Ecological Sub-area Statement of Biodiversity Priorities – Technical Appendix			
Sub-area name	The Limestone Way & Sedgley Park	**Sub-area ref.**	CL08
Natural Character Area	Mid Severn Sandstone Plateau & Cannock Chase and Cank Wood	**NCA ref.**	66 67
Local Authority Area	Dudley & Wolverhampton	**Area km²**	3.71

Ecological Sub-area Description

Overview

The Limestone Way & Sedgley Park is dominated by four limestone hills (Sedgley Beacon, Hurst Hill, Wren's Nest and Castle Hill), with associated areas of public open space and two areas of surviving farmland. Each of the hills are significant and well-known local landmarks, with Wren's Nest designated a National Nature Reserve for its internationally important geology, and Castle Hill being the site of the imposing Dudley Castle.

The ecological sub-area is discontiguous and comprised of areas of green space separated by urban development, but that are linked geologically, ecologically and by their historic land use. To the north-west lies the countryside of South Staffordshire, whilst the densely urban settlements of Penn, Ettingshall, Sedgley, Tipton and Dudley form the remaining surrounding land use.

Historically part of the parishes of Sedgley and Dudley and townships of Woodsetton and Ettingshall, the ecological sub-area and surrounding area remained largely rural until the suburban expansion of the 20th century. Industry in the form of limestone extraction was, however, significant in the area from circa 17th - 19th century at sites including Sedgley Park (Park Hill Quarry), Sedgley Beacon (Beacon Hill Quarry and Round Hill Quarry), Western Escarpment, The Gorge, Hurst Hill (Bumble Hole Quarry), Mons Hill, Wren's Nest and Castle Hill.

Land Use

The Limestone Way & Sedgley Park contains significant areas of public open space dominated by semi-natural habitats designated for their nature conservation value. These have developed on former industrial sites and areas of farmland and include Sedgley Beacon, Sedgley Hall Farm Park and Western Escarpment, Swan Brook Valley, Wren's Nest and Castle Hill.

In the north of the ecological sub-area at Sedgley Park is an area of farmland currently managed as ley pasture, and at Turls Hill in the central area a number of small permanent pasture fields. Other minor land use includes school playing fields and allotments.

Topography

The landscape of The Limestone Way & Sedgley Park is dominated by the four limestone hills of Sedgley Beacon (230 metres), Hurst Hill (210 metres), Wren's Nest (240 metres) and Castle Hill (230 metres). The hills were historically quarried and mined for lime, and open workings and spoil mounds are present at each. Within the ecological sub-area the lower slopes of the hills lie at an elevation of approximately 150 metres.

A further significant feature of the ecological sub-area is the wooded west-facing Western Escarpment in the north-east. This slopes dramatically from 200 to 170 metres over a distance of approximately 30 metres.

The farmland of the former Sedgley Park in the north of the ecological sub-area slopes north-south from an elevation of 180 metres to the valley of the Penn Brook at 140 metres.

Geology

The bedrock of the northern part of the ecological sub-area is Clent Formation argillaceous rocks and breccia, interbedded, formed between 298.9 and 272.3 million years ago during the Permian period. The remainder of the ecological sub-area is formed of Lower Ludlow Shales Group siltstone and mudstone, interbedded, formed between 427.4 and 425.6 million years ago during the Silurian period, with small areas of Pennine Lower Coal Measures Formation, mudstone, siltstone and sandstone. Sedimentary bedrock formed between 319 and 318 million years ago during the Carboniferous period. Within this are several formations of limestone:

- Whitcliffe Formation - Argillaceous rock and limestone, interbedded. Sedimentary bedrock formed between 425.6 and 423.6 million years ago during the Silurian period.
- Aymestry Limestone Formation - Limestone. Sedimentary bedrock formed between 427.4 and 425.6 million years ago during the Silurian period.

- Upper Quarried Limestone Member - Limestone. Sedimentary bedrock formed between 430.5 and 427.4 million years ago during the Silurian period.
- Lower Quarried Limestone Member - Limestone. Sedimentary bedrock formed between 430.5 and 427.4 million years ago during the Silurian period.

