

Baseline Assessment  
**Smestow Valley Local Nature Reserve**



**Site:** Smestow Valley Local Nature Reserve

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**Author:** Birmingham and Black Country Wildlife Trust



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## Introduction

### 1.1 Background

1.1.1 Birmingham and Black Country Wildlife Trust (BBCWT) have been commissioned by Wolverhampton City Council to undertake a UK habitat survey and a baseline Biodiversity Net Gain (BNG) assessment to inform an update of the Smestow Valley Nature Reserve management plan.

### 1.2 Aims and objectives

1.2.1 The aims and objectives of this report are as follows:

1.2.2 Complete a baseline UKHab habitat assessment of all habitats currently present on the site;

- Ensure that the baseline habitat conditions are classified in a robust and consistent manner, and that classification is based on the best available data at the time of the assessment;

1.2.3 Calculate baseline habitat units and hedgerow units for the site based on current management; and

1.2.4 Provide headline conclusions and recommendations for habitat restoration and creation across the site.

### 1.3 Site Description

1.3.1 Smestow Valley Local Nature Reserve is a large and diverse site which cuts a fairly straight course across western Wolverhampton from Aldersley in the north to Castlecroft in the south. It comprises a stretch of the dismantled Wolverhampton & Kingswinford Railway and adjoining areas of green open space. The reserve follows the natural valley of the Smestow Brook which it shares with the Staffordshire & Worcestershire Canal. The reserve forms a green corridor nearly 4.5 kilometers long and covers an area of approximately 51 hectares (126 acres).

1.3.2 The site comprises a mosaic of habitats from woodlands (plantation and semi-natural) to grasslands, wetlands, scrub and tall ruderal. Providing a green corridor and good habitat for wildlife including several protected species.

### 1.4 Location Plan

1.4.1 The survey coverage includes land within the redline boundary as shown below.



Figure 1: Red line boundary of Smestow Valley Nature Reserve





## 2. Survey Methodology

### 2.1 Desk Study

- 2.1.1 The desk study was informed by review of existing information available to EcoRecord (the ecological record centre for Birmingham & the Black Country) and from available internet-based resources. OS and satellite mapping were also used to gain additional contextual information.
- 2.1.2 Specifically, information was sought for protected sites, protected species, and priority habitats.

### 2.2 UK Habitat (UKHab) Survey

- 2.2.1 The ecological surveys of Smestow Valley were undertaken throughout the summer of 2025, across numerous site visits.
- 2.2.2 The surveys broadly followed the 'UK Habitat Classification' methodology as set out in the user manual (Butcher, 2023) and each of the main habitats were classified according to the relevant criteria including vegetation composition expressed according to the DAFOR system.
- 2.2.3 A Habitat Condition Assessment was also conducted, for all habitats that require an assessment of condition as part of the metric calculation. Habitat condition was assessed using the Statutory Biodiversity Metric condition assessment forms.
- 2.2.4 A River Condition Assessment of the section of the Smestow Brook contained within the Site boundary was also undertaken, conducted by an RCA accredited ecologist.

### 2.3 Biodiversity Metric Calculation

- 2.3.1 The baseline biodiversity value of the Site was calculated using the Statutory Biodiversity Metric calculation tool. The habitat type, size, condition, and strategic significance of each habitat parcel was calculated and input into the metric to produce a baseline BNG value

### 2.4 River Condition Assessment

- 2.4.1 The baseline River Condition Assessment (RCA) was undertaken using the Modular River Physical (MoRPh) survey to evaluate the river's physical, chemical, and biological health. This assessment is then used with the Defra Biodiversity Metric to calculate pre-development biodiversity units.

### 2.5 Assumptions and Limitations

- 2.5.1 Ecological surveys are limited by various factors that can affect the presence of plants and animals. This includes time of year, weather, migration patterns, and behavior. The survey was undertaken during an exceptionally dry summer, which, whilst considered within the optimal survey window for grasslands, the prolonged dry weather may have impacted the species' growth this year. It is also considered sub-optimal timing for woodland surveys, which is typically best during spring to best assess ground flora. This report is not intended to present a complete inventory of

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flora and fauna in the proposed working area, and so other species not recorded in this report may be present.

- 2.5.2 Third party data - The desk study data obtained for this assessment is provided and validated by third parties. The data represents the information available at the date of request, and a lack of records for any particular species does not necessarily indicate absence from the local area as many species are under-recorded.

## 2.6 Quality Assurance

- 2.6.1 The survey and report have been undertaken by a suitably qualified and experienced member of BBCWT.



### 3. Results

3.1.1 This section presents a summary of the results from both the Desk Study and Site Walkover.

#### 3.2 Desk Study

3.2.1 The table below shows a list of notable faunal species recorded within the last 10 years within 2km of the site. A full list of all records can be provided upon request.

Taxon group	Scientific Name	Common Name	Statutory	NERC	LBAP	Most Recent Record
<b>Amphibian</b>	<i>Bufo bufo</i>	Common Toad	WCA5/9.5a	Y	Y	2019
	<i>Lissotriton vulgaris</i>	Smooth Newt	WCA5/9.5a		Y	2024
	<i>Rana temporaria</i>	Common Frog	WCA5/9.5a		Y	2024
	<i>Triturus cristatus</i>	Great Crested Newt	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2024
<b>Bird</b>	<i>Acanthis cabaret</i>	Lesser Redpoll		Y		2019
	<i>Accipiter nisus</i>	Sparrowhawk				2019
	<i>Acrocephalus scirpaceus</i>	Reed Warbler				2019
	<i>Actitis hypoleucos</i>	Common Sandpiper				2019
	<i>Alauda arvensis</i>	Skylark		Y	Y	2020
	<i>Alcedo atthis</i>	Kingfisher	WCA1i			2019
	<i>Anas crecca</i>	Teal				2019
	<i>Anas platyrhynchos</i>	Mallard				2019
	<i>Anser anser</i>	Greylag Goose	WCA1ii			2019
	<i>Anser brachyrhynchus</i>	Pink-footed Goose				2019
	<i>Anthus pratensis</i>	Meadow Pipit				2019
	<i>Apus apus</i>	Swift				2019
	<i>Ardea cinerea</i>	Grey Heron				2019
	<i>Charadrius dubius</i>	Little Ringed Plover	WCA1i		Y	2019
	<i>Chloris chloris</i>	Greenfinch				2019
	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				2019
	<i>Columba oenas</i>	Stock Dove				2019
	<i>Columba palumbus</i>	Woodpigeon				2019
	<i>Corvus frugilegus</i>	Rook				2019
	<i>Curruca communis</i>	Whitethroat				2019
	<i>Delichon urbicum</i>	House Martin				2019
	<i>Egretta garzetta</i>	Little Egret				2019
	<i>Emberiza citrinella</i>	Yellowhammer		Y		2019
	<i>Emberiza schoeniclus</i>	Reed Bunting		Y		2019
	<i>Falco subbuteo</i>	Hobby	WCA1i			2019



	<i>Falco tinnunculus</i>	Kestrel			Y	2019
	<i>Fulica atra</i>	Coot				2019
	<i>Gallinago gallinago</i>	Snipe			Y	2019
	<i>Gallinula chloropus</i>	Moorhen				2019
	<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull	WCA1i			2019
	<i>Larus argentatus</i>	Herring Gull				2019
	<i>Larus canus</i>	Common Gull				2019
	<i>Larus fuscus</i>	Lesser Black-backed Gull				2019
	<i>Larus marinus</i>	Great Black-backed Gull				2019
	<i>Larus michahellis</i>	Yellow-legged Gull				2019
	<i>Linaria cannabina</i>	Linnet				2019
	<i>Lymnocryptes minimus</i>	Jack Snipe				2019
	<i>Mareca penelope</i>	Wigeon				2019
	<i>Mareca strepera</i>	Gadwall				2019
	<i>Motacilla cinerea</i>	Grey Wagtail				2019
	<i>Motacilla flava</i>	Yellow Wagtail				2019
	<i>Numenius arquata</i>	Curlew		Y		2019
	<i>Oenanthe oenanthe</i>	Wheatear				2019
	<i>Passer domesticus</i>	House Sparrow		Y		2019
	<i>Phalacrocorax carbo</i>	Cormorant				2019
	<i>Phylloscopus trochilus</i>	Willow Warbler				2019
	<i>Pluvialis squatarola</i>	Grey Plover				2019
	<i>Prunella modularis</i>	Dunnock				2019
	<i>Pyrrhula pyrrhula</i>	Bullfinch				2019
	<i>Spatula clypeata</i>	Shoveler				2019
	<i>Streptopelia decaocto</i>	Collared Dove				2019
	<i>Strix aluco</i>	Tawny Owl				2019
	<i>Sturnus vulgaris</i>	Starling				2022
	<i>Tringa ochropus</i>	Green Sandpiper	WCA1i			2019
	<i>Troglodytes troglodytes</i>	Wren				2019
	<i>Turdus iliacus</i>	Redwing	WCA1i			2019
	<i>Turdus philomelos</i>	Song Thrush			Y	2019
	<i>Turdus pilaris</i>	Fieldfare	WCA1i			2019
	<i>Turdus viscivorus</i>	Mistle Thrush				2019
	<i>Vanellus vanellus</i>	Lapwing		Y		2020
<b>Mammal</b>	<i>Lutra lutra</i>	Otter	HabRegs2, WCA5/9.4b,	Y		2020

