

## Greenspace 8- Hetton Bogs

### 1.0 Introduction

1.1 Hetton Bogs is a complex wildlife site with a mosaic of unique habitats and multiple designations. Overall, eleven hectares of Hetton Bogs is classed as a Site of Special Scientific Interest (designated since 1984), due to the range of complex habitats present particularly along the waterways. The specific habitat communities include "tall fen, flushed fen-meadow, springhead, swamp and willow carr. Of particular note is the wide range of herb-rich fen communities associated with 'The Bogs' representing a small valley-mire receiving base-rich waters from the Magnesian Limestone escarpment" (Natural England Citation, 1984). Woodland (3.58ha) within the SSSI is semi natural ancient woodland with wetter areas to the east with birch and oak and drier on the western side of the site, characterised by ash, hazel and holly.



1.2 Additionally, a total of 23ha of land is designated as a Local Nature Reserve (which includes adjacent areas such as Hetton Park). Furthermore, a smaller area of site has been designated as a Local Wildlife Site (non-statutory designation) known as 'Hetton Bogs West.'

1.3 The Link Together project will focus on land owned by Sunderland City Council (SCC) within the boundary of the Hetton Bogs Local Nature Reserve (and includes the majority of the SSSI designation). It should also be noted that survey work carried out by Durham Wildlife Services (DWS) also investigated adjoining wildlife-protected land).

### 2.0 Location and Accessibility

2.1 Hetton Bogs is located between East Rainton and Hetton-Le-Hole, and south of Houghton-le-Spring. The Hetton Burn flows through the site towards the north and west, and is joined by Rough Dene Burn, which links from the east. The wider area is a mix of greenspace and built-up areas, with Hetton-le-Hole and Houghton-le-Spring residential areas surrounding much of the site. However, to the south-west, woodland areas connect to Hazard Railway and Woodland with expansive greenspace south of this. To the north-east, are green links towards Copt Hill and Houghton-le-Spring golf course which is further surrounded by extensive arable and pasture. The site is approximately 1km east from Durham Wildlife Trust's Rainton Meadows Nature Reserve, though this wildlife corridor link is partly severed by the A690 road that runs between the 2 sites.

### 3.0 Methodology

3.1 Due to its special and unique status, Durham Wildlife Services (DWS) were commissioned to produce the following reports in 2022:

- Hetton Bogs National Vegetation Classification (NVC) report
- Hetton Bogs Protected Species Report
- Hetton Bogs Biodiversity Net Gain (BNG) Report
- Hetton Bogs 2-year Restoration Plan
- Hetton Bogs Management Plan.

3.2 The reports assess the ecological status of Hetton Bogs, identify specific habitat types and help to inform proposed works and longer-term management.

#### 4.0 Site Context

4.1 The designated sites within 2km of Hetton Bogs are listed as follows:

- Joes Pond SSSI;
- Eppleton Grassland SSSI;
- Moorsley Bank SSSI;
- Hetton Park LWS;
- Rough Dene LWS;
- Robin House and Moorsley Marsh LWS;
- Hetton Lyons LWS;
- Copt Hill LWS;
- Redburn Marsh LWS;
- Houghton Hill Cut and Scarp LWS.

#### 5.0 Strategic Significance

5.1 The site is identified in the Sunderland Local Plan as a protected Local Nature Reserve, Site of Special Scientific Interest, Settlement Break and greenspace site, and also acts as a strategic wildlife corridor. Habitats recorded on site have been included in the Biodiversity Net Gain (BNG) Metrics Calculator as “formally identified within local strategy.”

5.2 Hetton Bogs is known to be a refuge for water vole with recent signs. The burn was assessed as having moderate ecological status by the Environment Agency in 2019 (Environment Agency, 2022).

