

## Greenspace 5- Hazard Railway and Woodland

### 1.0 Introduction

1.1 Hazard Railway and Woodland is composed of four blocks of plantation woodland connected by a recreational multi use path, which is the line of a disused railway. The path connects Moorsley and East Rainton, passing through woodland, residential areas and arable fields to the south. Hazard Lane intersects the path. Walkers and cyclists regularly use the path which connects them onto adjoining footpaths to create circular walks and routes, including National Route 70 on the NCN, the Walney to Wearside Cycle Route.



### 2.0 Location and Accessibility

2.1 Hazard Railway and Woodland is located around the south and eastern boundaries of East Rainton, south of Houghton-le-Spring. The wooded, disused railway path runs north-south, connecting larger areas of woodland as it connects the former Hetton-Durham railway line (to the south) up to the A690 at Rainton Bridge (to the north). The largest area of woodland lies on the former Hazard Pit site, which connects eastwards to the Moorsley Letch (watercourse). The surrounding area includes arable fields with residential areas to the west (East Rainton), east (Hetton-le-Hole) and north (Houghton-le-Spring).

### 3.0 Methodology

3.1 Durham Wildlife Services (DWS) were commissioned to carry out an ecological appraisal of Hazard Railway and Woodland in May 2022. DWS used the following methodology:

- Desk Based Study;
- An Ecological Assessment;
- Protected Species and Other Species of Nature Conservation Importance;
- Controlled Invasive Species.

### 4.0 Site Context

4.1 There are 6 statutory designated sites within 2km of the site, and a further 12 non-statutory sites. The surveyed site overlaps with areas of Robin House Wood and Moorsley Marsh Local Wildlife Site (LWS).

4.2 A summary of designated sites within 2km is shown below:

- Hetton Bogs LNR
- Hetton Bogs West LWS
- Hetton Bogs SSSI
- Moorsley Banks SSSI
- High Moorsley SSSI
- Joe's Pond SSSI
- Pittington Hill SSSI
- Robin House Wood and Moorsley Marsh LWS
- Hetton Park LWS
- Pittington Hill LWS
- Elemore Golf Course LWS
- Rough Dene LWS
- Redburn Marsh LWS
- Eppleton Quarry LWS

- Rainton Meadows LWS
- Houghton Hill Cut and Scarp LWS.

## 5.0 Strategic Significance

5.1 The site is identified within the Sunderland Local Plan as protected greenspace and forms Settlement Break and a wildlife corridor. Two parcels of woodland and close-by habitats, as well as a strip of land to the south of site, are part of the LWS Robin House Wood and Moorsley Marsh. Therefore, all habitats recorded have been included within the Biodiversity Net Gain (BNG) Metric Calculator as “formally identified within local strategy.”