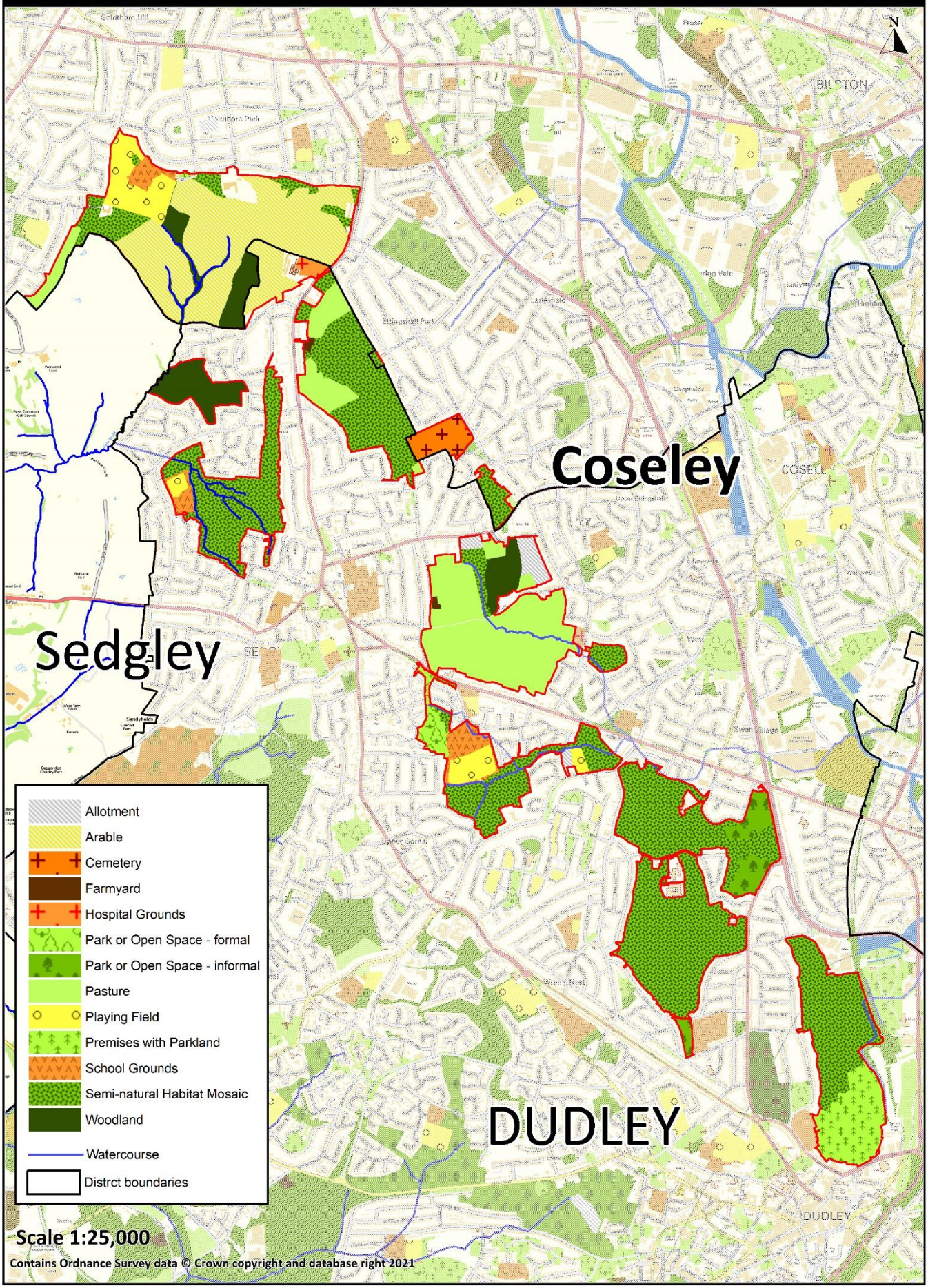
Geopark Sites

- Sedgley Beacon Hill and quarries (GR SO 919 949)
- The Gorge Sedgley (SO 928 940)
- Wrens Nest National Nature reserve (SO 9358 9223)

Soils

The soils in the north and west of the ecological sub-area are slowly permeable, seasonally wet and slightly acid but base-rich loamy and clayey soils, with moderate to high fertility and slightly impeded drainage. The soils in the remainder of the ecological sub-area are slightly acid, loamy and clayey soils, with moderate to high fertility and impeded drainage. Where there are limestone formations there are alkaline soils which are not mapped on the data source.

CL08 The Limestone Way & Sedgley Park - Land Use



Historic Landscape Character Areas			
Reference	DY05	**Name**	Dudley North

The ecological sub-area lies predominantly within DY05 Dudley North. This Character Area is situated in the north of the Borough at the point where the Black Country coalfield is interrupted by a limestone ridge. The modern character of the area is dominated by 20th century, post-war development with some significant areas of inter-war period housing. The area incorporates large areas of open rough grassland in the north and the area's only canals and railways run through the lower ground off the limestone ridge to the east and north-east. Industrial sites are concentrated around these areas (Coseley).

Historically the south and west of the Character Area would have been part of Pensnett Chase, a large area of common land, with the settlements of Sedgley in the north-west of the Character Area and Dudley just outside the Character Area to the south-east.

Reference	WV11	**Name**	Blakenhall, Bradmore & Penn

The very north of the ecological sub-area lies within WV11 Blakenhall, Bradmore & Penn. This Character Area is situated in the south-west of the City over a combination of coal, red sandstone and pebble beds or mudstone. The modern character of the area is dominated by early 20th century (pre-war) housing. Park Hill lies to the south of the Character Area and is one of the largest areas of green space within the City.

Historic Environment Area Designations [1]			
Reference	AHHLV 21	**Name**	Former Sedgley Park

The AHHLV contains the remains of Sedgley Park which dates back to at least the early 18th century when it is shown on 'A Map of Sedgley Park ye Seat of John Ward esq'. The map shows the park as a combination of agricultural land and woodland, centred around a large manor house. While the northern part of the park (excluded from the AHHLV) has been subject to extensive residential development in the post-war period, the southern part of the parkland has remained relatively well preserved, and contains some surviving historic field boundaries which date to at least the early 18th century as well as three areas of semi-natural ancient woodland (Park Coppice, Park Coppice Dingle and Ashen Coppice). In the northern part of the AHHLV is the Grade II listed Park Hall Hotel (NHLE 1201851), which has significant historic and architectural interest. The hotel, formerly Sedgley Parke, was built in 1705 at the centre of the park. By 1816, when the site is shown on the Ordnance Surveyors Drawings, the house had been converted into a Roman Catholic School. The curving morphology of the 18th century park is consistent with that of a medieval deer park suggesting that the park may have had older origins although no park pale has been identified. In addition, the AHHLV contains later archaeological remains including Park Hill Quarry and a former rifle range which contribute to the archaeological interest of the AHHLV.

The AHHLV contains three areas of semi-natural ancient woodland (Park Coppice, Park Coppice Dingle and Ashen Coppice). These areas have the potential to contain well preserved prehistoric and Roman archaeological remains (although none are currently known), and may contain features associated with medieval and post-medieval woodland management. LiDAR within Ashen Coppice shows earthwork remains which could either be the remains of earthwork ridge and furrow, suggesting that this area was likely to have been part of an open field system during the medieval period, or alternatively could be plantation ridges. Ancient woodlands represent surviving patches of the historic landscape that date back to the early post-medieval period.