#### 6.0 Habitat Assessment

6.1 The habitat types found in Hetton Bogs, which are within Sunderland City Council’s ownership, are set out below.

Habitats	Condition
<p><b>Wet woodland (Map 4 – purple area)</b></p> <p>There are 3 patches of wet woodland within Hetton Bogs. Crack willow dominates the habitat with Himalayan Balsam and horsetail ground flora. The eastern section is in slightly better condition than the other two areas of wet woodland, featuring more mature trees and more deadwood. A cluster of white willow is present within this area. The eastern section of woodland is deemed to be in good condition with the other two areas of wet woodland assessed as moderate condition.</p>	Moderate/Good
<p><b>Woodland – Other lowland mixed deciduous woodland (Map 4 – light green)</b></p> <p>The centre of Hetton Bogs is covered by ancient semi-natural woodland (ASNW). The woodland is comprised of a wetter eastern section and a drier western portion. Within the wetter section of woodland are silver birch and downy birch, and oak with tufted hairgrass dominating the ground flora. Drier areas feature ash, hazel, and holly with a scrubby bramble understory and ground flora including lords and-ladies, wood sorrel, and common dog violet.</p> <p>Invasive non-native Himalayan Balsam is present within the woodland with undesirable bracken also present. Giant Hogweed is also present in some places. Despite the presence of these species, both parcels of woodland are currently in good condition, with a range of native species making up the woodland, of various</p>	Good

<p>ages and states of regrowth. Some veteran trees and deadwood are also present, improving the condition of the woodland.</p>	
<p><b>Sparsely Vegetated Land – Ruderal/ Ephemeral (Map 4 – Pink Area)</b>          Within the north-west of site, along the track that runs through Hetton Bogs, is an area of tall ruderal vegetation containing commonly recorded species such as rosebay willowherb, great willowherb, false oatgrass, bramble, common nettle and field bindweed. There is a lack of variation in species and vegetation structure.</p>	<p>Poor</p>
<p><b>Grassland – Modified Grassland (Map 4 – yellow area)</b></p> <p>Within SCC’s landholding there are two sections of Modified Grassland, described below:</p> <ul style="list-style-type: none"> <li>• The largest section runs along most of the northern elevation of site. This area of grassland is mostly in the same condition throughout. Species composition throughout the habitat is similar with abundant grasses such as creeping bent, and false oat grass. Undesirable species such as common hogweed and common nettle are occasional. Common knapweed is frequent and marsh thistle is occasional. Additionally, a stand of non-native Canadian goldenrod is present. There is seasonal grazing.</li> <li>• To the south of this large area of grassland, connected to the habitat, is a smaller grassland parcel with a notably different sward. This section has a species density between 6 - 7 species/m<sup>2</sup>, with a variable sward height. Species recorded are common with some undesirable species present. Small areas of devil’s bit scabious and betony are present near to the gate into this area. Mole hill presence provides some bare ground.</li> </ul>	<p>Good</p> <p>Good</p>
<p><b>Wetland – Fens (upland and lowland)</b></p> <p>Fen habitat is present across much of the site.</p> <p>Fen habitat in the centre of the site (alongside the footpath) includes branched bur-reed, floating sweet-grass, mare’s tail and soft rush, all typical of wetter environments.</p> <p>A smaller area of fen is dominated by reed sweet grass with areas of purple loosestrife present. The vegetation within this section is notably tall. This area of fen is in moderate condition.</p>	<p>Moderate</p> <p>Moderate</p>

Habitat types defined in BNG report produced by DWS (2023).





7.5 There are 11 records of GCN within 2km of Hetton Bogs in the ERIC data. Most records date from between 2015 and 2019, though two older records are present from 1984 and 1990. Almost all records are from within Hetton Bogs, with a single record located within a residential garden pond nearby. Counts from the recent records within Hetton Bogs range from between 4 and 39 GCN per pond.

7.6 Both ponds tested for GCN environmental DNA (eDNA) returned positive results, additionally the ponds scored a Habitat Suitability Index score of 0.82 (excellent) and 0.7 (good). The ponds are both small, with no issues with waterfowl or fish, good surrounding terrestrial habitats and are well vegetated.