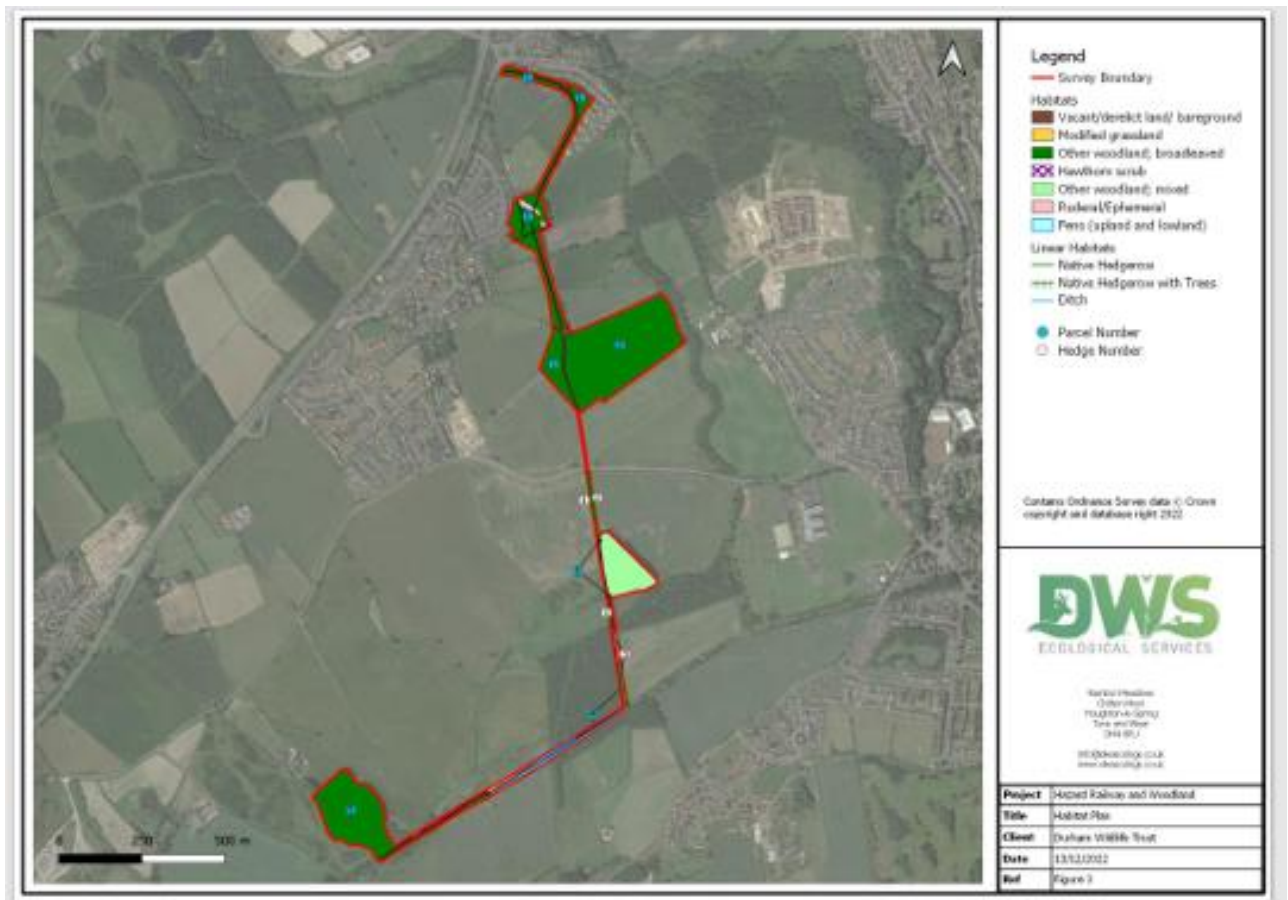
## 6.0 Habitat Assessment

6.1 The habitat types found in Hazard Woodland and Railway are set out below.

Habitats	Conditions
<p><b>Urban – artificial, unvegetated unsealed surface: bare ground</b></p> <p>The extent of the site largely follows a compact bare ground track that leads to both the north and south from Hazard Lane. The track reaches the most northern and most south-western extent of site, as well as running across eastern- western elevations throughout woodland in the northern area of site. There is no notable vegetation on the track.</p>	Poor
<p><b>Sparsely vegetated - Ruderal/Ephemeral</b></p> <p>There are multiple small areas dominated by ruderal species along the edge of the track. Most areas of ruderal habitat are dominated with rosebay willow herb however, the northernmost section is heavily dominated with nettle.</p> <p>Across the site other species recorded in the habitat include great willow herb, common hogweed, hedge parsley, nipplewort. Lower growing species within the habitat are creeping buttercup, annual meadow grass, white clover. Species such as herb Robert and wood avens are present where ruderal habitats are adjacent to woodland. Several tree and scrub species are recorded occasionally – rarely throughout ruderal habitats, including bramble, basket willow, wych elm, and dog rose.</p> <p>To the south of site, where ruderal species are present north of the main track, additional species are present including meadow cranesbill, creeping thistle, field scabious, and lady’s bedstraw. The presence of these species is likely due to the proximity of the habitat to grassland.</p>	Poor
<p><b>Woodland – other woodland; broadleaved</b></p> <p>The majority of the surveyed area is dominated with broadleaved woodland habitat, including lines of woodland along the bare ground track and larger areas, where the site boundary extends. Areas of woodland have been split into 5 parcels and input into the Biodiversity Net Gain (BNG) metrics accordingly.</p> <p><b>The northernmost section of woodland (alongside the former mineral line from Rainton Bridge towards Hazard Lane)</b> - woodland along the bare ground track includes abundant field maple and hazel, among others. Horse chestnut and white poplar are present closer to the centre of site, north of Hazard Lane but not elsewhere within the parcel. There is a minimal scrub layer present which includes hawthorn, bramble, dog rose, and blackthorn. Ground flora is made up of some typical woodland species including ivy, wood avens, cocksfoot, herb Robert and lords-and-ladies. Some undesirable species such as nettle and common</p>	Moderate