Reference	AHHLV 34	**Name**	Sedgley Beacon

The AHHLV is a rare area of Limestone Grassland located within the historic townships of Ettingshall and Sedgley. The area has been subject to limestone quarrying (Beacon Hill Quarry and Round Hill Quarry) since the 17th century. The limestone was burnt in limestone kilns to produce quicklime and an area of burnt limestone was recorded in the southern part of the AHHLV, suggesting a possible location for such activities within it. Quarrying activity in the area continued until the 19th century and the AHHLV has the potential to contain industrial remains dating from the 17th - 19th century.
In the southern part of the AHHLV there is a Grade II listed stone tower of three storeys, and in its northern part a scatter of Mesolithic flints is recorded, highlighting the potential for earlier archaeological remains away from the quarries.

The AHHLV is described in detail in the Sedgley Beacon 10-year management and Maintenance Plan. Just north of Sedgley town centre, the Beacon is the most northerly eminence on the Northfield Sedgley Ridge. With the summit reaching 230m in height, the Beacon Offers a variety of views with a 360-degree panorama. The beacon is very open and is covered mainly by grassland and it is one of the very few areas of limestone grassland in the

Historic Environment Area Designations [1]			
West Midlands. The area is a highly valued landscape, a prominent open landscape within a built-up area, a valued wildlife resource and a historic, archaeological and recreational resource.			
Reference	AHHLV 35	**Name**	Alder Coppice
The AHHLV contains Alder Coppice, an area of semi-natural ancient woodland, shown on the Ordnance Survey Drawings of 1817 and on a Plan of Sedgley 1826, 1843 and 1830. The woodland falls within the historic township of Sedgley and Gospel End, and its north-west boundary is marked by Pen Brook on the edge of the borough boundary. It is an important green space surrounded to its north, south and east by modern housing and to its west by open green space. The area has the potential to contain well-preserved prehistoric and Roman archaeological remains (although none are currently known), and may contain features associated with medieval and post-medieval woodland management. LiDAR shows ridge and furrow earthworks within the woodland, suggesting that the area was part of the medieval open field system. Ancient woodland is a surviving relict of the early post-medieval landscape.			
Reference	AHHLV 36	**Name**	Turls Hill
The AHHLV contains the remains of a 19th century limestone quarry (Bumble Hole) with associated lime kilns. The site of a former watermill is also present on the eastern edge of the AHHLV adjacent to the brook. The AHHLV lies within the ancient parish of Sedgley and falls within the historic townships of Woodsetton and Ettinghall. The AHHLV contains a well-preserved field system, which is characteristic of the small type of enclosure that used to characterise upland enclosure in this area. The landscape has been subject to some modern boundary loss but most of the field system has remained unchanged since at least the late 19th century. Earlier ridge and furrow earthworks, possibly of medieval date, also survive within the area. These remains provide a visible link to the previous open field cultivation system present within the area. The AHHLV also contains the site of Turls Hill House, first recorded 1558-1603 and demolished during the 20th century. The parkland associated with the house has been eroded and is now only identified by a few trees that mark its former extent. A conservation area boundary runs along Turls Hill Road, and extends into the central part of the Turls Hill landscape. Hurst Hill Wood, an area of semi natural ancient woodland, is recorded within the AHHLV wrapping around the former quarry pits. The woodland appears to contain earthworks associated with the quarry and may contain evidence (banks and ditches) associated with post-medieval woodland management.			
Reference	AHHLV 60	**Name**	The Gorge
The AHHLV contains the Gorge Local Nature Reserve, which was formed on the site of an early 19th century limestone quarry to the north or Bumble Hole. The AHHLV contains earthwork remains of the quarry which had fallen out of use by the 1st edition Ordnance Survey map. By 1884 the earthwork remains of the quarry contained several small buildings within it. There is an extant building on the site of one of these former buildings, which may suggest that these buildings survive.			
Reference	AHHLV 64	**Name**	Sedgley Hall Park Farm and Escarpment
The AHHLV contains an island of historic farmland associated with the 16th century Sedgley Hall (now demolished). The AHHLV has been enclosed by suburban development which grew out from the village of Sedgley during the decades after the Second World War. As the name implies, the park was formed of farmland that belonged to Sedgley Hall. This was a grand house which stood just outside the village and is recorded as standing during the reign of Elizabeth I (1559-1603) when it was the home of Richard Jevon. The hall was demolished in 1966. The park includes the wooded Sedgley Escarpment, a prominent, west facing limestone escarpment with calcareous grassland below, it is recorded as woodland on the 1826 Parish Map of Sedgley and has been designated as Ancient Woodland by Natural England.			
Reference	AHHLV 65	**Name**	Swanbrook Valley
The AHHLV contains Swanbrook Valley. The valley runs from west to east and has the Swanbrook running through its centre. It is an important green space providing a corridor that links Turls Hill (AHHLV 36) with the Wrens Nest (AHHLV 66). In the 1900s the AHHLV was predominately fields connected to High Arcal Farm. The Brook flows into Parkes Hall Pool, a 19th century reservoir. Located in the southern part of the AHHLV are surviving ridge and furrow earthworks. These earthworks provide a visible link to the medieval or early post-medieval land management within the site and evidence of medieval open field cultivation.			
Reference	AHHLV 66	**Name**	Wren's Nest
The AHHLV contains the Wren's Nest National Nature Reserve. The reserve is internationally famous for its fossils, is also of great scenic importance in the Borough. It is a valuable refuge for people and wildlife within a densely built-up part of the Borough. Its prominence makes it visible from many parts of the Borough.			

