

# Proposals for Hetton Lyons Country Park

## 1.0 Introduction

1.1 Hetton Lyons Country Park opened to the public in 1991. The 50 hectare Country Park was created on reclaimed land, which had been used for a variety of industrial purposes including the former Lyons Colliery, associated gasworks, and part of the Sunderland and Murton to Pittington and Durham Railway plus areas of rough grassland. The land was in a derelict state and the Hetton Burn, which flows through the site, was filled with rubbish and in poor condition. The main lake marks the start of Hetton Burn, which flows through Hetton Park and Hetton Bogs. The site was landscaped to create a variety of different features and habitats include three lakes - the main lake, Blossom Pond and Stephenson's Lake, woodland planting, hedges, and open areas of grassland. The grassland is of varying quality and includes remnants of lowland meadow, acid grassland and neutral grassland. There is a network of footpaths and trails leading around the country park, which link up with the wider footpath network. The Stephenson Trail (an 11-mile promoted route which follows the route taken by coal wagons on their way from the Elemore and Hetton Collieries to the River Wear), also passes through Hetton Lyons Country Park.

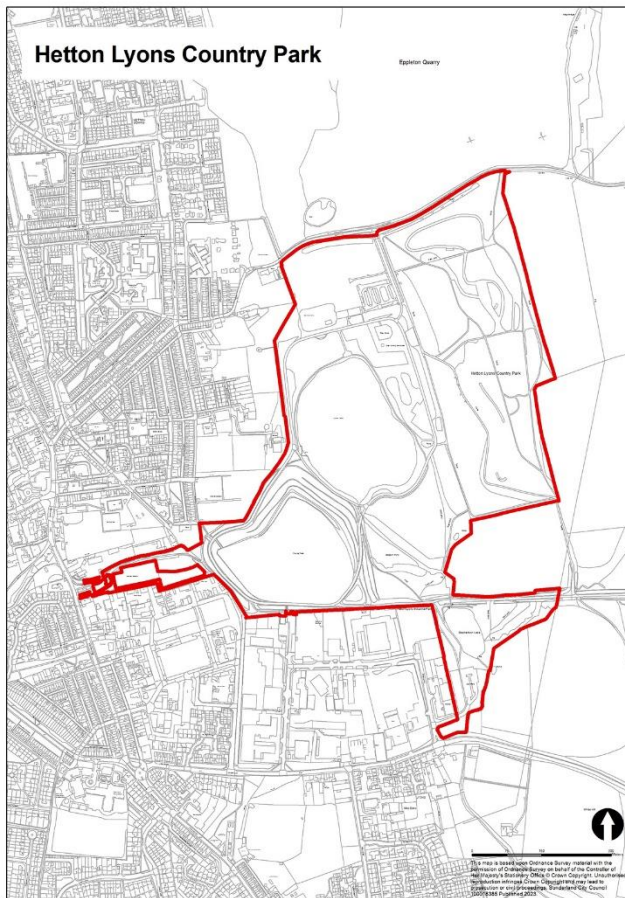
1.2 This Country Park is used for various outdoor sporting activities, including Water sports, Angling, Football, Cycling (including BMX), Jogging, Walking, Horse Riding and General Recreation. Stephenson's Lake is used for angling with an active club. There is parking on site at the main entrance and adjacent to Stephenson's Lake. There is a play park and outdoor gym equipment. The building on site has visitor facilities including toilets, changing rooms and a café along with office and training rooms. Hetton Lyons County Park has Green Flag status, and it is an aspiration to maintain this award year on year.

1.3 Sunderland City Council own Hetton Lyons Country Park. Springboard and Sunderland City Council manage it jointly. Springboard has day to day responsibility for the condition of the park and carry out some management operations. Sunderland City Council carry out specialist tree work and cut larger areas of amenity grassland.

1.4 Springboard delivers land-based qualifications approved by LANTRA and certificated by C&G from NVQ Level 1 to NVQ Level 3 whilst completing duties to support the site's Management Plan. Students range from years 9, 10 and 11, attending from local Secondary Schools, Foundation Learners aged 16-19 and Adult Students aged 19 to 65. Springboard manages the woodlands with work being carried out by the course learners.