## **8.0 General description and observations**

8.1 Hetton Bogs is a very significant site, rich in wildlife, and important due to the unique combination of habitats. By entering Hetton Bogs at Broomhill Terrace and walking down the steps to Hetton Burn, the visitor becomes distanced from the surrounding housing. There is a peaceful and relaxed atmosphere, providing a vital opportunity for residents to connect with nature close to where they live. Local residents use Hetton Bogs for dog walking, running, watching wildlife and as a place to escape the hustle and bustle. Not all of the SSSI is on SCC land so therefore suggestions for habitat interventions on private land ownership will be outside the scope of Link Together (apart from the treatment of invasive species, which will be undertaken on private parts of the SSSI and other adjacent land that could lead to spread of the species in this area).

Key priorities were identified from recommendations set out in the DWS report and following discussions on site:

### **Hetton Burn**

8.2 Hetton Burn is an important landscape feature flowing Hetton Bogs as well as providing important habitat for a range of wildlife and particularly water vole and potentially otter. On sections of Hetton Burn, the channel is deep and constrained by the footpath on one side and agricultural land on the other. The bankside is showing signs of erosion. There has been work carried out previously to secure the bank side using willow and green engineering techniques. Work is proposed to reinstate the bankside using similar techniques. Large woody debris will also be used and will be pinned to the channel bed – this will encourage limited bed scour and gravel sorting to help diversify in channel habitat types.

### **Lowland Fen and Ponds**

8.3 Ongoing management of the ponds by removing excess Typha and coppicing some of the willow to increase areas of open water and increase light levels would be beneficial. This would also provide additional refuge for water voles. Maintaining some areas of tree cover alongside the path would provide protection from disturbance from walkers and, particularly, dogs.



### **Grassland Management**

8.4 The grasslands are managed by low intensity grazing by cattle during the winter months. Management can be enhanced by additional scrub control, cutting grasslands and removal of ruderal vegetation, as recommended by DWS. Therefore, for the duration of Link Together an additional programme of grassland management will be implemented.

### **Management of Himalayan Balsam**

8.5 Himalayan Balsam is dominating the ground flora within Hetton Bogs and impacting habitat quality throughout the woodland, fen habitat and grasslands. Himalayan Balsam is a very invasive non-native species, which has a damaging impact on the fragile combination of plants, which are noted in the SSSI citation. Therefore, a programme to treat and remove Himalayan Balsam along Hetton Burn, throughout Hetton Park and Hetton Bogs to prevent further spread along the water course and along the catchment is a priority. Wear Rivers Trust will work with local volunteers and communities to identify Himalayan Balsam, as early in the season as possible and then mechanically remove it.

### **Access Improvements.**

#### **Footpath Upgrade**

8.6 Hetton Bogs is linear and connects seamlessly with Hetton Park. The footpath through Hetton Park continues into Hetton Bogs on the eastern side of Hetton Burn and then crosses over the Burn. This section of footpath is poor quality, unsurfaced and is liable to flooding, becoming muddy and difficult to use at times. The footpath continues through Hetton Bogs on the western side of the burn until reaching the B1284, which is 1Km in total length. Therefore, upgrading the footpath will be delivered as part of Link Together to improve the surface and drainage so that it is useable throughout the year. As part of this programme of work, the steps from Broomhill Terrace will be replaced and new gateways will be built at Broomhill Terrace and from the B1284.

#### **Woodland Access**

8.7 There are opportunities to leave the footpath and detour along the edge of Hetton Burn and to access the semi-natural ancient woodland via a stile and walk through the woodland using a boardwalk. The boardwalk is in three sections over the wettest sections of the footpath through the woodland. It is very narrow, in poor condition with sections starting to collapse and become unusable. A wider and better quality structure boardwalk will replace the existing boardwalk. The stiles into the woodland are in poor condition and unstable. Therefore, these will be replaced with accessible gates. This would ensure better access to people who are less mobile and make the woodland more inviting. By replacing the boardwalk, it will help to control access through the sensitive woodland (permission from Natural England will be required). Additional interpretation in the woodland will help people to understand and appreciate the woodland.

8.8 Limited woodland management will take place to facilitate the new boardwalk by removing dangerous or overhanging trees and removing encroaching bracken and bramble to improve the diversity of the woodland floor.