Historic Environment Area Designations [1]

Over the last three centuries limestone quarrying changed the whole appearance of the hill and unearthed much fossil bearing rock, large swathes of the area are designated as a scheduled monument due to it surviving remains relating to limestone extraction. Wrens Nest no longer has mineral resources which can be worked economically but it remains as a monument to the industrial revolution and as an outdoor museum.

The occurrence of limestone also gives the area biological interest in that it is favourable to lime-loving plants which may be present in only a few other sites throughout the country. Other features include calcareous grassland, hawthorn and hazel scrub and broadleaved woodland, the presence of which is partly due to planting which took place in the early 18th century as compensation for the damage caused by quarrying.

Reference	APA 30	**Name**	Bumble Hole/ Hurst Mill Quarry

The APA contains the remains of limeworking quarries. The earliest record of limeworking in this area dates to the 16th century. Two quarries are recorded at this location from 1826, connected by an underground tunnel. A bank of limekilns is recorded in the north-east corner of the APA, covered with debris.

Reference	APA 34	**Name**	Round Hill Quarry

The APA contains the remains of Round Hill Quarry. The quarry was first recorded in 1686 and was abandoned in 1918. The APA is a rare surviving example of an early post-medieval quarry and has the potential to contain archaeological remains that would demonstrate technological development over the quarry's 300 years of use.

Reference	APA 191	**Name**	East Castle Limestone Works

The APA contains the site of the East Castle Limestone Works, which were proposed as an APA in the Dudley HLC. The limeworks were recorded in the area in the late 19th century and comprised 6 top-fed furnaces, served by a light railway that ran to the north connecting to the Castle Mill Mine, the Canal Basin and the Great Western Railway. The works fell out of use by 1919. The APA has been included as it has the potential to contain archaeological remains associated with the limestone works and the earlier mines (Castle Mine and Castle Fields Mines).

Reference		**Name**	Dudley Castle Hill Conservation Area

Extract from Conservation Area Character Appraisal for Castle Hill, October 2015:

The Castle Hill Conservation Area was first designated in February 1975 in recognition of it being an area of 'special architectural and historic interest the character and appearance of which it was considered desirable to preserve and enhance'.

Dudley Castle is the most visible symbol of Dudley's medieval origin as the heart of a great baronial estate. The well-preserved castle remains document the later medieval and Tudor period development of the castle as both a military structure and a display of wealth and aristocratic authority. Associated buildings provide evidence of the use of the castle area as the focus of the Earl of Dudley's estate administration into the 19th century.

Archaeological remains have provided evidence of the earlier development of the castle that illustrate life in the castle from the 11th century through to the 18th century. They have also revealed an earlier history of Anglo-Saxon occupation that may represent the nucleus of the later town of Dudley.

The wooded hilltop and other nearby green spaces represent a surviving part of the hunting preserve of the castle's medieval landscape. The castle is associated with important historical events and people including the anarchy of the reigns of Stephen and Matilda including Ralph and Gervase Paganel, John de Somery (20th Baron of Dudley) and John Dudley Duke of Northumberland (22nd Baron of Dudley), as well as the sieges of the Dudley Castle during the Civil War. The relationship of the Castle with the town provides the impetus for its development.

The geological heritage of Castle Hill and its associations with the history of the science of geology are of global importance. Beneath and surrounding the Castle, and along the hill to the north the evidence of extraction, processing and transport of limestone is prolific. Evidence indicates the use of limestone for construction, agricultural lime production, lime mortar and iron making extends over a thousand years or more. Limestone was the key mineral for the region's iron founding industry - the keystone to the intensity of the Industrial Revolution here. These abandoned workings, lime pies and limestone structures testify to a significant impact upon the former medieval landscape that previously existed here. These heritage assets also have important links to associated sites in the immediate vicinity. Limestone quarrying created a landscape of deep ravines, with dramatic fern studded cliffs and rock faces within the woodlands. Between these run woodland paths, preserving the lines of carriage drives created by the Earl of Dudley in the 19th century, possibly reusing the earlier lines of mineral railways.

Beneath the surface of the hill, a network of limestone caverns were excavated as the miners followed the purer layers of limestones into the earth, which are served by underground branches of the canal network. These are a

Historic Environment Area Designations [1]
very special and nationally important heritage that provides a unique experience of the underground world of the 18th and 19th century mining that transformed the area's and the nation's economy. These caverns also brought exceptional fossil evidence to the attention of scientific communities which lead to major developments in the science of geology.

Waterbody Catchments			
River Basin District	Severn	**Management Catchment**	Severn Middle Worcestershire
Waterbody Catchment	**Overall Classification**	**Ecological**	**Chemical**
Wom-Penn Bk - source to conf Smestow Bk	Moderate (2019)	Moderate (2019)	Fail (2019)
River Basin District	Humber	**Management Catchment**	Tame Anker and Mease
Waterbody Catchment	**Overall Classification**	**Ecological**	**Chemical**
Tame (W/ton Arm) source to conf Oldbury	Moderate (2019)	Moderate (2019)	Fail (2019)
River Basin District	Humber	**Management Catchment**	Tame Anker and Mease
Waterbody Catchment	**Overall Classification**	**Ecological**	**Chemical**
Tame (Oldbury Arm) - source to conf R Tame (Wton Arm)	Moderate (2019)	Moderate (2019)	Fail (2019)

