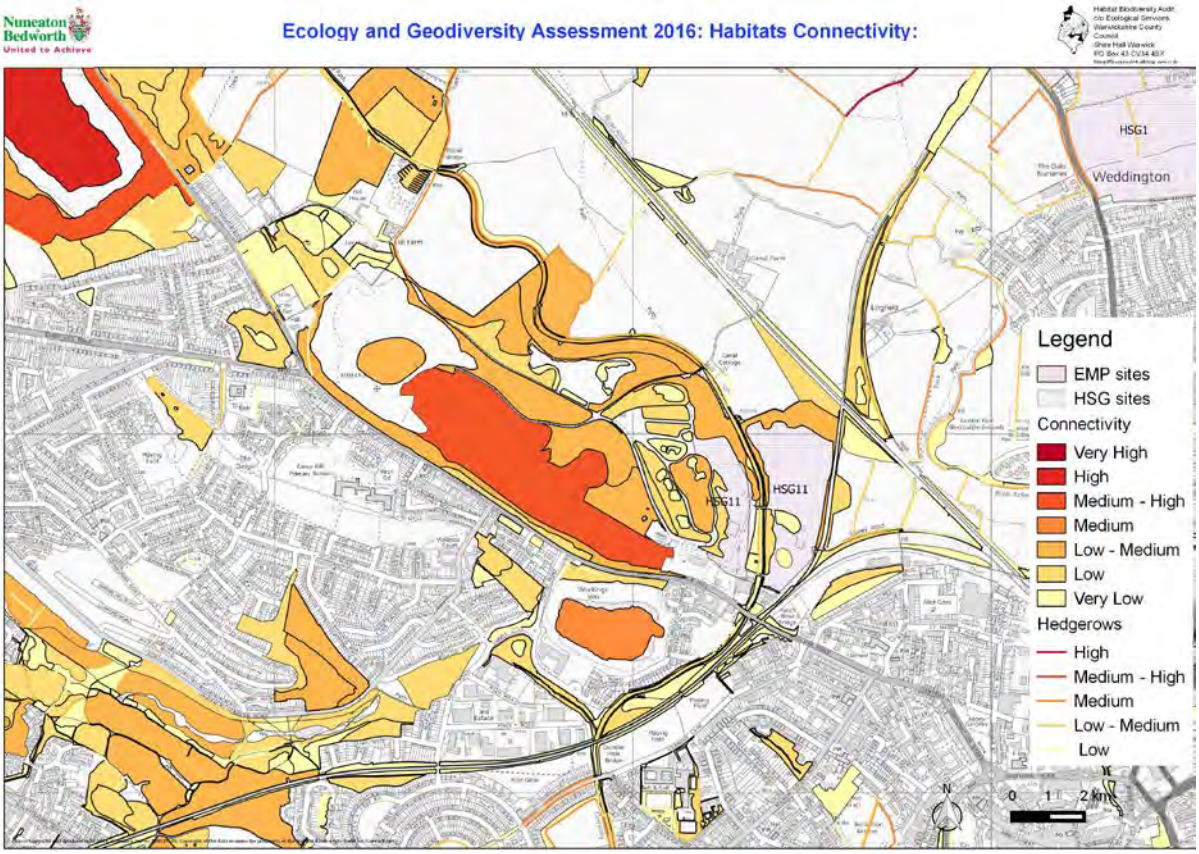
The next table shows the habitats and their values measured by Habitat Distinctiveness x Habitat Condition x area. To apply the Mitigation Hierarchy it is recommended that

- High Distinctiveness (Value 6) habitats are avoided, retained and enhanced during and after the development
- Areas of higher value are retained where possible and enhanced during and after the development

In this way the need to compensate for any residual habitat biodiversity loss is minimised; thus reducing the cost of compensation.