<p>hogweed are also present, with a concentration of nettle around the footpath running through the habitat. The woodland structure is relatively uniform along the track with most trees of a similar age, growing tall and thin. Some maple and rowan regeneration is noted.</p> <p>The canopy is generally thick and continuous. Some fallen and standing deadwood is recorded throughout the woodland; living trees are not noted to contain many cracks or gaps suitable for use by protected species</p> <p><b>The large woodland block east of the mineral line running down to Moorsley Letch</b> - species within the woodland are similar to those noted along the edge of the track through site. Alder is abundant within this section of woodland with occasional wych elm, hazel, and rare English oak. Ash is more common within this parcel. This section of woodland is noted to contain a thick scrub layer including occasional blackthorn and frequent hawthorn, as well as dog rose and bramble in places. A thicker ground flora layer is present, with a higher species richness than the section along the track.</p> <p><b>Woodland at Moorsley Marsh</b> – Woodland at the south-west-most section of site is thick with a ruderal and scrub understorey with frequent bramble, and very little open space. Goat willow is abundant within this woodland with few other species recorded in comparison to other woodlands on site. There is a small amount of fallen deadwood within the habitat.</p>	<p>Moderate</p> <p>Moderate</p>
<p><b>Grasslands Modified</b></p> <p>A small area of grassland is present within the south-west portion of site. An average of 5 species/m<sup>2</sup> makes up the habitat with grasses and wildflowers present alongside rare bramble.</p>	<p>Poor</p>
<p><b>Wet ditch</b></p> <p>Two separate ditches are present, both along the southern section of the site. One is to the north of the track, (140m) and one is to the south (470m). Both ditches held water at the time of survey, and both are well vegetated.</p> <p>The southern ditch begins within a section of woodland towards the east of site and is not vegetated, the remainder of the ditch is vegetated within the channel and on the banks. The ditches have a silty/ mud floor, with the southern ditch including areas of deep pooled water. The northern ditch is thinner, and shallower than that of the south, being largely over-sailed by tree canopy.</p>	<p>Moderate</p>
<p><b>Wetland – aquatic marginal vegetation</b></p> <p>The southern ditch has vegetation within the channel (including bulrush) and on the banks, particularly the northern bank. Typical marginal aquatic species are present including abundant meadowsweet, greater willowherb, and tufted hair grass.</p> <p>Within the UK Habitat Definitions, aquatic marginal vegetation falls beneath wetland – fen, marsh, and swamp. Therefore, the habitat has been assessed using the wetland habitat condition assessment criteria.</p>	<p>Good</p>
<p><b>Heathland and Shrub - Hawthorn scrub</b></p> <p>North of the track, towards the south of site, is a section of dense scrub. Scrub species include hawthorn, dog rose, elder, and bramble. Ground flora is made up</p>	<p>Moderate</p>

<p>of creeping thistle, common knapweed, ribwort plantain, pignut, false oat grass, cocksfoot, and common toadflax. The scrub is representative of hawthorn scrub within the UK Habitat descriptions.</p>	
<p><b>Hedgerow</b> Hedgerows border the track. To the west of the track the hedgerow is between 2 – 3m tall, and at least 1.5m wide. The hedgerow is intact for most of its length but there are some gaps towards the most southern end. The hedgerow itself is largely made up of hawthorn, and elder. Other plants within and below the hedgerow include rosebay willowherb, common nettle, common comfrey, bramble, greater plantain, and dandelion.</p> <p>The hedgerow present to the east of the track is approximately 3m tall and 1.5m wide. There are gaps within the hedgerow length. Little gap is present between the bottom of the hedgerow and the vegetation beneath. The habitat is made up of hawthorn and elder, as per the western hedgerow. Ground flora contains additionally recorded species such as white dead nettle, vetch, mugwort, creeping thistle, creeping buttercup, hedge parsley, white clover, and common hogweed. Neither hedgerow shows much evidence of management.</p> <p>Further south of the southern section of the track, south of the eastern section of woodland, the hedgerow contains trees. Hedgerow species include blackthorn, hazel, rowan, dogwood, oak, hawthorn, ash, field maple, cherry, alder, elder, cranberry, dog rose, and willow. Ground flora present includes common hogweed, cocksfoot, ribwort plantain, false oat grass, dandelion, bramble, Timothy, hedge parsley, white clover, tufted vetch, red clover, bittersweet, greater willow herb, and bindweed.</p>	<p>Good</p>



## 7.0 Protected Species and Species of Nature Conservation Importance

### Breeding and wintering birds

7.1 The Environmental Records Information Centre (ERIC) returned 46 records of birds, covering 30 species within 2km of site. Records include fieldfare -*Turdus pilaris*, which is a Schedule 1 species, red listed within the Birds of Conservation Concern (Eaton et al., 2015). Nine additional red-listed species and 7 amber-listed species were also within the results. Reed bunting, willow warbler, dunnock, bullfinch, and song thrush are all included within the local biodiversity action plan and have been recorded within 2km of site.