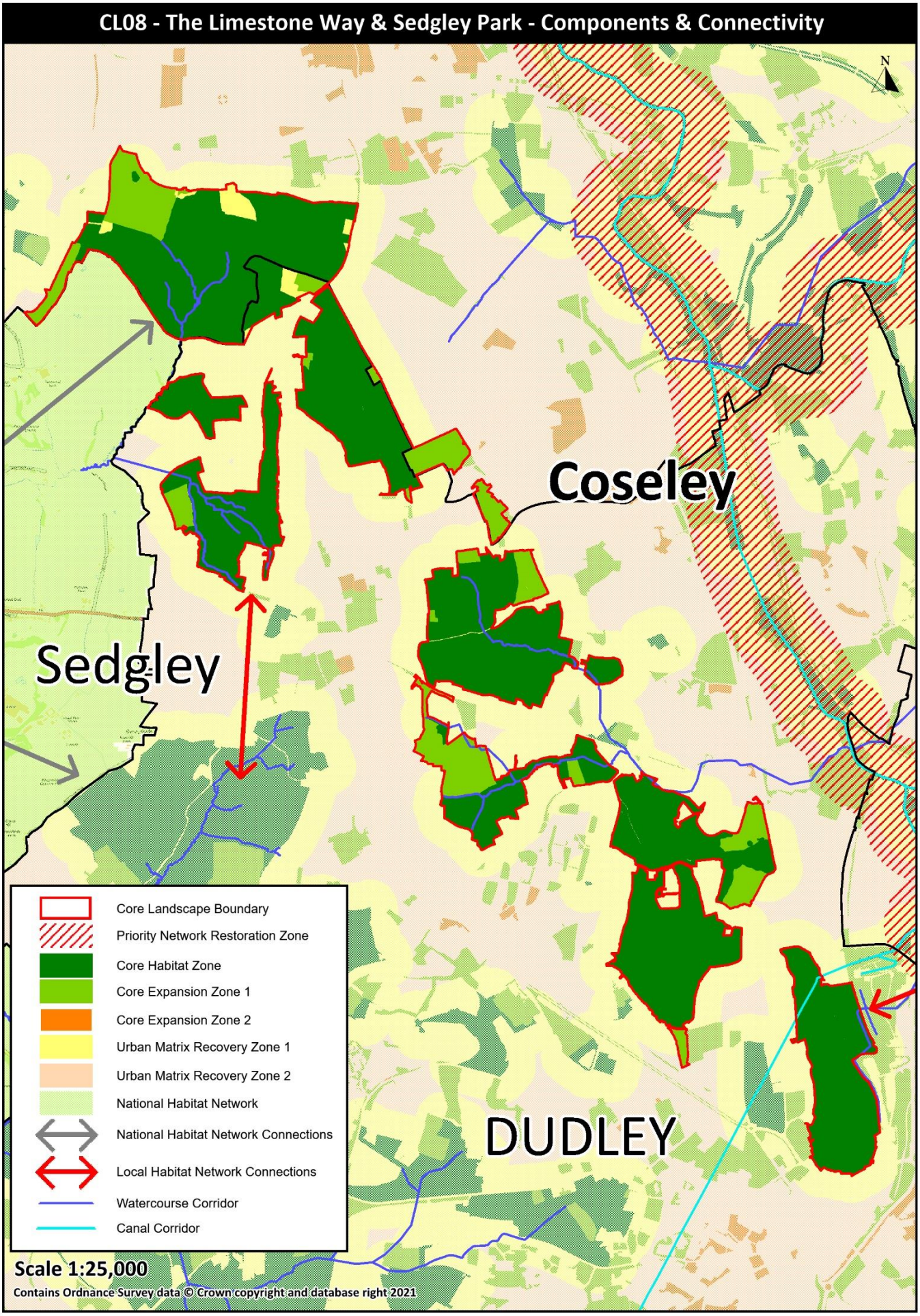
Key Habitats [2]			
Broad Habitat Type	Arable & Horticultural	**Priority Habitat**	
The surviving area of Sedgley Park (today known as Seven Cornfields) in the north of the ecological sub-area is today dominated by arable agriculture, having been until recently sown with annual crops and currently managed as ley pasture. No Priority Habitat Arable Field Margins have been recorded.			
Broad Habitat Type	Boundary & Linear Features	**Priority Habitat**	Hedgerows
Intact and defunct remnant field boundary hedgerows are present at the surviving area of Sedgley Park and the complex of permanent pastures at Turls Hill. Sedgley Park is considered a possible former deer park which was later divided into fields, whereas the field-pattern of small and irregular fields at Turls Hill indicates an earlier piecemeal enclosure from open fields, suggesting the hedgerows are likely to be of considerable age. Remnant field patterns and associated hedgerows are also present at Sedgley Beacon, Sedgley Park Farm and Swan Brook Valley.			
Broad Habitat Type	Standing Open Waters	**Priority Habitat**	Ponds
There are a small number of field and farm ponds scattered throughout the ecological sub-area including in the grounds of Colton Hills school (formerly Lodge Farm), Park Hall Hotel (formerly Sedgley Park hall), Sedgley Park Farm and Turls Hill. There are also a number of ponds that have formed in extraction pits at Wren's Nest and Castle Hill, and a small 19th century reservoir in Swan Brook Valley.			
Broad Habitat Type	Rivers and Streams	**Priority Habitat**	Rivers
A number of small headwaters rise in Sedgley Park and Sedgley Park Farm, flowing south and west respectively to form the Penn Brook which continues into South Staffordshire to its confluence with the Smestow Brook. With the exception of a stretch culverted under 20th century housing off the Northway the channels of the headwaters and Penn Brook are mostly unmodified and support natural hydromorphological diversity, with those in Sedgley Park lying partially in deep-sided wooded valleys (dingles) that have been cut through the soft bedrock. The Tipton Brook rises in Turls Hill and the Swan Brook in Swan Brook Valley, both flowing east and entering extended culverts in which they confluence. The above ground stretches of the watercourses are mostly unmodified and support natural hydromorphological diversity.			