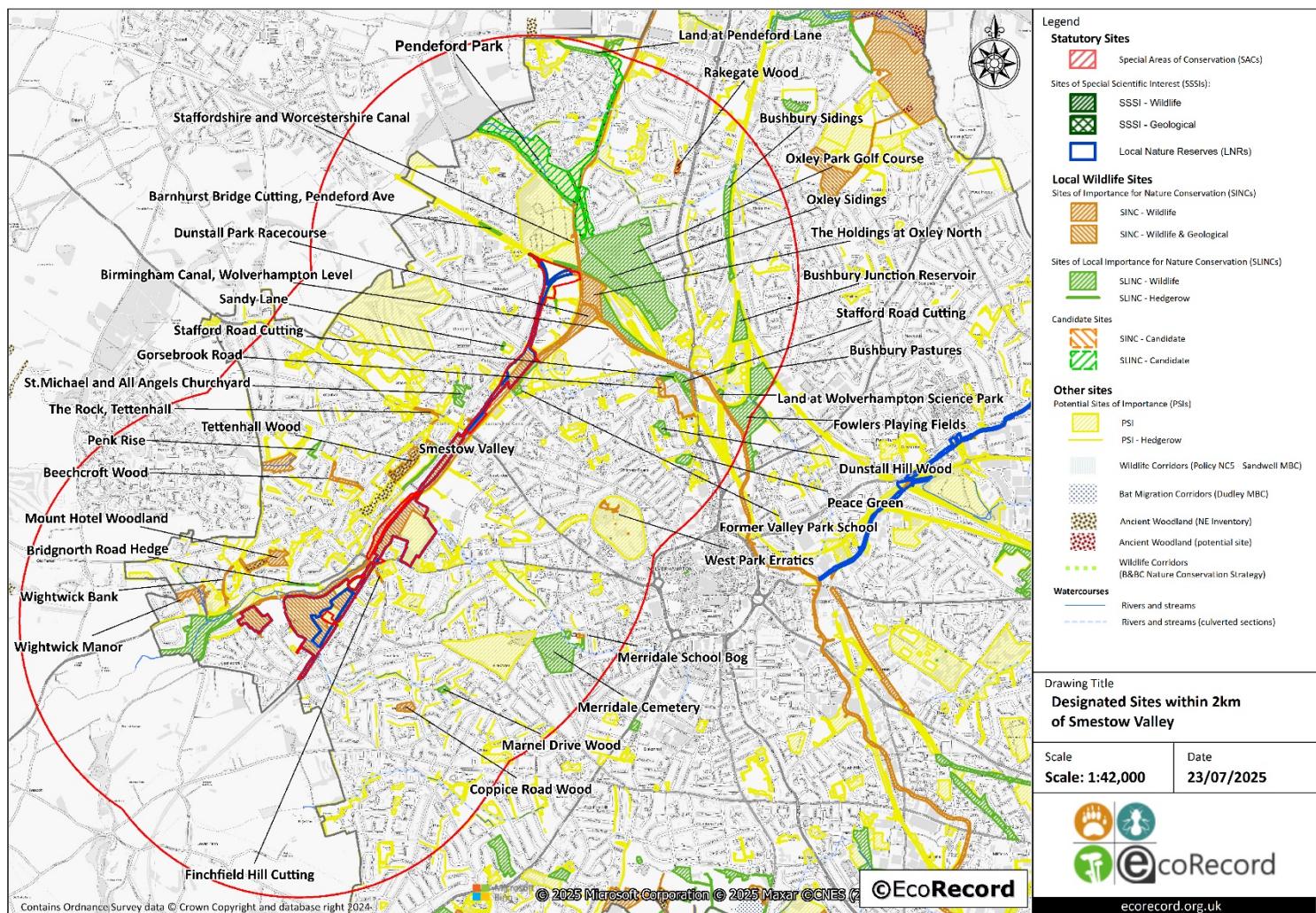


			WCA5/9.4c, WCA5/9.5a			
	<i>Meles meles</i>	Badger	PBA		Y	2020
	<i>Mustela nivalis</i>	Weasel				2017
	<i>Myotis</i>	Myotis Bat species	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2021
	<i>Myotis daubentonii</i>	Daubenton's Bat	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a		Y	2021
	<i>Myotis mystacinus</i>	Whiskered Bat	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a		Y	2019
	<i>Myotis nattereri</i>	Natterer's Bat	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a		Y	2019
	<i>Neomys fodiens</i>	Water Shrew				2018
	<i>Nyctalus noctula</i>	Noctule	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2021
	<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a		Y	2021
	<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a		Y	2021
	<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2021
	<i>Plecotus auritus</i>	Brown Long-eared Bat	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2019
	<i>Rhinolophus hipposideros</i>	Lesser Horseshoe Bat	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	Y	Y	2019



### 3.2.2 Statutory and non-statutory designated sites within 1km of the Site boundary are represented in the figure below

Figure 2: Designated sites within 1km of the site boundary



\*SSSI – Site of Special Scientific Interest, LNR – Local Nature Reserve, SINC – Site of Importance for Nature Conservation, SLINC – Site of Local Importance for Nature Conservation

### 3.2.3 Geosites

Part of the Black Country GeoPark, Geosite No. 30: Wightwick Wedge & Smestow Valley. The official geopark site description states 'The exposed geology in the valley includes, a series of narrow, twisting, ribbon-like sand and gravel areas that are cut into the upper part of the exposed bedrock, the Triassic Wildmoor Sandstone Member.'



### 3.3 Habitats on Site

#### 3.4 Compartment 1 - Railway Junction – Aldersley Stadium Footpath

UK hab code:	UK hab description:	Priority status:
g3c	Other Neutral Grassland	No

**Compartment 1b** – located at the northern most end of the site the grassland along the edges of the amenity mown grassland were two areas of recently improved grassland. Grass dominated with species such as Yorkshire fog *Holcus lanatus*, perennial rye grass *Lolium perenne*, fescues *Festuca* sp. and false oat grass *Arrhenatherum elatius* and bent species *Agrostis* sp. also present. Ribwort plantain *Plantago lanceolata*, common mouse ear *Cerastium fontanum*, yarrow *Achillea millefolium*, autumn hawkbit *Scorzoneraoides autumnalis* were occasionally present with yellow rattle also rarely present. The area is being newly managed in a haymeadow fashion, with early autumn cut and arising being removed. Poplar saplings were encroaching from adjacent trees.

Due to lack of sward height variation and low forb diversity and frequency the grassland was assessed as being **poor quality**. However, if the new regime is continued this condition will continue to improve.

**Compartment 1c** – recently fenced off and overseeded with green hay, the site is only in its first year of haymeadow management. The area was dominated by grass species including cock's foot *Dactylis glomerata*, false oat grass and Yorkshire fog with red fescue *Festuca rubra*, perennial rye grass, and common bent *Agrostis capillaris* also occurring frequently. Meadow grass species *Poa* sp, meadow foxtail *Alopecurus pratensis* and soft brome *Bromus hordeaceus* occurred rarely. Forbs present included small scabious *Scabiosa columbaria*, common sorrel *Rumex acetosa*, creeping buttercup *Ranunculus repens*, dock species *Rumex* sp, trailing tormentil *Potentilla anglica*, willowherb species *Epilobium* sp and ribwort plantain.

Due to lack of sward height variation and low forb diversity and frequency the grassland was assessed as being **poor quality**. However, if the new regime is continued this condition will continue to improve.

UK hab code:	UK hab description:	Priority status:
G3c - 16	Other Neutral Grassland – Tall forb	No

**Compartment 1c** – In the corner of the field the grass is dominated with nettle *Urtica dioica*, cock's foot and rosebay willowherb *Chamaenerion angustifolium* with occasional creeping buttercup and common hogweed *Heracleum sphondylium*. Hops *Humulus lupulus* climb on hawthorns *Crataegus monogyna* and immature sycamore *Acer pseudoplatanus*. The area is damp but not holding any standing water. This area has been assessed as being **poor quality**.