1.5 There is an active Friends Group, who have been consulted during development of Link Together.



## 2.0 Location and Accessibility

2.1 Hetton Lyons Country Park lies to the east of Hetton-le-Hole (see also Appendix 2). It is sandwiched between housing estates to its west side, businesses to its south, and farmland to the north and east, with a quarry also to the north. Pedestrian and vehicle entry is available from Downs Pit Lane at its northern boundary and Colliery Lane at its south boundary.

## 3.0 Methodology

3.1 Durham Wildlife Services (DWS) were commissioned to carry out an ecological appraisal of Hetton Lyons Country Park 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 The designated sites within 2km of Hetton Lyons Country Park are listed as follows:

- Hetton Bogs SSSI and LNR;
- Hetton Park LWS and LNR;
- Robin House Wood and Moorsley Marsh LWS;
- Elemore Golf Course LWS;
- Elemore Vale LWS;
- Rough Dene LWS;
- Eppleton Quarry LWS;
- Eppleton Grassland SSSI.

## 5.0 Strategic Significance

5.1 The site is designated as a Local Wildlife Site, forms protected greenspace and open countryside and forms part of a wildlife corridor – all addressed in the city's Local Plan- the Sunderland Core Strategy. It sits adjacent to Eppleton Railway LWS & SSSI, as well as connecting through to Hetton Park LWS and Hetton Bogs SSSI via the Hetton Burn. Overall, the site has strong strategic significance and therefore, all habitats recorded have been included within the Biodiversity Net Gain (BNG) Metrics as "formally identified within local

strategy.” Areas of broadleaved woodland, acid grassland and lowland meadow are also identified within the North East England Nature Partnerships (NEENP) Durham Priority Habitats list.

## 6.0 Habitat Assessment

6.1 There are seventeen main habitat land categories identified using the habitats listed in the Biodiversity Metrics 3.1 calculation tool, which are adapted from the UK Habitat Classification. The site is largely made up of semi-mature plantation broadleaf woodland, ponds/lakes and modified grassland (mostly amenity). The site also has some rarer habitats on site including acid grassland, lowland meadow, and fen. A stream (the Hetton Burn) flows out from the west of the site, with a small burn flowing in from the east which has the potential to provide good water vole habitat.

6.2 Overall, Hetton Lyons Country Park provides a wide range of habitats, a large number of which are priority habitats (ponds, streams, woodland, fen, acid grassland and lowland meadow). The woodland has yet to mature, so is of lower value at present, and the large amount of public access will reduce the likelihood of the site being used by some species.