Key Habitats [2]			
A further unnamed tributary of the Tipton Brook rises on the east of Castle Hill and flows on a straightened course north and then east before entering an extended culvert.			
Broad Habitat Type	Neutral Grassland	**Priority Habitat**	
There are former agricultural grasslands at Sedgley Beacon, Sedgley Park Farm, Swan Brook Valley and Wren's Nest that have been little managed for an extended period of time have become rank and relatively species-poor. Recent work to enhance these and undertake annual cut and collect management has been variously successful. Permanent pastures at the north of Sedgley Beacon have been ungrazed for a number of year and have become rank. The field system at Turls Hill, some of which is on ridge and furrow, continues to be grazed and is described as unimproved grassland.			
Broad Habitat Type	Calcareous Grassland	**Priority Habitat**	Lowland calcareous grassland
There are small areas of calcareous grassland at Sedgley Beacon and Wren's Nest that have developed on old lime workings and spoil. These are described as botanically-rich with associated species including Quaking Grass, Carline Thistle, Greater Knapweed and Kidney Vetch. Recent work has been undertaken at Sedgley Beacon to extend this habitat-type through the scraping off of topsoil and sowing seed collected from the surviving calcareous grassland on site.			
Broad Habitat Type	Broadleaved, Mixed and Yew Woodland	**Priority Habitat**	Lowland mixed deciduous woodland
Park Coppice, Park Coppice Dingle and Ashen Coppice in Sedgley Park in the north of the ecological sub-area, along with Alder Coppice located just to the south, are designated ancient woodland by Natural England. The woodlands comprise Oak standards with Hazel coppice and support a diverse field-layer, boundary bank and ditch systems and boundary hedgerows. Semi-natural woodland has colonised many of the former extraction sites and farmland that has been abandoned including at Colton Hills, Sedgley Park Farm and Western Escarpment, The Gorge, Hursthill Wood (part of which is designated as ancient but is likely to be of recent spontaneous origin), Wren's Nest and Castle Hill.			

Key Species [3]	
Bird indicators	
Farmland	Eurasian Skylark, Goldfinch, Greenfinch, Jackdaw, Kestrel, Linnet, Starling, Stock Dove, Whitethroat, Woodpigeon, Yellowhammer.
Woodland	Blackbird, Chiffchaff, Coal Tit, Common Chaffinch, Dunnock, Eurasian Blackcap, Eurasian Blue Tit, Eurasian Bullfinch, Eurasian Nuthatch, Eurasian Wren, European Green Woodpecker, Goldcrest, Great Spotted Woodpecker, Great Tit, Jay, Long-tailed Tit, Marsh Tit, Robin, Siskin, Song Thrush, Sparrowhawk, Tawny Owl, Treecreeper, Willow Warbler.
Water & Wetland	Common Sandpiper, Eurasian Coot, Grey Heron, Grey Wagtail, Mallard, Moorhen, Mute Swan, Sedge Warbler, Tufted Duck.
Other	Black-headed Gull, Buzzard, Carrion Crow, Collared Dove, Common House Martin, Eurasian Magpie, Golden Plover, Greylag Goose, House Sparrow, Mistle Thrush, Northern Raven, Peregrine, Pied Wagtail, Pied Wagtail, Red Kite, Swallow, Swift.
Amphibians & Reptiles	
Amphibians	Common Frog, Common Toad, Great Crested Newt, Palmate Newt
Reptiles	Grass Snake
Mammals	
Bats	Brown Long-eared Bat, Common Pipistrelle, Daubenton's Bat, Lesser Horseshoe Bat, Natterer's Bat, Noctule Bat, Soprano Pipistrelle, Whiskered Bat.
Other	Eurasian Badger, West European Hedgehog.
Fish	