7.2 Only woodpigeon, wren and collared dove were recorded during the site visit however, it is likely that woodland on site supports a range of birds, providing roosting, nesting and feeding opportunities.

### Bats

7.3 Results of consultation revealed a total of 17 bat records within 2km of site for 4 species, as well as records for unidentified species. Common pipistrelle, soprano pipistrelle P., Daubenton's bat and brown long-eared bat have all been identified. Most records are outdated, being from 1986 – 2012.

7.4 Although no suitable roosting features were identified during the site walkover, it is possible that trees with cavities are present on or adjacent to site and provide some roosting potential for bats. Additionally, scrub and woodland habitats will provide foraging opportunities; woodland that runs north of site borders the train line, and this may also provide suitable commuting lines for bats.



### **Badger**

7.5 No evidence of badger.

### **Western European Hedgehog**

7.6 A total of 4 hedgehog records were returned from ERIC dating from 1997 – 2017. The record from 2017 is from 853 metres north of site. Scrubby habitat on site provides some opportunities for hedgehogs however there are a number of barriers surrounding the site which may restrict their presence.

### **Riparian Mammals – Otter and Water vole**

7.7 No signs were recorded during the dedicated otter and water vole surveys.

### **Great Crested Newt (GCN)**

7.8 ERIC provided 15 records of great crested newts within 2km. Most records are from Hetton Bogs, 130m east of site at its closest point. This site is across the North Road, which will act as a minor barrier to dispersal. There is negligible habitat within the north of site to support great crested newts within their aquatic stage however, woodland may be used as terrestrial habitat. Additionally, there are 2 ponds within 500m of site, at the south-west extent. Although there are no records of great crested newts from within these ponds, it is possible that the species is present; there are no barriers to dispersal between the ponds and the surveyed site and woodland and ditches provide suitable habitats. The ponds are approx. 465m north-west and 495m south-west of the site boundary. Therefore, unless a large area of habitat is damaged or lost during works, it is unlikely that this species will be impacted.

### **Invertebrates**

7.9 There are no records from within the survey site. It is possible that a variety of invertebrates (including red-list and UK Biodiversity Action Plan (BAP) species) will utilise the site with woodland, particularly mixed woodland which features open areas, grassland and ditch habitat providing a range of suitable habitats and food plants.

7.10 The BAP species of butterfly recorded in the area (as above) are less likely to utilise site, with their preferred food plants absent (e.g., dingy skipper and bird's foot- trefoil, or white-letter hairstreak and elm *Ulmus* spp.).

## **8.0 Maintenance**

8.1 Hazard Railway is a mixed site with a number of woodland parcels connected by a disused railway. SCC has responsibility for the woodland parcels along the Hazard Railway. SCC have a systematic programme of woodland management across Sunderland.

## **9.0 General description and observations**

9.1 Hazard Railway and Woodland is composed of distinct woodland blocks connected via a wide surfaced track, which runs through open countryside and residential housing. Hazard Lane bisects the railway path and divides the site. The woodland blocks vary in character and condition with evidence of anti-social behaviour in some areas. One woodland block in particular is particularly vulnerable to anti-social behaviour due to being isolated and easily accessible by bikes. It appears to be used as an informal bike track. Management intervention would be beneficial but regular usage by motorbikes does not make this viable. Therefore, Link Together actions will focus on the following woodland parcels:

### **9.2 The northernmost section of woodland (alongside the former mineral line from Rainton Bridge towards Hazard Lane)**

Linear woodland, alongside residential development, which would benefit from management to open up the canopy and to create a more diverse understory, increase the amount of dead wood and enable woodland regeneration. There is potential for volunteer involvement in woodland management.