UK hab code: UK hab description:

Priority status:

G4 Modified Grassland

No

**Compartment 1b** – The grassland was an area of frequently mown short grassland used for discuss and hammer throwing practice, the area was dominated by grass species including meadow grass species, perennial rye grass, cock's foot and bent grasses. White clover *Trifolium repens* and ribwort plantain were the dominant forbs with creeping buttercup, hawkbit species *Leontodon* sp and common sorrel occasionally present. As this passes 6 out of the 7 criteria it achieves **good habitat condition** assessment.

**Compartment 1d** – recently over sown with green hay this area is due to be managed as a hay meadow but appears to have been cut prematurely. From the regrowth it was evident the area is grass dominated by species including perennial rye grass, cock's foot, Yorkshire fog, and creeping bent. Red fescue and common bent were also noted to be present. Forbs were occasionally present throughout the sward and included species such as dock, creeping buttercup and common sorrel. Yellow rattle *Rhinanthus minor* was verbally reported as present prior to the cut.

The variety of grass species present prevent this area from being in poor condition but the uniform height and tight compaction (with little to none bare ground exposure) of the sward prevents the area from achieving good. The area is considered to be in **moderate condition**.

UK hab code: UK hab description:

Priority status:

H3d Bramble Scrub

No

**Compartment 1a** – behind the trees along the western boundary of this area is a dense patch of bramble *Rubus fruticosus* agg. . It has also filled a small gap between two areas of woodland. **Condition N/A**

UK hab code: UK hab description:

Priority status:

H3h Mixed Scrub

No

**Compartment 1b** – small area of scrub dominated by bramble with occasional hawthorn and oak *Quercus* sp saplings. Willowherb was also present. This was assessed as **poor condition**.



UK hab code:	UK hab description:	Priority status:
W1g	Other Broadleaved Woodland	No

**Compartment 1a** – The embankments and cuttings of the former railway track have been colonised by woodland. The canopy variously comprises ash *Fraxinus excelsior*, willow species *Salix* sp, sycamore, pedunculate oak *Quercus robur* and silver birch *Betula pendula*. Understory comprises abundant hawthorn, English Elm *Ulmus procera*, wych elm *Ulmus glabra* holly *Ilex aquifolium*, elder *Sambucus nigra* and occasionally cherry *Prunus avium*. Rarely yews *Taxus baccata* are present on site. Ground flora consisted of largely nettle, ivy *Hedera helix* and wood avens *Geum urbanum*, with occasional herb robert *Geranium robertianum*, ribwort plantain and cock's foot. Common vetch *Vicia sativa*, lords and ladies *Arum maculatum* and wood speedwell *Veronica montana* occurred rarely. Much of the woodland was bounded by aspen *Populus tremula* plantation or lines of poplar trees alongside the grassland edges, these have become integrated into the woodland.

There is a water-logged area (TN1) creating a small pool in the woodland located, behind the Wolverhampton Scalextric & Slot Car Club, It is heavily silted with deadwood and no aquatic vegetation.

This area was assessed as **moderate condition**.

**Compartment 1e** – Aspen dominated (both semi-mature and immature ages) with occasional oak saplings. holly, hawthorn, ash, willow, hazel *Corylus avellana* and silver birch were rarely present. Poplar *Populus* sp, lime *Tilia* sp and blackthorn *Prunus spinosa* were also present. The structure was pretty open but having nettle and bramble dominant in the ground flora made egress difficult. This area was assessed as **moderate condition**.

UK hab code:	UK hab description:	Priority status:	Compartment/map ref:	Condition:
W1g - 29	Other Broadleaved Woodland - plantation	No		

**Compartment 1c** - running along the eastern boundary of the site on top of the canal bank was a silver birch and aspen plantation with occasional ash and sycamore also present. Ground flora was predominantly ivy, nettle, woodavens, cleavers *Galium aparine*, garlic mustard *Alliaria petiolata* and herb robert. Hawthorn saplings were occasionally present. This area was assessed as **moderate condition**.

UK hab code:	UK hab description:	Priority status:	Compartment/map ref:	Condition:
W1g6 /33	Line of trees	No	1e	

**Compartment 1e** – defunct hedgerow that has grown into a line of trees, a combination of hawthorn, holly, pedunculate oak, blackthorn, sycamore, hybrid polars, italien alder *Alnus cordata* and field maple *Acer campestre*. The ground flora was dominated with bramble, nettle, ash saplings and some rank grassland species such as cock's foot. Canopy cover was over 5m wide, the minimum height was 4m. It was assessed as **moderate condition**.



### 3.5 Compartment 2 - Aldersley Stadium Footpath – Hordern Road

UK hab code:	UK hab description:	Priority status:
g3c	Other Neutral Grassland	No

**Compartment 2c** – located off of Horden road is a small area of grassland that appears to be largely unmanaged. It is dominated by common knapweed *Centaurea nigra* and grasses including false oat grass, cock's foot, meadow grass species. Bent grass, crested dog's tail *Cynosurus cristatus* and fescue are also present. Additionally present are occasional forbs including common vetch, tufted vetch *Vicia cracca*, white clover, zigzag clover *Trifolium medium*, creeping cinquefoil *Potentilla reptans*, ribwort plantain and yellow rattle. Scrub from the surrounding woodland and ruderals are beginning to encroach such as creeping thistle *Cirsium arvense*.

Due to the encroaching rank species and the low forb diversity and overall frequency of forb presence the grassland was assessed as **moderate condition**.

UK hab code:	UK hab description:	Priority status:
W1g	Other Broadleaved Woodland	No

**Compartment 2d** – 'Hawthorn Wood' is dominated by mature hawthorn with some Ash present in the canopy. Other canopy species include willow, Italian alder, sycamore. The understory whilst dominated by hawthorn also contained occasional holly, wych elm and elder. There are many desire lines and trampled areas with no field-layer, whilst elsewhere there is abundant ivy both growing on the ground and on the trees. Other ground layer species include nettle, cow parsley *Anthriscus sylvestris*, wood avens, herb robert, ground elder *Aegopodium podagraria*, hedge woundwort *Stachys sylvatica*, wood speedwell and bramble. A previously open area in the woodland has been overgrown by bramble, hawthorn and ash saplings. The woodland is dark under the canopy.

Deadwood is occasionally present throughout the site, but there is evidence of active management through coppicing, path clearance and supplementary planting with woodland species. Where permissive footpaths have been created often litter was left along the pathsides.

This area has been assessed as **moderate condition**



### 3.6 Compartment 3 - Hordern Road – Tettenhall Road

UK hab code:	UK hab description:	Priority status:
W1g	Other Broadleaved Woodland	No

**Compartment 3a/b** - The woodland which has colonised along the edge of the former railway track is relatively young with abundant sycamore with occasional beech *Fagus sylvatica* and silver birch. Understory comprised of hawthorn, willows, elder and holly. The ground layer is dominated by common tall herb species including cow parsley and nettle with hedge garlic and wood avens. Rhododendron *Rhododendron* sp is also present here.

Between the railway line and the Smestow Brook in the south of the compartment there is an area of younger, scrub-woodland with abundant willow species, ash and birch. Here the field-layer is dominated by Himalayan balsam and nettle.

Himalayan balsam *Impatiens glandulifera* and continuous stands of Japanese knotweed *Reynoutria japonica* are present along the brook in this section.

This area is considered to be of **moderate condition**.



### 3.7 Compartment 4 - Tettenhall Road – Meccano Bridge

UK hab code:	UK hab description:	Priority status:
g3c, 16	Other Neutral Grassland, tall herb	No

**Compartment 4b** – an area of previously neutral grassland that has been overtaken by scrub and tall ruderals. Dominated by nettle, with butterbur *Petasites hybridus*, common hogweed, Himalayan balsam, poa grasses, broadleaf dock *Rumex obtusifolius*, bindweed *Calystegia sepium*, elder and bramble. Nettle becomes increasingly dominant in the centre of the area – this is classed as **poor condition**

UK hab code:	UK hab description:	Priority status:
G3 – 27	Grassland, Orchard	No

**Compartment 4b** – a new planted fruit tree orchard with associated newly planted hedgerow. The area was previously dominated by tall ruderals and these are still dominant around the planted saplings. Tall ruderal species include nettle, dock, false oat grass, hogweed, creeping thistle and occasional bramble.

This has been assessed as **poor condition**.

UK hab code:	UK hab description:	Priority status:
G4	Modified Grassland	No

**Compartment 4e** – in the car park of cupcake lane were small areas of amenity mown grassland, these areas were grass dominated by perennial rye grass and poa species. Common daisy, dandelion *Taraxacum officinale* agg., and selfheal *Prunella vulgaris* were amongst the forbs present. The area is considered to be in **moderate condition**.