Bony Fish	none
Jawless Fish	none
Invertebrates	
Assemblage type	
Flora (axiophytes)	
Woodland	*Adoxa moschatellina, Ajuga reptans, Allium ursinum, Anemone nemorosa, Angelica sylvestris, Athyrium filix-femina, Brachypodium sylvaticum, Bromopsis ramosa, Caltha palustris, Cardamine amara, Carex remota, Carex sylvatica, Chaerophyllum temulum, Chrysosplenium oppositifolium, Deschampsia flexuosa, Dioscorea communis, Dryopteris affinis, Equisetum sylvaticum, Equisetum telmateia, Festuca gigantea, Filipendula ulmaria, Fragaria vesca, Galium odoratum, Lamiastrum galeobdolon subsp. montanum, Lathraea squamaria, Lysimachia vulgaris, Malus sylvestris, Melica uniflora, Mercurialis perennis, Milium effusum, Oxalis acetosella, Persicaria hydropiper, Poa nemoralis, Polystichum aculeatum, Polystichum setiferum, Populus nigra subsp. betulifolia, Quercus petraea, Ranunculus auricomus, Rhamnus cathartica, Sanicula europaea, Solidago virgaurea, Stellaria holostea, Torilis japonica, Veronica montana, Viola reichenbachiana.*
Grassland	*Agrimonia eupatoria, Ajuga reptans, Alchemilla filicaulis subsp. vestita, Anacamptis pyramidalis, Brachypodium sylvaticum, Briza media, Bromopsis erecta, Caltha palustris, Carlina vulgaris, Centaurium erythraea, Cirsium palustre, Dactylorhiza fuchsii, Dactylorhiza praetermissa, Daucus carota subsp. carota, Deschampsia flexuosa, Equisetum sylvaticum, Filipendula ulmaria, Fragaria vesca, Galium mollugo subsp. erectum, Gentianella amarella, Isolepis setacea, Leontodon hispidus, Linum catharticum, Lotus pedunculatus, Odontites vernus, Ononis repens, Persicaria bistorta, Phleum bertolonii, Picris hieracioides, Pimpinella saxifraga, Plantago media, Polygala vulgaris, Potentilla anglica, Potentilla erecta, Potentilla sterilis, Rhinanthus minor, Sanguisorba officinalis, Scabiosa columbaria, Solidago virgaurea, Stachys officinalis, Stellaria holostea, Succisa pratensis, Trifolium medium, Veronica officinalis, Viola hirta.*
Heathland	*Calluna vulgaris, Carex nigra, Deschampsia flexuosa, Potentilla erecta, Salix aurita, Ulex gallii, Veronica officinalis.*
Mires	*Alchemilla filicaulis subsp. vestita, Angelica sylvestris, Athyrium filix-femina, Briza media, Calamagrostis epigejos, Caltha palustris, Cardamine amara, Carex acutiformis, Carex nigra, Carex panicea, Carex rostrata, Cirsium palustre, Dactylorhiza fuchsii, Dactylorhiza praetermissa, Epilobium palustre, Equisetum fluviatile, Equisetum palustre, Filipendula ulmaria, Glyceria declinata, Glyceria notata, Hydrocotyle vulgaris, Hypericum tetrapterum, Isolepis setacea, Jacobaea aquatica, Juncus acutiflorus, Lotus pedunculatus, Lysimachia vulgaris, Persicaria hydropiper, Ranunculus flammula, Sparganium emersum, Stachys palustris, Succisa pratensis, Veronica beccabunga.*
Open Water	*Carex acutiformis, Equisetum fluviatile, Glyceria notata.*
Post-industrial (water-stressed)	*Agrimonia eupatoria, Anacamptis pyramidalis, Anthyllis vulneraria, Anthyllis vulneraria subsp. vulneraria, Arenaria serpyllifolia subsp. serpyllifolia, Asplenium adiantum-nigrum, Carlina vulgaris, Catapodium rigidum, Centaurea scabiosa, Centaurium erythraea, Clematis vitalba, Daucus carota subsp. carota, Deschampsia flexuosa, Erigeron acris, Erophila verna, Erophila verna subsp. verna, Fragaria vesca, Inula conyzae, Jacobaea erucifolia, Linum catharticum, Lithospermum officinale, Ophrys apifera, Picris hieracioides, Reseda lutea, Silene vulgaris, Trifolium arvense, Trifolium medium, Trifolium micranthum, Vicia tetrasperma.*
Cultivation	*Vicia tetrasperma.*

Ecological Connectivity
Local Habitat Network
There are no direct links to other ecological sub-areas. There is an indirect connection to the wider Black Country ecological network via the Birmingham Canal Priority Network Restoration Zone, and via the National Habitat Network in Staffordshire to CL09 Cotwall End, Fens Pools & Barrow Hill. Further indirect 'stepping-stone' Priority Network Restoration Zones have been mapped which, via areas of green space (including mature parks) and mature gardens, link the ecological sub-area to other parts of the canal network and to Core Landscape 01 Smestow Valley & Tettenhall Ridge.
National Habitat Network
The Limestone Way & Sedgley Park links directly to the national habitat network in rural South Staffordshire via Sedgley Park in the north of the ecological sub-area. Nearby sites in South Staffordshire of high ecological value include Penn Common SSSI. The National Habitat Network in Staffordshire links to CL09 Cotwall End, Fens Pools & Barrow Hill.


CL08 - The Limestone Way & Sedgley Park - Components & Connectivity
N
Coseley
Sedgley
DUDLEY
Core Landscape Boundary
Priority Network Restoration Zone
Core Habitat Zone
Core Expansion Zone 1
Core Expansion Zone 2
Urban Matrix Recovery Zone 1
Urban Matrix Recovery Zone 2
National Habitat Network
National Habitat Network Connections
Local Habitat Network Connections
Watercourse Corridor
Canal Corridor
Scale 1:25,000
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Ecological Sub-area Opportunities

Focus Habitats		
Habitat	**Action**	**Measure**
Hedgerows	Improve management of existing	Habitat in good condition
	Restore through gapping up	Habitat in good condition
	Establish hedgerow trees	Habitat structure improved
Ponds	Restore existing	Habitat in good condition
	Create new	New habitat at existing and new sites
Rivers	Restore hydromorphology (naturalise modified channels)	Improved ecological status
	Reduce artificial inputs	Improved chemical status
Lowland calcareous grassland	Restore existing	Habitat in good condition
	Create new	New habitat at existing and new sites
Lowland meadows	Enhance existing neutral grasslands	Increased floral diversity
	Create new species-rich neutral grasslands	Increased floral diversity and habitat structure improved
Lowland mixed deciduous woodland	Coppice	Habitat structure improved
	Create woodland edge	Habitat structure improved
	Diversify woody component	Habitat structure improved
	Diversify field-layer component of plantations	Increased floral diversity

Target Species	
Species/Species Group	**Measure**
Barn Owl	Confirmed recent records
Bats	Increased abundance of confirmed species
Breeding farmland birds (specialists)	Increased species and abundance
Breeding water & wetland birds (specialists)	Increased species and abundance
Breeding woodland birds (specialists)	Increased species and abundance
Great Crested Newt	Increased abundance and number of breeding ponds
Hedgehog	Confirmed recent records
Woodland axiophytes	Recent records and increased abundance
Grassland axiophytes	Recent records and increased abundance
Mires axiophytes	Recent records and increased abundance
Open Water axiophytes	Recent records and increased abundance
Post-industrial axiophytes	Recent records and increased abundance

Geodiversity		
Site	**Action**	**Measure**
Sedgley Beacon Hill and quarries	Vegetation removal/alternative Focus Habitat restoration or creation (calcicole flora).	Improved access to exposures/ alternative Focus Habitat restored or created.
Wrens Nest National Nature reserve	Vegetation removal/alternative Focus Habitat restoration or creation (calcicole flora).	Improved access to exposures/ alternative Focus Habitat restored or created.