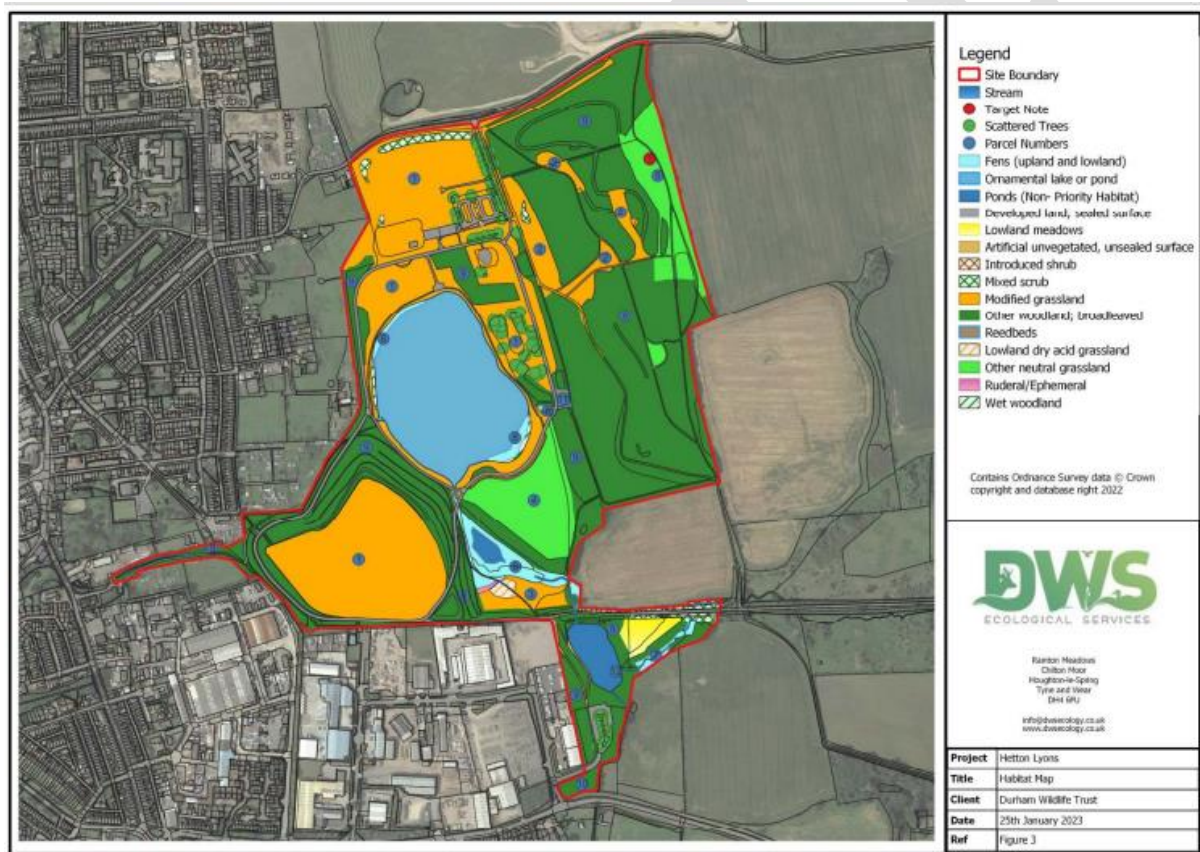
6.3 The habitat types found in Hetton Lyons Country Park are set out below and shown on the map further below.

Habitats	Condition
<p><b>Urban – urban tree</b></p> <p>There are scattered trees oversailing modified grassland across three locations on site:</p> <ul style="list-style-type: none"> <li>• within the car park to the south;</li> <li>• one around the car park in the north;</li> <li>• east of the main lake in a picnic area.</li> </ul> <p>Species are predominantly native and include cherry, white willow, common lime, field maple, silver birch, and rowan.</p>	Moderate
<p><b>Sparsely vegetated - Ruderal/Ephemeral</b></p> <p>Most of the tall ruderal vegetation across the site is recorded as a negative indicator for the grassland or fen habitat it is situated in. A small band of rosebay willowherb has been mapped as tall ruderal adjacent to Blossom Pond.</p>	Poor
<p><b>Grasslands Lowland Meadow</b></p> <p>A diverse area of neutral grassland is present to the southeast of the site. This was rank, but still contained good numbers of indicator species, with ox-eye daisy, common bird’s-foot-trefoil, field scabious and common knapweed.</p>	Good
<p><b>Grassland: Modified</b></p> <p>There are large areas of species poor grassland across the site. Most are managed as amenity grassland and are typically rye-grass and white clover</p>	Various