### 9.3 The large woodland block east of the mineral line running down to Moorsley Letch

– The largest plantation woodland, which is in moderate condition. There is little structural diversity in the woodland. Trees are even aged and planted close together. There is no permitted access into the woodland but there is evidence of motorbike use. A two-year programme of woodland management to thin out areas of the canopy to create woodland glades and wet woodland areas associated with the water course would be beneficial. There is evidence of fallen trees and storm damage, which could be managed to create habitat piles and enhance deadwood habitats. The ground is boggy and heavily rutted from motorbike use. Therefore, creating of a series of scrapes to manage water flow will create new wetland habitat.

9.4 There is an intersection between the main track with a footpath running East West from School Road in East Rainton to B1284. This footpath crosses Moorsley Letch which flows alongside the woodland. There is evidence of bank erosion close to the footbridge with fallen trees. There is the potential that flows will undermine the footbridge structure. Wear Rivers Trust have identified instream works to protect the banks from erosion. Further upstream further, works have been suggested to improve passage for fish.

### 9.5 Woodland at Moorsley Marsh

This is an isolated woodland. There are a series of non-functional fences and barriers into the woodland, so it is unclear whether access is allowed. It has also suffered wind damage with a number of fallen and hanging trees. Therefore, management to make safe and remove structures would be beneficial.

### Access and Interpretation

9.6 The main track is in good condition and is well used by local residents for dog walking and cycling. However, there is no signage to give the location any identity or to show connections with other routes.

## 10.0 Summary of Constraints and Key Issues

Issue	Comment
Planning Policy	Proposals support local policy, enhancing the existing greenspace, Settlement Break and wildlife corridor.
Climate Change and Health	Proposals will support further opportunities for carbon sequestration. Within an area of deprivation nearby- site enhancement will support area.
Greenspace	Area has no greenspace deficiencies.
Biodiversity	Proposals will further support stepping stone connectivity within wildlife corridor and improve overall biodiversity.
Invasive Species	None identified.
Landscape Character	Not an area of higher landscape value. Landscape Character Assessment recommends strengthening settlement boundaries, for example woodland belts.
Historic Environment	Limited historic importance on site. Local importance- former Hazard Pit site. Site interpretation to be enhanced.
Water Environment	Small section lies within Flood Zone 3 (Moorsley Letch). Proposals will not negatively impact on water environment.
Rights of Way / Access	Public footpath crosses site west-east beside Hazard Woodland. Former railway line provides public bridleway north-south. These routes will be retained. Minor informal path improvements through woodland will be undertaken.

Soil and Nitrates	No negative impact on soils. No nitrate fertilisers will be used as site lies within Nitrate Vulnerable Zone.
Utilities	Public sewer pipe follows public footpath along north side of Hazard Woodland. No other no major utilities identified. Works undertaken will respect necessary easements.

## 11.0 Proposed Works

Locations of proposed works are shown in the map below.

### 11.1 Habitat Management Aims

- To improve woodland structure by creating woodland glades and rides and manage deadwood;
- To encourage woodland regeneration by opening up the woodland canopy;
- To improve ground flora diversity by plug planting and opening up the canopy;
- To protect banksides from erosion and improve fish passage.

### 11.2 Access and Interpretation

- To provide greater identity and promote routes along Hazard Railway and connections with other routes.
- Minor informal pathway improvements will be encouraged through Hazard Woodland
- Investigate access barrier improvement at Moorsley Marsh.

## 12.0 Budget

Source of Funding	Amount (£)
S106	28,638
Area Committee	16,835
NECF	N/A
NLHF	15,165
<b>Total</b>	<b>60,638</b>

Habitat	Project	Season Completed	Budget (£)
Woodland Management (parcel 1)	Woodland thinning and creation of glades, rides	October – March	4,506
	Planting understory	March – June	900
Woodland Management (Parcel 2)	Woodland thinning and creation of glades, rides and wet woodland areas	October – March Years 1 & 2	19,494
Woodland Management (Parcel 5)	Assessment of fallen trees and management	October – March	8,100
Wetlands	Creation of woodland scrapes	May – August	-
Instream management –	Greenbank Protection	May – August	10,432



WRT costs combined			
	Fish Pass	May – August	-
	Management Fee for WRT	-	3,217
Access	Access into parcel 5 – removal of structures to make access safe	April to October	943
	Implementation of signage and trails	April to October	6,982
Contingency – DWT			1,516
Contingency – SCC			4,548
<b>Total</b>			<b>60,638</b>

The specification for each area of work is outlined in the Specifications Link Together document and details of future maintenance and management are outlined in the Maintenance and Management Plan document.