UK hab code:	UK hab description:	Priority status:
H3d	Bramble Scrub	No

**Compartment 4b** – Between overgrown grassland dominated by nettles and tall ruderal species and a newly planted orchard is an area of bramble. **Condition N/A**

UK hab code:	UK hab description:	Priority status:

**H3h**

**Mixed Scrub**

**No**

**Compartment 4d** – between the brook and the footpath willow, alder *Alnus glutinosa* and elm *Ulmus* sp have colonised the bank creating a dense dark scrub. Nettle, bramble, wood avens, and Himalayan balsam were noted as the ground flora. At the southern end of the area a small hazel coppice has established with minimal ground flora evident at the time of survey, beyond occasional nettles. – **Poor condition**

**UK hab code:** **UK hab description:**

**Priority status:**

**W1g**

**Other Broadleaved Woodland**

**No**

**Compartment 4a** - Either side of the railway path is dominated by semi-natural woodland. Where this has matured to a woodland canopy species including pedunculate oak, common lime *Tilia x europaea*, horse chestnut *Aesculus hippocastanum*, silver birch, sweet chestnut *Castanea sativa*, sycamore, hawthorn and willows are present. The field-layer includes bramble, nettle, cow parsley and wood avens. The old railway platforms have been colonised by similar wood species but in a shorter shrub like form. Large amounts of cherry laurel *Prunus laurocerasus* present, however visible management of the cherry laurel can also be seen leaving large open areas in the canopy structure.

This area is considered to be of **moderate condition**.

### 3.8 Compartment 5 - Meccano Bridge – Bridgnorth Road

UK hab code:	UK hab description:	Priority status:
g3c	Other Neutral Grassland	No

**Compartment 5b5** - a large north facing field. Grass dominates the area with forbs occasionally present. When looking up the hill the left hand side of the bank is more diverse than the right. The field was dominated by grasses with frequent false oat grass, fescue, poa, bent grasses, cock's foot and sweet vernal grass *Anthoxanthum odoratum* being present. Forbs present included red clover *Trifolium pratense*, greater burnet *Sanguisorba officinalis*, common knapweed, goat's-beard *Tragopogon pratensis*, meadow buttercup *Ranunculus acris*, hairy tare *Vicia hirsuta*, smooth hawk's-beard *Crepis capillaris*, yellow-rattle, oxeye daisy *Leucanthemum vulgare*, meadow vetchling *Lathyrus pratensis* and lesser trefoil *Trifolium dubium*. These were infrequently present through out the sward. Negative indicators including common hogweed, nettle and dock were also present across the grassland.

The flat area of the field was less diverse than the bank side, with false oat grass being abundant as well as frequent cock's foot, Yorkshire fog and bent grasses. Red clover, creeping cinquefoil, goat's beard and yellow rattle occurred occasionally. Rank indicators such as creeping thistle, nettle, common hogweed, common ragwort and dock occurred more frequently. Oak and hawthorns were encroaching across the area.

Both areas have been assessed as **Poor condition**.

UK hab code:	UK hab description:	Priority status:
g3c, 16	Other Neutral Grassland, tall herb	No

**Compartment – 5d** an area of rank unmanaged grassland that is being overtaken by encroaching bramble scrub. False oat grass, and cock's foot are the dominant grasses among the abundant nettle, willowherb and occasional common hogweed. Oak saplings and creeping thistle are present within the area.

Due to the high frequency negative indicator species this area was assessed as **poor condition**.

UK hab code:	UK hab description:	Priority status:
H2a	Native Hedgerow	

**Compartment 5b5** – remnant historic hawthorn hedgerow that has become gappy and entirely defunct. It is assessed as **poor condition**.



Several other hedgrows that have previously been indentified has now been fully integrated into surrounding shrub and woodland and can often only be indentified by the associated bank line through the woodland. Therefore these have not been assessed individually.

UK hab code:	UK hab description:	Priority status:
H3d	Bramble Scrub	No

**Compartment 5d** – area of previous grassland that has been colonised by dense bramble scrub with nettle, common hogweed and willowherb. Remnant rank grass species such as cock's foot and false oat grass are present along the footpath edge.

A second area of bramble scrub is encroaching from the woodland half way down the next meadow area.

UK hab code:	UK hab description:	Priority status:
H3h	Mixed Scrub	No

**Compartment 5b5** – at the top of the barley field is an area of mixed scrub, dominated by dogwood *Cornus sanguinea*, with occasional hawthorn saplings bramble and invasive Japanese rose *Rosa rugosa*. – **Poor condition**

A second area, east of the access to Compton Hill Drive is dominated by by a hazel coppice with abundant dogwood, surrounded by bramble. – **poor condition**

On the western boundary of the field is a blackthorn thicket, it used to be a hedgeline but has widened into a dense thicket. Occaional ash and other camopy trees are breaking through the scrub - **poor condition**

Small area of dense bramble around a mature hawthorn. – **condition assessment N/A**

In the centre of the field dense bramble surrounding a sycamore and rose. – **poor condition**

In front of the plantation at the top of the hill is a section of dense bramble with occasional rosebay willowherb, common hogweed, nettle, creeping thistle, field rose *Rosa arvensis*, and a large stand of Japanese rose. – **poor condition**

Scrub located in the corner of the field between Compton training field and adjacent wetland - dominated by bramble with horse chestnut, hawthorn and great willowherb *Epilobium hirsutum*. – **moderate condition**

Large area of scrub encroaching out from railway line woodland. Growing around the culvert exit of the Gaisley brook. Dominated by bramble and nettle. Hawthorn and willow trees are also present. Rosebay willowherb occurs frequently. – **moderate condition**

**Compartment 5d** – Along the edge of the canal what used to be poor condition grassland has become mixed scrub it has encroached from previous small patches. The scrub is a mix of buddleja *Buddleja davidii*, guelder rose *Viburnum opulus*, willow, dogwood, blackthorn, various apple and other fruit trees, oak, and silverbirch. Where woody species reduce rank grasses and tall ruderals such as creeping thistle, nettle and false oat grass are present. – **Moderate condition**

UK hab code:	UK hab description:	Priority status:
W1g	Other Broadleaved Woodland	No

**Compartment 5a** - Along the cuttings and embankments of the former railway line a relatively mature woodland has developed. This is comprised of frequent sycamore with some mature oak and other species include ash, and willow, silverbirch, hazel, holly, hawthorn, elder and dogwood. The field-layer is frequently quite sparse with ivy, nettle, bramble, cow parsley, wood avens, hedge woundwort and male-fern *Dryopteris filix-mas*. Willow becomes more dominant the closer to meccano bridge.

This area is considered to be of **moderate condition**

**Compartment 5f** - The woodland to the west of the Staffordshire & Worcestershire Canal is similarly dominated crack willow *Salix fragilis* with frequent ash. There are also some large patches of Japanese knotweed here, some appear to have been recently treated but not all of it. The southern part of this woodland is younger and dominated by sycamore with crack willow, hawthorn and elder over ground flora of ivy, nettle, common hogweed, ground elder and wood avens. Dead and collapsed willow branches are prevalent.

This area is considered to be of **moderate condition**

UK hab code:	UK hab description:	Priority status:
W1g - 29	Other Broadleaved Woodland - plantation	No

**Compartment 5B7** comprises a woodland plantation dating from circa the 1990s which is dominated by silver birch with rowan *Sorbus aucuparia*, wild cherry *Prunus avium* and pedunculate oak. Understory consisted of abundant hawthorn. With rowan, hazel, holly, elm, elder and blackthorn also present. The

field-layer is abundant and dominated by nettle with bramble, cow parsley, ivy and occasional hogweed and wood avens. In certain areas small glades have been created, increased groundflora species are present including red campion *Silene dioica*, dovesfoot cranesbill *Geranium molle*, herb robert, meadow sweet *Filipendula ulmaria*, foxglove *Digitalis purpurea*. Rarely present is hellebore species *Helleborus* sp and nightshade *Solanaceae* sp. snowberry *Symporicarpos albus* is present in the woodland at the top of the hill. Hawthorn dominates at the bottom of the hill. One mature ash is present otherwise the woodland age is relatively immature. An old hedgerow with mature trees and bund occupies the eastern boundary of the woodland and is being integrated into the woodland.

This wood is considered to be in **good condition**

UK hab code:	UK hab description:	Priority status:
W1d	<b>Wet woodland</b>	<b>No</b>

**Compartment 5c** – Woodland dominated by crack willow has colonised the damp and low-lying area around the open section of the Graiseley Brook. This has a field-layer dominated by nettle with abundant Himalayan balsam.