<p>dominated. Other areas are rank and unmanaged, particularly around Blossom Pond (middle pond) and across part of the mound to the east. Across these areas tall grasses such as cock's-foot and false oat-grass dominate. There are large areas of species poor grassland across the site. Most are managed as amenity grassland and are typically rye-grass and white clover dominated. Other areas are rank and unmanaged, particularly around Blossom Pond (middle pond) and across part of the mound to the east. Across these areas tall grasses such as cock's-foot and false oat-grass dominate.</p> <p>The amenity grassland and southern area of rank modified grassland both were in poor condition. The modified grassland across the mound is slightly more diverse and achieves good condition. The amenity grassland and southern area of rank modified grassland both were in poor condition.</p>	
<p><b>Grassland: Neutral</b></p> <p>There two main areas which are a mixture of more diverse grassland, but also with extensive areas of rank species poor grassland. More desirable species tend to be rare in the sward or just locally frequent.</p> <p><b>Eastern side</b> of the mound to the east of the site which has Montbretia present, as well as other non-native species at the same locality. There is an extensive area <b>south of the main Lyon's Lake</b> which was recorded as Lowland Meadow habitat in 2010 (Hetton Lyons LWS 2010 Citation). Species such as yellow rattle, fairy flax, field scabious and common knapweed are still present, but very much just occur locally around the edges and the majority of the grassland through the centre is rank and species poor.</p>	<p>Poor</p>
<p><b>Lowland Acid Grassland</b></p> <p>More unusual, lying south of Blossom and surrounded with fen and tall ruderal species to its north and rank species poor grassland to the south. Small area, but with a number of indicator species present include harebell, and hawkweed's, with common bent and sweet vernal the main grasses. Some more neutral grassland indicators were also present including ox-eye daisy, great burnet, field scabious and common knapweed.</p>	<p>Moderate</p>
<p><b>Lowland Fen</b></p> <p>There are several areas of fen habitat on site, which is most extensive around Blossom (the middle pond). Here large parts of the pond have developed into reedbed habitat, dominated by common reed. Surrounding this is a more varied fen habitat with reed canary grass, meadowsweet, angelica, bulrush and great willowherb.</p> <p>Fen habitat in other parts of the site are less diverse, dominated by bulrush, or (particularly along the eastern stream) large amounts of willow scrub and</p>	<p>Blossom Pond – Good Other areas moderate</p>

<p>undesirable tall ruderal species such as rosebay willowherb. A small amount of fen habitat is present around Lyon's Lake.</p>	
<p><b>Broadleaved Plantation Woodland</b>  A large proportion of the site is made up of broadleaf plantation woodland. Large areas are of a similar age (around 30 years old) and are semi-mature, with planting rows clearly visible. This includes all woodland across the eastern mound, and the shelter belts south of the main lake and along the eastern stream. The woodland surrounding the western playing field/amenity grassland is slightly older, as well as the small area to the northeast of the main lake, and some of the woodland blocks around the southern car park, but these areas are still only semi-mature, and planting lines are still clearly visible within all.</p> <p>The woodland along the western stream (Hetton Burn) is the oldest on site. Species along the latter include hazel, holly, elder, guelder rose, sycamore, white willow, dogwood and snowberry. Understorey is poor, with ivy, bramble, bindweed, herb Robert and frequent bare banksides. The plantations are mostly comprised of native species, but sycamore, Swedish whitebeam and grey alder are present within most, at different abundancies.</p>	<p>Moderate</p>
<p><b>Stream</b>  The Hetton Burn flows out of the site to the west. It is wooded within this section, with a species list listed in the woodland section above. Small sections of stream connect the three lakes/ponds. These are generally well vegetated with fen habitat and willow. They are culverted for short sections under footpaths. To the east an unnamed stream flows into the bottom Stephenson Lake which is potential water vole habitat. The banksides are a mixture of fen and tall ruderal vegetation with large amounts of willow scrub.</p>	<p>Not condition assessed.</p>
<p><b>Ornamental Lake &amp; Wet Woodland</b>  The top Lyon's Lake is the largest water body on site and is used for boating and water sports. It is very ornamental with reinforced sides, in places. A narrow fringe of vegetation is present along sections of its banks, with bands of willow dominated scrub (mapped as wet woodland), and some fen vegetation. The woodland is in moderate condition.</p>	<p>Poor</p> <p>Moderate</p>
<p><b>Non-priority Ponds</b>  <u>Stephenson Lake</u> is a fishing pond with fishing pegs regularly spaced around the perimeter and a surfaced path for access. Small pockets of reedbed are present, mostly just fringing the pond edge.  <u>Blossom Pond</u> is much more natural. As mentioned in the fen section above, the open water has decreased with reedbed developing, and some diverse fen habitat lies beyond this.</p>	<p>Poor</p> <p>Moderate</p>