Connectivity Opportunities	
Local Habitat Network	
Connection	**Action**
Within Core Landscape CL08	Species-rich calcareous grassland enhancement and creation at existing suitable sites.
	Species-rich neutral grassland enhancement and creation at sites including areas of public open space, golf courses, school grounds and sports fields.
	Secondary woodland enhancement.
	Creation of new ponds.
	Field boundary hedgerow restoration and creation.
National Habitat Network	
Connection	**Action**
Priority Network Restoration Zone (Birmingham Main Line Canal)	Increased marginal vegetation through the installation of coir roles along hard banks.
	Species-rich neutral grassland enhancement and creation on undeveloped land including parks, green spaces, school grounds and substantial road verges.
	Woodland enhancement and small-scale planting.
	Planting of standard trees (including fruit trees) along canal corridor.

Information and Data Sources		
	Source	**Date**
Landuse	Ecological Evaluation of Birmingham and Black Country GIS data set, EcoRecord.	2021
Topography	OS Terrain 50 GIS data set, Ordnance Survey.	2017
Geology	British Geological Society 1:625,000 bedrock & superficial GIS web map services from BGS website: http://mapapps.bgs.ac.uk/geologyofbritain/home.html	2021
	Black Country UNESCO Global Geopark sites names and location information https://blackcountrygeopark.dudley.gov.uk/bcg/	2021
Soils	Soilscapes, Cranfield Soil & Agricultural Institute website: http://www.landis.org.uk/soilscapes/	2021
Species and Habitats	EcoRecord species and habitat databases.	2021
Ecological Connectivity	EcoRecord, The Wildlife Trust for Birmingham and the Black Country (2021) *Draft Black Country Local Nature Recovery Opportunity Map*	2021
	EcoRecord et al. (2021) *Midlands Heathland Heartland Lowland Heathland Nature Recovery Opportunity Mapping*.	2021
Historic Landscape Character Areas	Wolverhampton City Council (2010) *Black Country Historic Landscape Characterisation* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1000030	2010
Historic Environment Area Designations	Black Country Historic Landscape Characterisation Study, Oxford Archaeology.	2019

[1] HISTORIC ENVIRONMENT AREA DESIGNATIONS

The Black Country Historic Landscape Characterisation Study has divided the Historic Environment Area Designations into four categories:

Archaeological Priority Areas (APA): sites with a high potential for archaeological remains of regional or national significance that have not been considered for designation as scheduled monuments, or where there is insufficient data available about the state or preservation of any remains to justify a designation. APAs are likely to have high archaeological and historic interest.

Areas of High Historic Townscape Value (AHHTV): areas where built heritage makes a significant contribution to local character and distinctiveness. The significance of AHHTVs is likely to be derived primarily from their architectural and historic interests. However, these areas may also have artistic and archaeological interests. Areas of High Historic Townscape Value are not limited to towns or cities, they also include villages, hamlets and areas of industry where the built heritage is considered to make a positive contribution to the historic environment of an area.

Designed Landscapes of High Historic Value (DLHHV): landscape areas that make an important contribution to local historic character but do not meet the criteria for inclusion on the national Register for Parks and Gardens. The significance of these areas is likely to arise from their historic, artistic and architectural interests, although such areas may also contain remains of archaeological interest.

Areas of High Historic Landscape Value (AHHLV): these recognise the quality of the wider landscape and their relative values. The significance of these areas arises from the natural and historic features contained within them (e.g. woodland, watercourses, hedgerows, and archaeological features). The significance of these areas is likely to be derived from their archaeological and historic interests.

[2] KEY HABITATS follows the UK Biodiversity Action Plan (BAP) Broad & Priority Habitat definitions

This is a UK-habitat classification prepared by the UK Biodiversity Group that classifies all terrestrial and freshwater habitats in the UK into 37 broad habitat types. UK BAP Priority Habitats are a range of semi-natural habitat types that were identified as being the most threatened and requiring conservation action. The original Priority Habitat list was created between 1995 and 1999 and revised in 2007. The list of Priority Habitats has been used to help draw up statutory lists of habitats of principal importance for the conservation of biodiversity in England, Scotland, Wales and Northern Ireland. The suite of habitats of principal importance for the conservation of biodiversity (formerly Priority Habitats) nest into the defined Broad Habitat Types.

[3] KEY SPECIES

Bird Indicators: Species listed under UK Biodiversity Indicator C5, Birds of the wider countryside and at sea (JNCC). The indicator shows changes in the breeding population sizes of common native birds of farmland and woodland and of freshwater and marine habitats in the UK.

Amphibians & Reptiles: All amphibian and reptile species native to the UK are included.

Mammals: Those protected by UK or EU law, included on the current list of Principal Importance in England under Section 41 of the NERC Act (2006 or amended), and those included on the latest B&BC LBAP list of Priority Habitats/Species.

Fish: Those protected by UK or EU law, included on the current list of Principal Importance in England under Section 41 of the NERC Act (2006 or amended), and those included on the latest B&BC LBAP list of Priority Habitats/Species.

Invertebrates: Pantheon Assemblage Types Analysis.

Flora (axiophytes): Those included on the Birmingham & the Black Country list of axiophytes (administered by EcoRecord) by four locally defined habitat types.