This has been assessed as **poor condition**



### 3.9 Compartment 6 - Bridgnorth Road – Windmill Lane & Castlecroft Road

UK hab code:	UK hab description:	Priority status:
g3c	Other Neutral Grassland	No

**Compartment – 6c2** meadow that runs parallel to the canal and up towards the railway line. Abundant false oat grass, frequent bent grasses, perennial rye grass and Yorkshire fog, occasional sweet vernal grass, meadow foxtail, poa species and locally frequent creeping soft grass *Holcus mollis* are present across the site. Flora species present included frequent common knapweed (locally abundant in places) and dock. Occasional meadows cranesbill *Geranium pratense*, ribwort plantain, red bartsia *Odontites verna*, yellow rattle, common ragwort *Senecio jacobaea*, common nettle, hawkweed sp *Hieracium* sp and common birds foot trefoil *Lotus corniculatus*. Field scabious *Knautia arvensis*, meadow buttercup, goats beard, red clover were rarely present on site. Bramble and creeping thistle was encroaching from the edges. The sward height was approximately 1.5m in height with ant hills occasionally present.

The area was assessed as **moderate condition** due to the presence of negative indicator species, lack of sward height diversity and low frequency of forb diversity.

**Compartment 6d2** meadow that continues to run parallel to the canal. Grass is dominant here but it is a mix of finer grasses including abundant fescue with frequent sweet vernal grass, bent and poa grasses, false oat grass and cock's foot. Yorkshire fog and perennial rye grass were occasionally present. Common knapweed was abundant in the sward, with frequent yellow rattle, ribwort plantain and occasional meadows cranesbill and common birds' foot trefoil and red clover. Many species were rarely present in the sward and these included white clover, speedwell sp *Veronica* sp, dock, broadleaf plantain, common sorrel, goats beard, field scabious, rose sp *Rosa* sp, meadow vetchling, tufted vetch and oxeye daisy. Negative indicator species are creeping in along from the patches of adjacent scrub, this included locally frequent creeping thistle, occasional bramble, locally occasional rosebay willowherb and rare hawthorn and oak saplings. All of the species contribute to a varied sward height. Larger immature oaks are scattered throughout the site.

Due to the variation in sward height but the lack in frequency of the forb diversity and encroaching scrub the area has been assessed as **moderate condition**.

**Compartment 6g4 (a, b and c)** – located at the furthest extent of site the area is split into three fields by hedgerows and oak trees. Section A, the largest area was a grass dominated meadow with false oat grass being dominant. Yorkshire fog, cock's foot, creeping bent *Agrostis stolonifera*, tall fescue *Lolium arundinaceum*, creeping soft grass and common bent occurred frequently across site whilst couch grass *Elymus repens*, sweet vernal grass, timothy *Phleum pratense* and perennial rye grass occurred occasionally. Soft brome and meadow foxtail were occasionally present. Broadleaved dock, common hogweed, red clover, common ragwort, common knapweed, goats beard, field scabious and ribwort plantain were occasionally present in the sward. Nettle, hairy tare, common vetch, red bartsia, sedge species *Carex* sp and meadow cranesbill were rarely present in the area.

Section B is separated by a line of immature oaks, the area has a similar grass make up as above although with less diversity of species. Cock's foot and false oat grass occurred the most frequently. Forbs occurred much less frequently within the more uniform sward. Yellow rattle occurred most frequently with meadow vetchling, meadow cranesbill and common ragwort were all rarely present.

Section C contained abundant false oat grass, Yorkshire fog and common bent. Cock's foot, meadow foxtail and timothy were occasionally present. Creeping soft grass was locally frequent whilst sweet vernal grass and poa species were rarely present. Common knapweed was the most frequently occurring forb species being locally abundant in areas. Yellow rattle also occurred frequently. Betony *Stachys officinalis*, ladies bedstraw *Galium verum*, goats beard and meadow buttercup occurred rarely in the sward. As the area sloped towards the canal rank species became more prevalent including occasional hogweed, creeping thistle, and bramble. Nettle, ragwort and broadleaf dock were also present.

All three of these area have been assessed as being in **moderate condition**.

**Compartment 6i2 –Turners Field** A large area of grassland with a good mix of fine and rank grasses and forbs. Yorkshire fog was abundant in the sward with frequent false oat grass, creeping bent, common bent, Timothy, red fescue, perennial rye grass and sweet vernal grass. Crested dogs tail was occasionally present. Yellow rattle occurred frequently across the area particularly at the top of the bank as did meadow vetchling and common birds foot trefoil. Ribwort plantain, meadow buttercup, red clover, meadow cranesbill, soft rush *Juncus effusus* and imperforate st Johns wort *Hypericum maculatum* were occasionally present. Hairy tare, sharp flowered/jointed rush *Juncus acutiflorus/articulatus* white clover, curled dock *Rumex crispus*, compact rush *Juncus conglomeratus*, creeping cinquefoil, wood avens, rough hawkbit *Leontodon hispidus*, hairy sedge *Carex hirta*, red bartsia, hop trefoil *Trifolium campestre*, hard rush *Juncus inflexus* and great willowherb were also present in the sward.

There is a bund present across the middle of the bank, which is dominated by rank species including common hogweed and creeping thistle.

The bank is also divided by a mown footpath, the northern side of the path has additional species including, occasional, locally frequent ladies bedstraw, occasional betony and rarely present ragged robin *Silene flos-cuculi*. Common knapweed, whilst present on both sides is abundant on the northern side.

Willow, bramble and hawthorn scrub is beginning to encroach from the edges and immature oak and oak saplings have colonised across the site, attracting small areas of scrub around each one.

This area has been assessed as **good condition**

**Compartment 6J** – two pockets of remnant grassland within a self established oak woodland. Cock's foot is abundant in both open areas as was frequent false oat grass. In the smaller area there was also frequent perennial rye grass, poa grass', common vetch and ash saplings. Ferns and rosebay willowherb occurred occasionally. The larger area contained more rank species, with occasional nettle, Yorkshire fog, false oat grass and male fern. Common vetch and horsetail *Equisetum* sp occurred rarely. The other significant difference in the areas was the larger one had a large proportion of the area dominated by rosebay willowherb with a small area of bracken *Pteridium aquilinum* noted as well.



Assessed a being in **poor condition**.

**Compartment 6m** – located on the edge of a broadleaved woodland adjacent to the canal was an area of unmanaged grassland. There was a variety in sward height with the rank grasses species dominating the edges with abundant false oat grass, frequent cock's foot and rare tall fescue. Creeping thistle, nettle and male ferns were also frequent along the grassland edge. In the central shorter sward fescue and creeping buttercup were abundant. The grass formed tussocks in areas with animal snuffing signs at the western end. Grass dominated the entire area with meadow buttercup, chickweed *Stellaria media*, tufted vetch and common birdsfoot trefoil were the only forbs rarely present on the site.

Due the lack of forb diversity this habitat was assessed as **poor condition**

**Compartment 6N1** – small area of grassland that has developed on disused historic garden centre land. The area is grass dominated with abundant red fescue, frequent common bent and Yorkshire fog. Occasional false oat grass, crested dogs tail, cock's foot and sweet vernal grass were also present. Forbs present included locally abundant common knapweed, occasional ribwort plantain, hoary willowherb *Epilobium parviflorum*, common birds foot trefoil, creeping cinquefoil, ladies bedstraw, betony and flea sedge *Carex pulicaris*. Meadow cranesbill, dock, autumn hawkbit, hairy sedge, field rose and hairy tare were rarely present in the sward. Scrub was encroaching from surrounding habitats with bracken, and hawthorn saplings rarely present. This area is managed as a hay meadow.

This area was assessed a being in **moderate condition**.

**Compartment 6N2** – two ares of vegetation separated by 9 Cypress trees *Cupressus sempervirens*. The southern side of the site was fighting scrub encroachment from the south with bramble, rosebay willowherb and pendulous sedge *Carex pendula* occurring most frequently. Willow, silver birch and alder were rarely present. Cock's foot, fescue, bent grasses, and Yorkshire fog were all occasionally present, with couch grass being local frequent. Ribwort plantain, creeping cinquefoil, perforate st johnswort *Hypericum perforatum* were frequently present. Common Knapweed was locally abundant. Broadleaf dock, comfrey *Symphytum sp* and loosestrife *Lysimachia vulgaris* were all occasionally present with wood avens, soft rush, marjoram *Origanum majorana* and bindweed being rarely present.

The northern side of the trees the sward was significantly shorter, between 5cm and 15cm in height. Only crested dogtail, creeping bent, and fescue were frequently present. Cock's foot, Yorkshire fog, creeping cinquefoil, ribwort plantain and zig zag clover occurred occasionally. Most species occurred rarely and these included red bartsia, red clover, common birds foot trefoil, dock, pendulous sedge, willow saplings, soft brome, lesser trefoil, carex species and soft rush.

Due to scrub encroachment and less of forb frequency this area was assessed as **poor condition**.

**6N3** – an area of wet grassland growing on top of the dis-used garden centre hard standing. Dominated by bent and red fescue, with frequent Yorkshire fog, false oat grass and poa species. Locally abundant and frequent overall yellow flag iris *Iris pseudacorus* was prevalent across the site as was *Rosa spirea*. Bramble, cock's foot, perennial rye grass, creeping cinqufoil, couch grass, timothy, loosestrife, soft rush, ribwort plantain and star sedge *Carex echinata* were occasionally present. Tall fescue, willow saplings,



field scabious, oval sedge *Carex leporina*, pendulous sedge, tufted vetch, hairy tare and common ragwort were rarely present.