<p><b>Reedbed</b></p> <p>A former pond east of the main lake is now a reedbed habitat dominated by common reed. There are also small areas of reedbed around the lakes and ponds.</p>	<p>Good</p>
<p><b>Heathland and shrub – mixed shrub</b></p> <p>Areas of mixed planted scrub are present along the northern boundary and along the bridleway to the south. Species include hawthorn, willow, blackthorn, hazel elder and silver birch, with a number of ornamental non-native shrubs also present to the north.</p>	<p>Northern – Poor Bridleway - Moderate</p>
<p><b>Introduced Shrubs</b></p> <p>Present within the shrub layer of some of the woodland parcels, particularly to the south around the southern carpark, around the northern carpark and around the northern entrance. Species include cotoneasters, snowberry, and daisy bush.</p>	<p>Condition assessment - not required.</p>



## 7.0 Protected Species and Species of Nature Conservation Importance

### Breeding and wintering birds

7.1 The Environmental Records Information Centre (ERIC) returned 13,615 records of birds within 2km of site, of which 1,406 of these were for Schedule 1 species. The vast majority of the records are from either Hetton Lyons Country Park itself or Rainton Meadows. Several Schedule 1 species records relate directly to Hetton Lyons Country Park, most of which are

gulls, waders, waterfowl, or other species dependent on aquatic habitats such as Kingfisher. Additionally, several schedule 1 raptor and passerine species have also been recorded on site.

### **Bats**

7.2 ERIC indicates that there are 25 bat records within 2km of site for 3 species, as well as records for unidentified species. Common pipistrelle, nathusius's pipistrelle and noctule have all been identified. There are no records from within the site itself, but there are numerous from within Hetton-le-Hole including roosts in houses within 0.6-0.8km from the country park.

### **Badger**

7.3 No evidence of badger.

### **Western European Hedgehog**

7.4 No records for the site itself. The site provides good habitat for this species, and they are likely to be present.

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

7.5 A survey of Hetton Lyons undertaken by DWS found signs of otter (single spraint – otter droppings - between Lyons Lake and Blossom Pond) but not water vole, though signs of water vole were located during a survey of Hetton Bogs/ Hetton park during the same period (DWS 2022). Tall vegetation did make the survey on site more difficult, with some sections inaccessible, so it is possible that this species is still present on site. Signs of rat were found, particularly around the Lyon's Lake but also by the Stephenson Lake where water voles used to be recorded. A local reported seeing mink but no water voles within the last two years.

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

7.6 Ponds were negative for Great Created Newt.

### **Invertebrates**

7.7 ERIC provided 74 records of invertebrates from within 2km. These are from a range of notable/red list/Natural Environment and Rural Communities (NERC) Act butterflies, moths, beetles, dragonflies, bees and flies. Notable records relating to the site itself include NERC species such as brown butterfly (also a Durham BAP species), small heath butterfly, dingy skipper (Durham BAP), wall butterfly, and shaded broad bar moth. A number of common butterflies were seen during the walkover. The site has a wide range of habitats, including wetland and species rich grassland, so may provide habitats to rarer species.

## **8.0 Existing Management and Maintenance**

8.1 Hetton Lyons Country Park is managed by Springboard and SCC, with distinct roles set out in a site Management Plan.

## **9.0 General description and observations**

9.1 Hetton Lyons Country Park has multiple uses and is used regularly by local people for informal recreation and individuals and sports clubs who visit for organised events.

Springboard work with a wide cross section of the community to deliver training and involve them in outdoor sports and environmental activities.

9.2 There are numerous habitats at Hetton Lyons, which are either in poor or moderate condition. Link Together provides the opportunity to enhance those areas, protect them and give the greater resilience for the future by increasing their area and enhancing their diversity. Link Together will target specific habitat types including acid, neutral and lowland grassland, water courses and woodland.

### Access and Interpretation

9.3 Hetton Lyons already has a strong identity with regular use by local residents and sports clubs to organised events. There is the opportunity to promote the site to a wider audience for walking and informal recreation. There is also potential to create some additional marked out woodland trails around the Country Park.