#### **Interpretation and Signage**

8.9 There are currently two interpretation boards, which inform about Hetton Bogs in general terms. There is one name sign at the entrance to Hetton Bogs. There are no directional signs and no signage at the entrance into from B1284. There is nothing to connect Hetton Bogs to other areas of open space such as Hazard Woodland or Hetton Park. Link Together will install new entrance signs from the two major entrance points and from Hetton Park and a series of finger posts directing people through the site and into the woodland along the new boardwalk.

## 9.0 Existing Management and Maintenance

9.0 Hetton Bogs is a Site of Scientific Interest and Local Wildlife Site and falls within the responsibility of the Countryside Team. The grassland is grazed in winter by cattle at very low intensity and this will continue. The footpath through Hetton Bogs is a Public Right of Way and is managed by SCC as the Highway Authority.

## 10.0 Summary of Constraints and Key Issues

Issue	Comment
Planning Policy	Proposals support local policy, enhancing the existing greenspace, Local Nature Reserve, SSSI, wildlife corridor and Settlement Break.
Climate Change and Health	Proposals will support further opportunities for carbon sequestration.
Greenspace	Wider area has low quality greenspace available. Proposals will further enhance the site and thereby help to reduce this deficiency.
Biodiversity	Proposals will further support the SSSI and LNR within the wildlife corridor and improve overall biodiversity.
Invasive Species	Himalayan Balsam- which will be treated. Giant Hogweed is present in Hetton Bogs and also requires treatment.
Landscape Character	Not within an overall area of higher landscape value, although the wildlife status elevates the significance of the landscape character. Landscape Character Assessment recommends strengthening settlement boundaries, for example woodland belts.
Historic Environment	Limited historic importance on site. Local archaeological interest relating to former mill, brewery and mill race on site. Site interpretation to be enhanced.
Water Environment	Most of site affected by Hetton Burn Flood Zone 3. Additional surface water flooding issues within western part of Hetton Houses Wood (wet woodland). Proposals will enhance water quality and help to reduce localised flooding.
Rights of Way / Access	Public footpath along course of Hetton Burn and informal path through Hetton Houses Wood (boardwalk). Significant improvements are planned to these routes.
Soil and Nitrates	No negative impact on soils. No nitrate fertilisers will be used as site lies within Nitrate Vulnerable Zone.
Utilities	A regional high pressure gas main runs through the western part of the site, and crosses beneath the Hetton Burn. 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 at Hetton Bogs:

- To maintain banksides at Hetton Burn and maintain good habitat for water vole;
- To manage and reduce the presence of Himalayan Balsam;
- To enhance areas of grassland;
- To enhance areas of fenland.

### 11.2 Access and Interpretation:

- To substantially upgrade the footpath through Hetton Bogs in order to capture and support usage increases arising from adjacent housing development;
- To maintain through signing in accordance with the standards expected on definitive PROW ('easy to find and follow and use');
- To improve access into and through semi-natural ancient woodland.

## 12.0 Budget

Source of Funding	Amount (£)
Section 106	-
Area Committee	311,066
NECF	-
NLHF	68,700
<b>Total</b>	<b>379,766</b>

Habitat	Project	Season Completed	Budget (£)
Hetton Burn	Green Bank Protection	Anytime	18,438
	Large Woody Debris	Anytime	-
	WRT management fees	-	3,217
Ponds and Fens	Maintaining areas of open water by removing typha and coppicing willow	Anytime	8,180
Grasslands	Management of ruderal vegetation through ongoing and regular cutting to improve diversity and access	June – September	9,000
	Grassland management and new gate to field and improved fencing	June – September	9,000
Semi Natural Woodland 3.85ha	Woodland management to prepare woodland for new boardwalk – management of dead trees and removal of encroaching bramble and bracken.	October to March	19,627
Management of Himalayan Balsam	Ongoing surveying and removal of Himalayan Balsam	April – August	22,995
Access	Footpath Improvements and upgrade with new gateways.	May – September	171,000
	100m Boardwalk through woodland	August – October	72,000
	2 access gates and connecting fencing	Anytime	2,591
	Interpretation board in the woodland, entrance signage at Broomhill Terrace, B1284, from Hetton Park and finger posts at key intersections.	Anytime	5,741
Contingency – DWT			6,870
Contingency – SCC			31,107
<b>Total</b>			<b>379,766</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.