This area has been assessed as **poor condition**

**6N4** – A small area grassland dominated by grasses including frequent false oat grass, sweet vernal grass, Yorkshire fog, crested dogs tail, red fescue and bent grass. Cock's foot, meadow foxtail, poa species, tufted vetch, soft rush, dock, creeping buttercup, common vetch, meadow buttercup, were occasionally present. Meadow cranesbill, red bartsia, cowslip *Primula veris*, ribwort plantain, rose, tufted hairgrass *Deschampsia cespitosa*, common knapweed and carex species were rarely present. Bramble was encroaching from the surrounding habitats. Oak trees were present in the centre of the grassland.

This area has been assessed as **moderate condition**

**Compartment 6N5** – an enclosed area of short mown grassland use for a safe dog park within the reserve. Species present included white clover, perennial rye grass, zig zag clover, red bartsia, soft rush, pendulous sedge, ribwort plantain, self heal, meadow vetchling, broadleaf dock, chamomile *Matricaria chamomilla*, hairy tare and bent grass. In the corners of the area tall ruderals become more prevalent they included nettle, loostrife, greater willowherb, creeping thistle, bramble, and willow saplings.

This area has been assessed as **poor condition**

UK hab code:	UK hab description:	Priority status:
W1g	Other Broadleaved Woodland	No

**Compartment 6a** - Along the cuttings and embankments of the former railway woodland has naturally developed. The canopy often dominated by ash with pedunculate oak and sycamore being occasionally present. Aspen and lime were also rarely present. The understory contained abundant hawthorn, occasional holly and rarely present sweet chestnut, field maple, elder, beech and hazel. Ground flora included frequent nettle, bramble, woodaven and occasional hedge mustard and hedge woundwort and abundant hawthorn. Negative species including cotoneaster *Cotoneaster sp*, cherry laurel and snowberry also present.

This wood is considered to be in **moderate condition**.

**Compartment 62c** - woodland that connects the railway line down to the canal and then wraps around the amenity sports field. Sycamore and beech are dominant. Willow, elder, ash and narrow-leaved ash *Fraxinus angustifolia* are also present. The understory consisted of hawthorn, blackthorn, elder, holly, field maple and elm. Ground flora consisted of ivy, wood avens, Yorkshire fog, nettle, cow parsley, hogweed and sycamore saplings. Badger setts, 2 entrance holes, were noted adjacent to the permissive footpath.

Right alongside the canal the woodland turns into a oak plantation with a large stand of cherry laurel on the boundary of the allotment. Occasionally crab apple *Malus sylvestris* and walnut *Juglans regia* are present on the woodland boundary

To the west of this area a area of hazel coppice with occasional ash, hawthorn, and silverbirch with rare willow, cherry and privet *Ligustrum vulgare*. The ground flora is dominated by nettle, bramble, ash saplings and bind weed.

This wood is considered to be in **moderate condition**.

**Compartment 6e** - The former quarry of Quarry Wood has been dominated by semi-mature Sycamore with occasional ash. Understory was minimal with holly, elder and hawthorn. The quarry is dominated by exposed bare ground and is evidently used by local cyclists. Where ground flora is present it is predominantly bramble, woodaven, willowherb, nipplewort *Lapsana communis* and an invasive plant pheasant berry *Leycesteria formosa*. This wood is considered to be in **poor condition**.

**Compartment 6e2** – smaller area of former quarry. At the northern end, mature hornbeam *Carpinus betulus* makes up the majority of the canopy with alder, sycamore and willow contributing the rest. In this area the understory is sparse, made up of blackthorn, hawthorn and holly. Bare ground is most abundant with nettle, woodaven, ivy, hedge woundwort and nighthshade present. A large stand of Japanese knotweed is located amongst the dense areas of hawthorn as you move south. Continuing south the woodland gets wetter with an increase in willow, silver birch and elm in the canopy. Himalyan Balsam is also present in this area. In the south west area of the woodland bramble and nettle increase along with pendulous sedge.

A main badger sett is found in the quarry embankment of this compartment

This wood is considered to be in **moderate condition**

**Compartment 6j** – naturally developed woodland on historic field site, dominated by immature pedunculate oak with occasional ash. Hawthorn and blackthorn and ash saplings are the only present occasionally. Ground flora consists of bramble, pendulous sedge, wood avens, nettle, hedge woundwort and herb robert.

This wood is considered to be in **moderate condition**.

**Compartment 6g6** – an area of woodland with damp ground. The canopy consists of a mix of willow, alder, bird cherry *Prunus padus*, ash, aspen and lime, all of which are occasionally present. Yew *Taxus baccata* is rarely present. Understory consists of frequent silver birch, hawthorn and occasional field maple and dogwood. Abundant pendulous sedge and wood avens cover a lot of the ground. Bramble occurred frequently, with occasionally present wood millet *Milium effusum* and great willowherb. Tutsen *Hypericum androsaemum* was rarely present.

This wood is considered to be in **moderate condition**.

**Compartment 6g7** – an area of willow scrub that is slowly progressing into willow woodland. Canopy is dominated by willow with bramble and nettle abundant. Access was difficult.

This area is considered to be in **poor condition**.

**Compartment 6k1**- A strip of woodland that runs along the footpath and Finchfield Brook. Several mature oaks and ash's are present along the brook, willows are also frequent. Mature cherry trees became present towards the northern area of the site. Holly, alder, hawthorn, hazel, yew, and bird cherry were present in the understory. Young native black poplar *Populus nigra* have been planted along the brook. Ground flora consisted of nettle, bramble, dock, willowherb, ivy, hedge woundwort and lords and ladies.

This wood is considered to be in **moderate condition**.

**Compartment 6L** – Hornbeam dominated woodland with local frequent ash, silver birch, and lime. Understory was dominated by holly with occasional hawthorn and cherry laurel. Yew, elder and sycamore occurred rarely. The majority of the ground was unwegegated due to the dense canopy cover, where vegetation had grown nettle and bramble occurred most readily with occasional garlic mustard and rare hart tongue fern.

There was deadwood and fallen wood frequently occurring across the entirety of the site. The topography of the wood was unundulating with trough and mounds throughout the site, the old sandstone quarry faces is exposed in the south of the site. Whilst initially a plantation after quarry use, it has grown into a semi-natural state.

This was assessed as being **moderate condition**

**Compartment 6q2** – The canopy is a mix of whitebeam *Sorbus aria*, ash, lime, with occasional rowan and sycamore. Understory is predominantly hawthorn with holly, elm, dogwood, bird cherry and rowan also present. The ground flora is quite open but with abundant wood avens; herb robert, hedge garlic, nipplewort, nettle, pendulous sedge, wood millet, bramble and ivy. Snowberry was also present in this area.

This was assessed as being **moderate condition**

**UK hab code:** **UK hab description:**

**Priority status:**

W1g - 29

Other Broadleaved Woodland - plantation

No

**Compartment 6g5** Pedunculate oak plantation, planted in 2000 as part of the 'Urban Forest' project. Ash and hawthorn occasionally appear in the canopy. The oaks have encroached beyond their initial plantation area and have grown in a more natural manner. The canopy is dense and understory is limited, species present included hawthorn, holly, alder, hazel and bird cherry. Ground flora consisted of abundant bramble, nettle and wood aven. Hedge woundwort, dock, common hogweed, ivy and willowherb occurred



occasionally. Scaley male fern and lords and ladies was rarely present. Bluebell *Hyacinthoides non-scripta* remains were present throughout out the woodland.

This wood is considered to be in **moderate condition**.

**Compartment 6p** – area of plantation woodland that is divided by a tarmac footpath. To the north of the path the woodland has abundant silver birch and occasional sycamore, lime and ash in the canopy. Horse chestnut and oak occur occasionally. The understory consists of holly, hornbeam, rowan, elm, hawthorn and dogwood. The dense canopy has resulted in patches of bare ground otherwise bramble is abundant with frequent nettle and wood aven. Speedwell, hogweed and rose is rarely present

Evidence of anti social behavior with burn marks and litter on site.

To the south of the footpath is a hazel coppice with occasional silver birch, field maple, bird cherry and ash with oak, willow and lime rarely present. Dead hedges and coppiced stumps indicated active management. Ground flora was more diverse than the adjacent woodland and included abundant woodaven, and herb robert with occasional self heal, wood sedge *Carex sylvatica*, red campion, nettle, red current *Ribes rubrum*. Dog violet *Viola riviniana*, meadow buttercup, common ragwort, foxglove, and rose are rarely present.

This wood is considered to be in **moderate condition**.