## 10.0 Summary of Constraints and Key Issues

Issue	Comment
Planning Policy	Proposals support local policy, enhancing the existing greenspace, open countryside and wildlife corridor.
Climate Change and Health	Proposals will support further opportunities for carbon sequestration. Area of deprivation nearby- site enhancement will support area in general.
Greenspace	Area has no greenspace deficiencies.
Biodiversity	Proposals will further support stepping stone connectivity within wildlife corridor and improve overall biodiversity.
Invasive Species	Himalayan Balsam present- which will be treated.
Landscape Character	Area of higher landscape value. Longer distance views from Magnesian Limestone Escarpment will be protected and local landscape will be improved.
Historic Environment	Limited historic importance on site. Local importance- former Sunderland-Durham railway alignment on site. Former Hetton Colliery Railway connected into former Coalmine. Site interpretation has already been enhanced.
Water Environment	Lies within a Source Protection Zone – proposals will not negatively impact on this. Partly lies within Flood Zone 3- proposals will not negatively impact on water environment.
Rights of Way / Access	Informal footpaths exist on site. These routes (and access points) will be improved, where necessary. Signing and seating may also be improved.
Soil and Nitrates	No negative impact on soils. No nitrate fertilisers will be used as site lies within Nitrate Vulnerable Zone.
Utilities	No sewer or gas pipes shown on initial surveys. Any planting will avoid easements relating to utilities.

## 11.0 Proposed works:

### 11.1 Management Aims

- To maintain and enhance an existing variety of habitats, particularly the distinctive grassland types in Hetton Lyons Country Park;
- To create additional woodland and hedgerow on open space within Hetton Lyons Country Park;
- To manage woodland plantations to create a more diverse age structure and encourage a mixed ground flora;
- To improve habitat for water vole;
- Green bank protection on stream leading into Stephenson Pond;
- To manage for non-native species.

### 11.2 Access and Interpretation

To create a series of woodland trails through plantation woodland with installation of waymarkers and signage.

## 12.0 Budget for Hetton Lyons Country Park

Source of Funding	Amount (£)
S106	0
Area Committee	20,000
NHLF	60,000
NECF	51,538
<b>Total</b>	<b>131,538</b>

Habitat	Project	Delivery	Indicative Budget £	Months
Lowland Meadow	Cut and remove arisings from grassland.	V/S/T	0	August/September
	Remove encroaching scrub	V/S/T	0	October – February
Neutral Grassland	Cutting of neutral grassland	Contractors	5,000	August/September
	Planting of grassland herbs e.g., yellow rattle.	V/S/T	0	September/October
	Removal of non-native Montebrei species	V/S/T	0	July/August
Acid Grassland	Cutting and removing arisings of acid grassland.	V/S/T	0	July
	Management of adjacent ruderal vegetation and removal of rosebay willowherb.	V/S/T	0	June/July

Lowland Meadow	Cut and remove grassland	Contractors	5,000	
Fenland	Management of adjacent scrub to maintain fenland herb vegetation	V/S/T	0	October - March
Existing Woodland	Deliver woodland management programme, including thinning, woodland edge and glades	Contractor	47,000	October – February
	Under plant with woodland ground flora to create diversity of woodland plants	V/S/T	3,000	April – June September – October
New woodland	New hedgerows and heavy standard planting	Contractors	51,538	October – February
Water course	Treatment of Himalayan Balsam and remove	V/S/T	5,000	
	Habitat management along eastern watercourse to improve conditions for water vole. This includes management of bramble and rank species and cutting back some	V/S/T	2,000	April – October
<b>Total</b>			<b>118,538</b>	

### Access and Interpretation

Project	Delivery	Indicative Budget £	Month Completed
Development of series of woodland trails Installation of way markers and post for new trails	Volunteers/staff/trainees Contractors	13,000	Anytime
<b>Total</b>		<b>13,000</b>	

### Further information

If you would like to discuss the proposals/detail further, please contact:

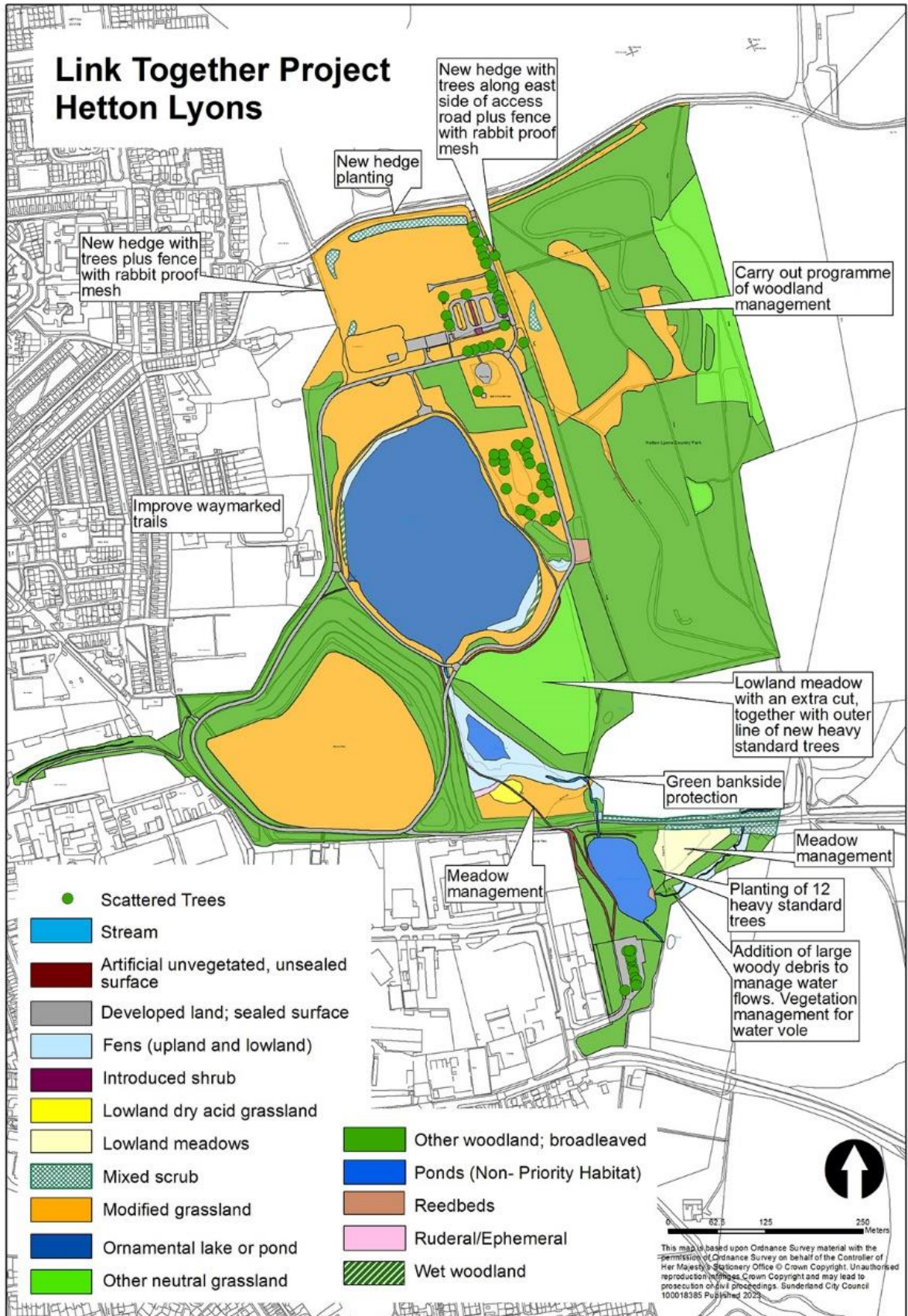
Anne Gladwin

Link Together Project Manager

Email: [anne.gladwin@durhamwt.co.uk](mailto:anne.gladwin@durhamwt.co.uk)

<https://www.durhamwt.com/link-together>

# Link Together Project Hetton Lyons



## Appendix 1:

### WRT Watercourse and Catchment Intervention - Examples

#### Earth Bund



**Earth Bund** - A sloped embankment or bund constructed from earth. They are designed to withhold water flowing over land during high rainfall events and prevent flooding. They can also intercept pollutants. They are engineered to limit outflow and designed for longevity with hidden structure and pipes.