Site Ref.	Habitat	Area hectares	Biodiversity Distinctiveness	Biodiversity Condition	Biodiversity Units
HSG11 East	Broad-leaved semi-natural woodland	0.00	6	3	0.03
HSG11 East	Dense/continuous scrub	0.37	3	2	2.19
HSG11 East	Dense/continuous scrub	0.88	3	2	5.29
HSG11 East	Dense/continuous scrub	0.00	3	2	0.02
HSG11 East	Scattered scrub	0.29	4	2	2.28
HSG11 East	Scattered scrub	0.02	4	2	0.16
HSG11 East	Poor Semi-improved grassland	0.18	3	2	1.06
HSG11 East	Refuse Tip	4.14	2	1	8.28
HSG11 East	Ephemeral/short perennial	1.11	2	1	2.23
HSG11 East	Ephemeral/short perennial	0.97	2	1	1.94
HSG11 West	Standing water	0.04	6	3	0.68
HSG11 West	Dense/continuous scrub	0.04	3	2	0.23
HSG11 West	Dense/continuous scrub	0.58	3	2	3.50
HSG11 West	Bare ground	0.23	2	1	0.45
HSG11 West	Scattered scrub	0.00	4	2	0.03
HSG11 West	Broad-leaved plantation	0.01	4	2	0.05
HSG11 West	Dense/continuous scrub	0.15	3	2	0.93
HSG11 West	Ephemeral/short perennial	1.24	2	1	2.48
HSG11 West	Ephemeral/short perennial	0.52	2	1	1.05
HSG11 West	Tall ruderal	0.63	3	1	1.88
HSG11 West	Swamp	0.02	6	3	0.28
HSG11 West	Tall ruderal	0.31	3	1	0.93
HSG11 West	Dense/continuous scrub	0.29	3	2	1.74
HSG11 West	Amenity grassland	0.03	2	1	0.05
HSG11 West	Bare ground	0.44	2	1	0.87
HSG11 West	Bare ground	0.06	2	1	0.11
HSG11 West	Introduced scrub	0.00	2	1	0.01
		12.54		**Biodiversity Units**	**38.76**

Phase 1 Habitat Connectivity



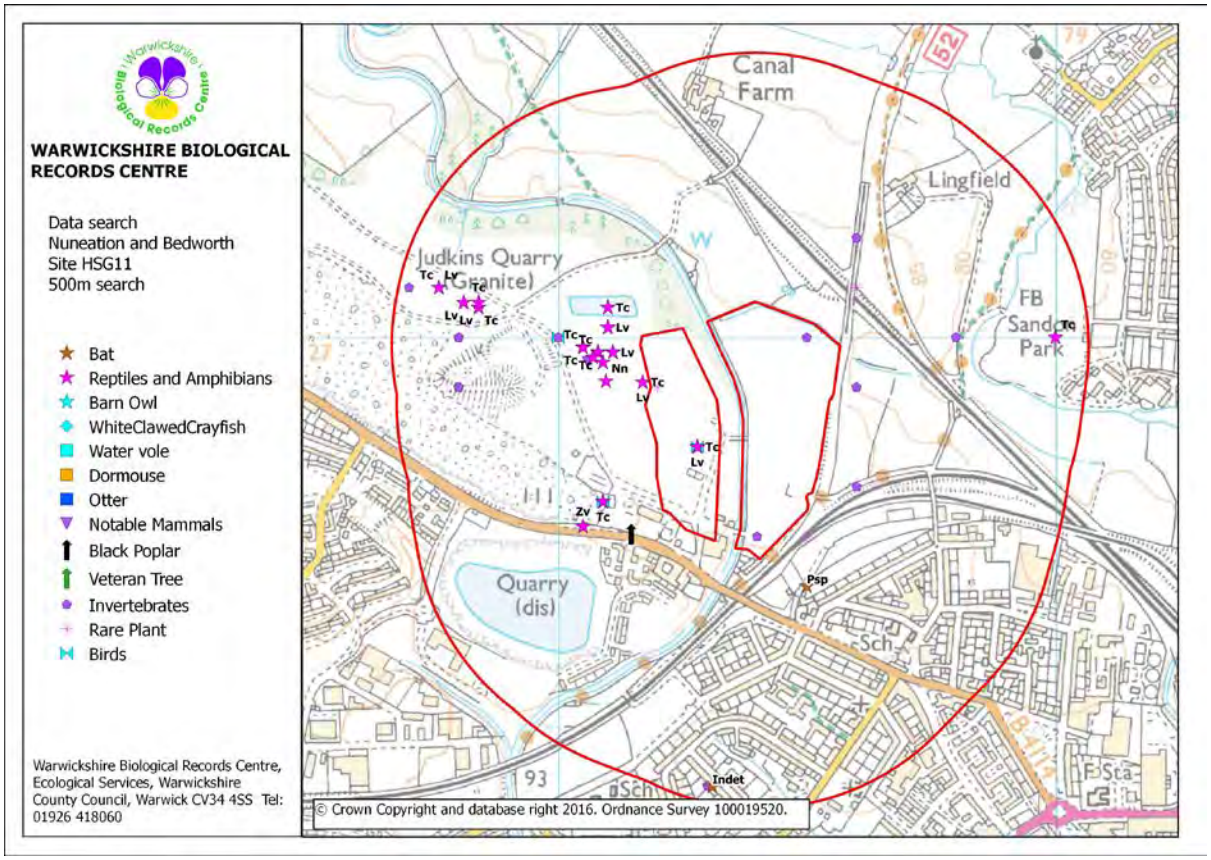
Protected & Important Species

There are the following protected and/or important species[11] recorded within the proposed boundary:

- Reptiles & Amphibians: Great Crested Newt
- Moths & Butterflies: Dingy skipper, small heath

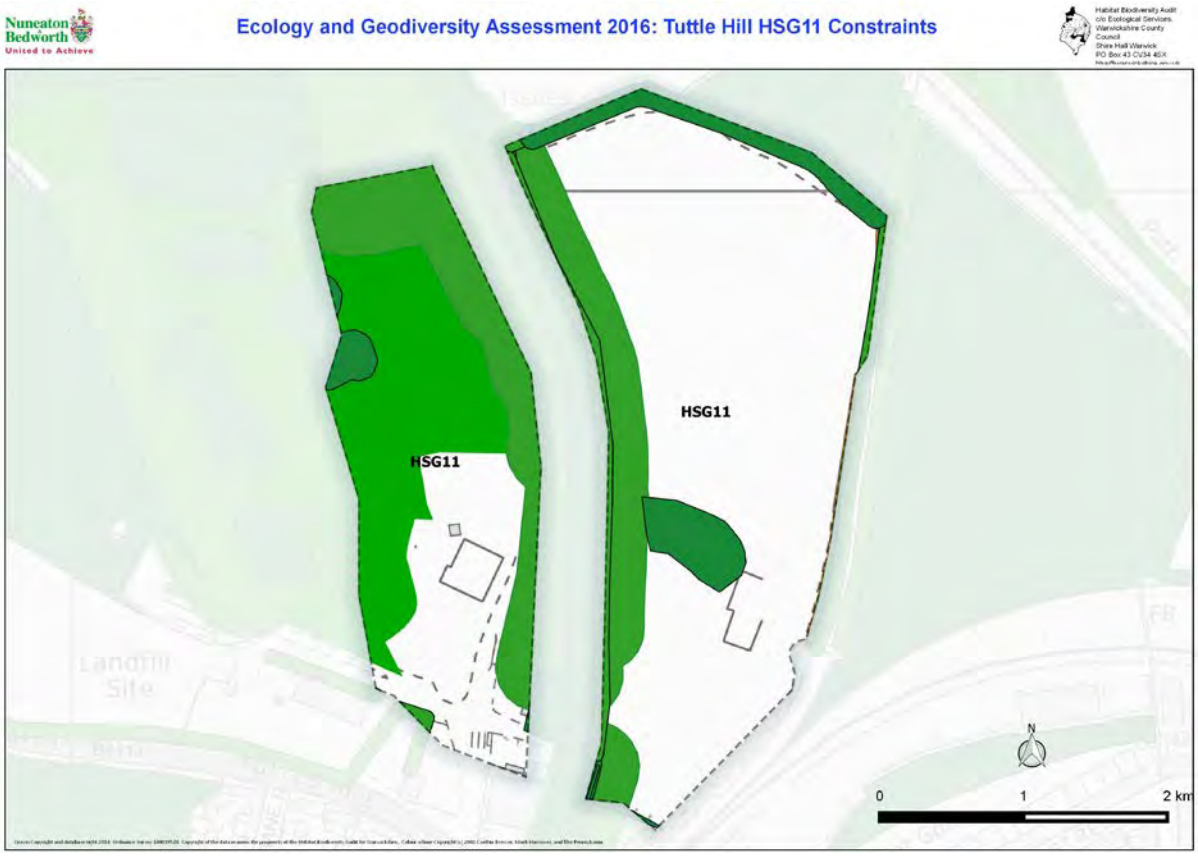
There are the following additional protected and/or important species recorded within 500m of the proposed site boundary:

- Bats: Indeterminate bat and Pipistrelle species
- Amphibians and Reptiles: Grass snake and Common Lizard
- Mammals: Badger and Water shrew
- Birds: Kingfisher
- Invertebrates: Small Phoenix (moths), Wall and White-letter Hairstreak



[11] The information presented here is based on existing records held within the Warwickshire Biological Records Centre but does not constitute an exhaustive list of known records. The details are descriptive and further information on specific records can be obtained if required. In addition, it should not be taken that the lack of details on specific species groups means that the search area is not valuable for them - only that we have no electronical records. It is possible that unknown species are within this area that only an up-to-date systematic survey would find.

Constraints Map



The areas marked in green on the above constraints map indicate where development should be avoided and ecological enhancement encouraged.

They include:

- 30m buffer around woodland
- 8m buffer either side of adjacent to watercourses
- 8m buffers around ponds
- 5m buffer either side of intact hedgerows
- Areas of medium to high distinctiveness grassland (values 4, 5 & 6)