**Compartment 6q1** – Plantation woodland, predominantly ash with poplar, lime and whitebeam were also present, as was rarely present cyprus. Understory included hazel, hawthorn, holly, rowan, wild cherry and bird cherry. The majority of the ground flora was dominated by bramble and bindweed and wood avens. Along the footpath edges was historic woodland planting and included species such as greater stitchwort *Stellaria holostea*, sweet woodruff *Galium odoratum* and red campion. Additional species included hedge woundwort, pendulous sedge, and broad buckler fern *Dryopteris dilatata*. At the northern end of the site is a large dominant section of non-native invasive wingnut tree *Pterocarya fraxinifolia*, this needs to be managed.

This area is considered to be in **moderate condition**.

UK hab code:	UK hab description:	Priority status:
W1h	Other woodland - mixed	No

**Compartment 6f** – Remnant of a historic pine plantation, the remaining scots pine *Pinus sylvestris* and larch *Larix decidua* are beginning to fail creating lots of dead wood. Immature elm now dominates the area with sycamore, hawthorn and holly also present. Wood aven, nettle, ivy and cow parsley are frequently present in the field layer. Bramble is dominant around the top edge of the woodland.

This has been assessed as **moderate condition**



UK hab code: UK hab description:

Priority status:

H3d Bramble Scrub

No

**Compartment 6i2** – encroachment of bramble between the woodland and grassland. – **Condition assessment N/A**

UK hab code: UK hab description:

Priority status:

H3h Mixed Scrub

No

**Compartment 6m** – edge of the woodland it encroaching on to the grassland with immature oak and occasional bramble. – **moderate condition**

**Compartment 6i2** – encroachment from the adjacent woodland comprising oak, willow and backthorn. – **moderate condition**

UK hab code: UK hab description: Priority status: Compartment/map ref: Condition:

H2a Native Hedgerow

**Compartment 6c1** – Defunct privet hedgerow that is being integrated in to the immediately adjacent woodland. It is assessed as **moderate condition**.

**Compartment 6d1** – defunct hedgerow that has been unmanaged and is growing tall. Dominated by hawthorn it is approximately 4-5m in height and 2-3m wide. The western side of the hedge is a bank that is being used by badgers for sett building. Hazel and elder are also present, ground flora around the base is dominated by nettle, bramble and rank grasses including cock's foot and false oat grass.

It has been assessed as being in **moderate condition**

**Compartment 6g2** – defunct hawthorn hedgerow that has been engulfed by the oak plantation. Is now predominantly standards, but some attempts at laying have been made in recent years as well as gap planting with hawthorn and other native species.

It has been assessed as being in **moderate condition**

**Compartment 6g3** – defunct hedgerow, where intact it is dominated by hawthorn however the majority of the hedgerow has failed and recently been replanted with species including hazel, hawthorn, beech, holly, privet, guelder rose and a prunus sp. The ground is dominated by rank grasses and nettle.



Assessed as being in **poor condition**

**Compartment 6i1** – Defunct hedgerow now fully integrated into surrounding woodland and scrub, only visible from the top, middle and bottom. There is a small ditch and bank associated with the hedgerow. From what could be seen the hedgerow is primarily hawthorn with occasional ash trees and a large mature oak.

It has been assessed as being in **moderate condition**

**Compartment 6j1** – defunct hawthorn hedge is now a line of trees along the edge of the Finchfield Brook, ground flora was minimal as over shaded by the trees.

It has been assessed as being in **moderate condition**

UK hab code:	UK hab description:	Priority status:
40	Prioirty Pond	Yes

**Compartment 6H Nursery pond** - Approximately 20m by 30m in size, is a pond that holds water all year round. It has shallow edges on all sides and is surrounded by willow, bull rush *Typha latifolia*, nettle, pendulous sedge, watermint *Mentha aquatica*, dog rose *Rosa canina* and greater willowherb. Aquatic vegetation covers upto 70% of the surface water and includes bog bean *Menyanthes trifoliata* and water lily *Nymphaea alba*. The pond is excellent habitat for dragonflies and amphibians, with historic records of GCN.

The pond was assessed as **good condition**.

**Compartment Turners pond**- Approximately 30 by 30m in size, is a pond that holds water all year round with levels that naturally fluctuate throughout the year. It has shallow edges on all sides and is surrounded by large willow, and pendulous sedge. No aquatic vegetation was visible at the time of survey. Silt from willow leaf litter is visible in the pond. The pond has some benefits for dragonflies and amphibians, with historic records of GCN.

The pond was assessed as **moderate condition**.



## 3.10 Running Water

### The Smestow Brook

3.10.1 The Smestow Brook rises in Wolverhampton and enters the nature reserve from the culvert at Tunstall Bridge where it proceeds to flow through the reserve, north to south, for approximately 2.6km, after which it continues to flow into South Staffordshire before joining with the River Stour and eventually the River Severn.

3.10.2 The Staffordshire and Worcester canal overflows into the brook at several points in compartment 6.

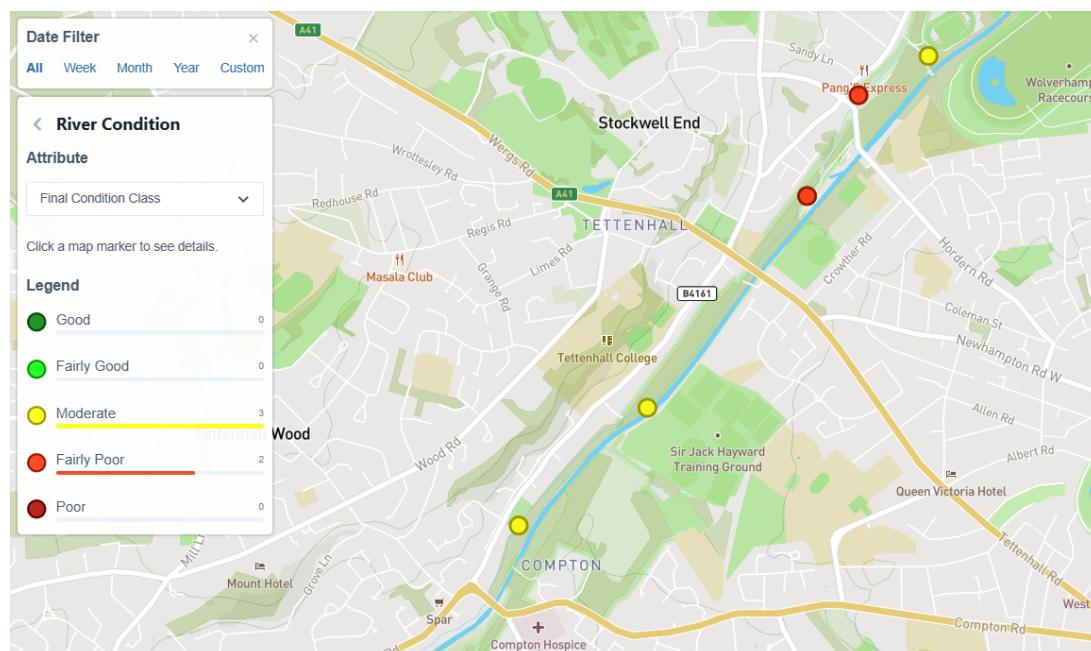
3.10.3 The brook has been heavily manipulated and straightened over the years, as the railway and canal were installed on site. The straightening and dredging of the brook have resulted in an overwide and over-deepened channel. This oversized channel has caused the flow rate and flow variation to reduce, so much so the water almost appears still in numerous sections of the brook. This has resulted in heavy siltation of the brook bed and often an anoxic environment that is unsuitable to support a good assemblage of invertebrates.

3.10.4 Whilst flowing through the reserve the brook is often heavily shaded by dense trees and shrubs on the bank side. The brook varies in width but is no more than 5m in size at its widest. The substrate was varied but silt, sand and gravel were the most prevalent.

3.10.5 Himalayan balsam and Japanese knotweed occurred frequently along the entire length of the brook especially in compartments 3 and 6.

3.10.6 Some natural tree fall has begun to create natural flow variation in the channel, especially in compartment 4. The impact of this is evident in the clarity of the water before and after the tree fall.

3.10.7 A River Condition Assessment was undertaken across several locations on the site, the map of which can be seen below. The river was assessed as being between poor and moderate quality depending on the location, this shows there is real potential to improve the brook.



**Figure 3:**  
Screenshot of  
River Condition  
Assessment on  
Cartographer



### **The Finchfield Brook**

3.10.8 Located at the southern extent of the site, along the southern boundary. The Finchfield brook flows from southeast to northwest before flowing into the Staffordshire and Worcestershire canal. At the time of surveying the brook had run dry. The channel was approximately 1.5 m wide with a varying bank height, averaging around 1m. The brook was heavily shaded by surrounding mature trees and scrub. Some marginal vegetation such as pendulous sedges were noted.