#### Large woody debris



**Large Woody Debris** - also referred to as LWD, is typically described as fallen trees, logs, and branches that are at least four inches wide and six feet long. These cost-effective features are designed not to impede low/moderate flows but help water onto the floodplain during high flow events. Leaky design (that doesn't try to contain the power of water) and heavy-duty steel fixings prevent damage and dislodgement.

#### Green bank protection



**Green bank protection** is used to protect banks from erosion by reducing the erodibility of earth banks. Willow weaves, fixed brush, driven posts with fixings create a low risk, cost effective habitat improvement.

### Drainage improvements



**Drainage improvements** help convey surface water to areas of temporary flood storage. Gravel drains, pipes, swales can intercept surface water, improve access and reduce the risk of pollution downstream.

### Wetland scrape



**Wetland scrapes** can help to create additional 'temporary' flood storage in floodplains. They can also trap sediments and encourage infiltration to groundwater.

### Fish passage easement



Engineered solution to facilitate fish passage at man-made in river obstructions. Simple **fish easements** in a 'close to nature' style can be engineered with block stone or fixed baulks or beams can modify flows to allow improved river function.

### Fence to intercept litter



**Windblown litter** is intercepted by carefully placed **fencing**. The resultant litter is easier to collect and prevents watercourses becoming blocked.

### CSO



**Combined Sewerage Overflow (CSO)**. Hard engineered structures that require maintenance and can lead to bank and bed scour. Can be protected with green engineering. In stream steps can become a barrier to fish and sediments.

### Re-meander



**Creating a new meandering course or reconnecting cut-off meanders**, therefore slowing down the river flow by reducing gradient and providing additional flood storage. Reconnection to floodplain is possible.

### Channel aggradation



**Channel aggradation** means the replacement of river gravels which have been lost due to channel scour or changes in channel geometry. Can lead to dramatic improvements in river process, form and function.

### Livestock fencing



**Livestock fencing** from watercourses directly benefits water quality and encourages beneficial riparian vegetation i.e. bank habitat.

### Tree coppicing



**Tree coppicing** is a traditional technique which benefits watercourses which are overshadowed. The coppicing of bankside trees increases the longevity and health of these features, provides valuable habitat and habitat corridors in river valley and wetland landscapes. In the right location selective coppice can help stabilise river and ditch banks.

### Stone bridge protection



Where bed scour and channel incision expose foundations, **stone and/or green engineered protection** around footings and banks can reduce/reverse scour by working with natural processes common to all hard structures in stream.

### Tree thinning



As well as benefitting woodlands, **thinning** can allow light into tunnelled sections of river. Arisings can be utilised for in river works.

### Himalayan Balsam- Invasive species removal



As its name suggests, **Himalayan balsam** is from the Himalayas and was introduced here in 1839. It is an invasive weed of riverbanks and damp areas, where it prevents native species from growing. When it dies back in winter, riverbank soils are more rapidly eroded

### Japanese Knotweed- Invasive species removal



**Japanese knotweed** and **Giant Japanese Knotweed** are perennial weeds, producing tall canes, up to 2.1m (7ft) in height during the summer. It forms mono-cultures and due to its ability to damage buildings, can impact property values. Winter die back also produces bare patches of earth.

### Giant Hogweed- Invasive species removal



**Giant Hogweed** is a close relative of cow parsley originally from Southern Russia and Georgia. It can reach over 3m (10ft) in height. It is highly invasive, forming mono-cultures and the sap can cause severe skin burns to pets and people. It also dies back in winter exposing ground to elevated rates of soil loss.

# Appendix 2