### **The Graiseley Brook**

3.10.9 Located at the bottom of the barley field, the Graiseley Brook flows east to west in a culvert under the field before briefly surfacing before passing under the railway. Once under the railway the brook surfaces and has been further manipulated into a straightened channel running parallel to the Staffordshire and Worcestershire canal. Before culverting under the canal and joining merging with the Smestow Brook the brook enters a short area of concrete re-enforced riverbed. Large willows have grown on the bankside and are affecting the water flow.



### 3.11 Protected Species

- 3.11.1 Habitats on site (including the hedgerows, woodland, grassland, and arable fields) provide suitable nesting habitat for a range of bird species. Moreover, given the size of the site and the range of habitats, the site has the potential to support assemblages of both breeding and overwintering birds.
- 3.11.2 Evidence of badger (setts and latrines) was present at the time of survey across the site. Woodlands that are interconnected provide suitable foraging and commuting habitats for the badgers.
- 3.11.3 Across the fields, hedgerows, and woodlands, there were numbers of mature trees which could support potential roosting features for various species of bat. The network of linear features across the site also provides foraging suitability.
- 3.11.4 The Smestow Brook has limited capacity to support both European otter *Lutra lutra* and water vole *Arvicola amphibius*. However, the canal, immediately adjacent to the site has increased suitability to both otter and water vole.
- 3.11.5 Additionally, the ponds, and associated terrestrial habitats (including the wet woodland) provide suitable breeding and foraging habitat for various amphibian species (including the great crested newt *Triturus cristatus*). Terrestrial habitats such as this also provide suitability for reptiles.
- 3.11.6 The mosaic of running water, standing water, grassland, hedgerows, woodland, and scrub have the potential to provide a variety of niches for a range of invertebrate species. Some insects that were spotted during the surveys included large white, small white, small copper, common carpenter moth, meadow brown, gate keeper, red admiral, small skipper, ringlet, coom on blue, 6 spot burnet, red tail bumblebee.



### 3.12 Invasive Species

3.12.1 Invasive species were noted across the site especially around the wet areas and brooks, the table below shows some of the locations of invasive species noted whilst on site.

3.12.2 Not all species listed are scheduled 9 listed, but all are considered to be invasive and should be managed accordingly.

3.12.3 Along the Smestow Brook Himalayan balsam is abundant, and Japanese knotweed occurs frequently especially in compartment 3 and 5. Snowberry and cherry laurel occur frequently along the wooded railway embankment.

3.12.4 Whilst not seen during the survey, fringe cups are known to be present on site as well as several garden escapes. These should also be managed as appropriate.

Table 1: Invasive species and location on site

Invasive Species	Grid Reference	Details	Schedule 9
Snowberry	SJ 89880 01056	Multiple stands around the end of the railway	N
Snowberry	SJ 89809 00756	Multiple stands along the railway edge	N
Cherry Laurel	SO 88126 98594	One very large stand	
Snowberry	SO 88141 98576	Near a metal gate post	N
Snowberry	SO 88144 98402	Approximately 21m in length.	N
Pheasant berry	SO 87892 98357	One stand	N
Japanese Knotweed	SO 87756 98364	Multiple stands over approx. 20m of wooded bankside	Y
Himalayan Balsam	SO 877 983	In damp area of woodland	Y
Japanese Knotweed	SO 8838 9896	Dense Multiple stands throughout wooded area between canal and brook	Y
Japanese rose	SO 88667 98991, SO 88723 98904 and SO 88684 98970	Dense stands in mixed scrub.	Y
Snowberry	SO 88644 98778		N
Bamboo	SO 88968 99674	From garden waste	N
Snowberry	SO 88866 99533		N
Japanese Knotweed, Himalayan Balsam and snowberry	SJ 89494 00321	Along brook especially around footbridge	



Wingnut	O 8789 9813	Area of dense coverage of juvenile wingnut	N
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## 4. Biodiversity Net Gain baseline

4.1.1 In conjunction with undertaking a UK Habitat survey, each habitat was subject to a condition assessment in accordance with UK Government guidelines. The Statutory biodiversity metric measures the biodiversity value of habitats by calculating the number of biodiversity units.

4.1.2 The baseline biodiversity unit values for habitats present on site are presented below.

Table 2: On-site baseline by broad habitat type

Baseline		
Habitat group	On-site existing area (Ha)/length (km)	On-site existing biodiversity unit value
Grassland	17.70	116.66
Heathland and shrub	5.16	31.13
Lakes (Ponds)	0.16	2.84
Urban	2.71	0.00
Woodland and forest	38.76	353.80
<b>Habitats Total</b>	<b>64.49</b>	<b>504.43</b>
Native hedgerow with trees - associated with bank or ditch	<b>0.11</b>	<b>1.45</b>
Native hedgerow - associated with bank or ditch	0.06	0.54
Native hedgerow	0.28	0.97
Line of trees	0.34	1.51
<b>Hedgerow Total</b>	<b>0.79</b>	<b>4.47</b>
<b>Other rivers and streams Total</b>	<b>3.2</b>	<b>22.5</b>



## 5. Headline Conclusions and Recommendations

- 5.1.1 Smestow Valley local nature reserve is a key green corridor providing connectivity around Wolverhampton and the wider suburban area. The area should be protected and enhanced to better continue to support wildlife and biodiversity in the area.
- 5.1.2 This Site covers a large area, containing a range of interconnected habitats including woodland, grassland, ponds, and the Smestow Brook. The mosaic of habitats supports a wide variety of wildlife.
- 5.1.3 Habitat creation, or changes in habitat management, could improve the quality of habitats across the site that are considered poor or moderate conditions. There is also scope to improve the quality of areas immediately adjacent to the site to increase the scope of the designated Local Nature Reserve.
- 5.1.4 Overall, there are many opportunities for habitat management and creation to improve and protect the natural landscape in this area for nature whilst enabling continued use by the public.

### 5.2 Recommendations

This section aims to provide an initial overview of opportunities and is not an exhaustive or definite list.

#### **Grassland Enhancement**

- 5.2.1 Areas of the site that are under the hay meadow regime should continue to do so, ensuring cuts are made at an appropriate time of year and arisings removed. There are certain areas of the site that should be additionally managed in this manner, including section C2 at Hordern Road.
- 5.2.2 Where appropriate, some grasslands would benefit from additional seeding or plug planting to help boost the diversity of the sward. An option would be to consider some acidic grassland species to reflect the acidity from the surrounding sandstone.
- 5.2.3 Several of the grasslands are suffering from scrub encroachment, in particular from bramble. The scrub should be managed by frequent cutting back, multiple times a year to help encourage the grass to re-establish. Some scrub should be kept at the field margins.

#### **Woodland Management**

- 5.2.4 The woodlands are subject to varied levels of management and are of varied quality and structure. Woodlands across the site would benefit from management actions including canopy thinning, tree planting to improve age and species diversity, and planting of woodland ground flora.
- 5.2.5 An additional option to look at daylighting the old quarries with the possibility of introducing heathland species – if supported by other projects in the surrounding area.



5.2.6 Creation and enhancements of glades and rides within the woodlands to provide ecological niches for a variety of species.

#### **Brook Management**

5.2.7 All brooks on site have been negatively affected by canalisation and over shading. Work to increase flow variation in the channel should be undertaken, this could be achieved through different options including:

- Installation of woody debris/ not removing natural tree fall from brooks (where appropriate)
- Bank alterations to create ‘pinch points’ in the channel to increase flow speed and variation

5.2.8 Invasives were persistent amongst much of the watercourse, efforts to control and remove invasives should be undertaken.

5.2.9 The water courses are heavily shaded; thinning of overhanging tree canopy would allow more light to reach the water, helping to improve the water quality. Some shade should be retained to create a dappled effect on the water.

5.2.10 The brooks have little to no marginal vegetation so they would benefit from marginal planting of plug species direct into the bankside or the selective use of coir matting seeded with marginal plants

5.2.11 A larger scale project would be to daylight the culverted section of the Graiseley Brook that runs through the Barley field, this would allow for the creation of a wetland area which would provide many niches to support wildlife and improve overall biodiversity on the site.

#### **Additional opportunities**

5.2.12 Planting within existing hedgerows to improve species richness and condition and using hedge-laying techniques on suitable lines of trees and matured hedgerows.

5.2.13 Habitat management to improve the quality of existing ponds for wildlife, and the creation of new ponds (where appropriate) to improve the connectivity for amphibians across the site

5.2.14 Management of invasives species across the site to allow native species to re-establish

5.2.15 Expansion of the LNR boundary to include the brownfield area of the WEC



## 6. Appendices

- 6.1 Compartment map
- 6.2 Species List
- 6.3 BNG Compartment maps
- 6.4 Site Photographs