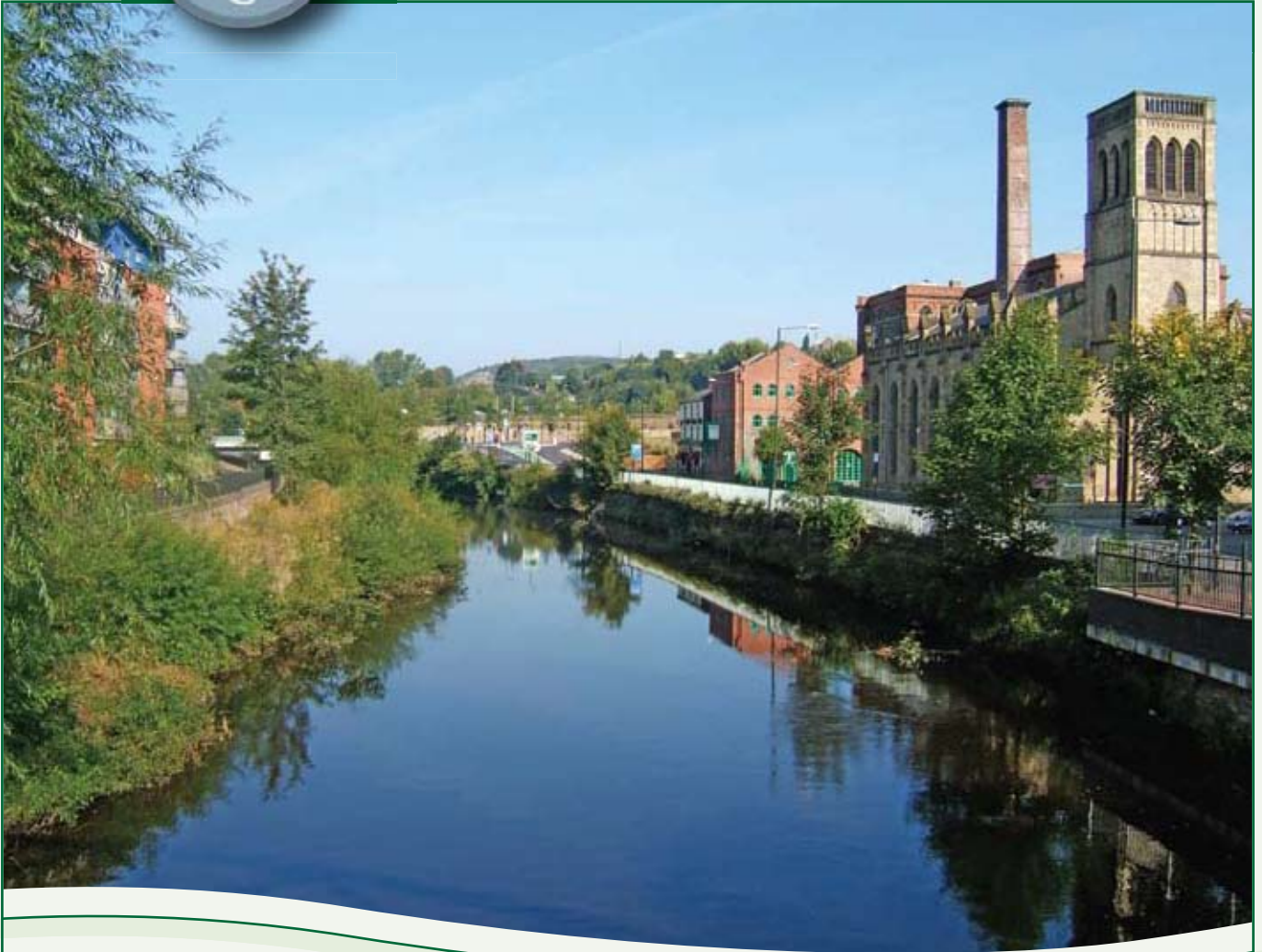




# Sheffield Local Biodiversity Action Partnership



## **The River Don and The Sheffield & South Yorkshire Navigation Canals Spatial Biodiversity Action Plan Summary Document**

The Wildlife Trust for Sheffield and Rotherham has produced a Spatial Biodiversity Action Plan for the River Don and the Sheffield and South Yorkshire Navigation Canals based on years of extensive ecological surveys.

The Spatial Biodiversity Action Plan consists of Geographical Information System (GIS) files which map the distribution of species and habitats along the river and canal corridor. These GIS files are accompanied by a report containing detailed habitat analysis, species lists and site-specific management recommendations. The Spatial Biodiversity Action Plan is a valuable resource for all those involved in planning, development

and land management along the waterways, as well as those with an interest in wildlife conservation. The information and guidelines it contains will help a wide range of organisations and individuals to contribute to reversing biodiversity loss in the River Don catchment.

This document provides a brief overview of the Spatial Biodiversity Action Plan and contains a map showing the extent of the survey area and highlighting priority sites for biodiversity conservation and enhancement. Copies of the complete Spatial Biodiversity Action Plan can be obtained on request from the Wildlife Trust for Sheffield and Rotherham.

## Current Factors Causing Loss or Decline

Rivers were designated as a new UK BAP priority habitat in 2008 because they support groups of key species and because there has been a national decline in the quality and diversity of river ecosystems in recent years.

The industrial history of the River Don and the canal left these waterways with a legacy of pollution, modification and land contamination. Recent technological advances and improved environmental awareness have led to cleaner manufacturing processes, which have brought about substantial improvements to water quality and a consequent resurgence of wildlife. However, this fragile and fragmented habitat is still under threat.

The Sheffield LBAP Rivers and Running Water Habitat Action Plan (2003) identified eight factors causing the loss or decline of biodiversity on local waterways:

- **Water pollution** from sources such as industry, agriculture, old coal mines and run-off from roads.
- **Water impoundment and abstraction** affecting water flow.
- **Physical modification** of the river system, e.g. canalisation, culverting, dredging and the creation of weirs and artificial banks, which inhibit the movement of wildlife.
- **Conflict of priorities** between industrial heritage preservation and wildlife conservation, for example regarding the removal of weirs.
- **Residential and commercial development** causing loss of riverside habitat.
- **Fisheries management** can remove vegetation and threaten the genetics of wild stock.
- **Invasive plants and animals** threaten the integrity of river habitats and associated species.
- **Recreational use** of the waterways can cause bank erosion, disturb wildlife, damage vegetation and generate litter.

## Current Action

**The Wildlife Trust for Sheffield and Rotherham** has a long history of enhancing the waterways for wildlife and engaging local communities in their work on waterside nature reserves such as Salmon Pastures, Blackburn Meadows and the new Centenary Riverside urban wetland nature park. By working closely with local stakeholders, the Trust is encouraging sustainable development and implementing practical habitat enhancement on the waterways. In 2008, the Wildlife Trust secured funding from Natural England's Countdown 2010 Biodiversity Action Fund for a three-year project called The Living Don. This ambitious and exciting project aims to create a robust green network covering 40,000 hectares from the Peak District moors to the floodplain of the Lower Don Valley as part of the Wildlife Trusts' wider strategic vision for a Living Landscape.

The **Environment Agency** is the leading public body responsible for improving water quality, conserving river habitats and managing the river channel for the protection of people

and property. Since the publication of the Rivers and Running Water HAP, significant action has been taken to control and mitigate these threats, and to raise public awareness of the importance of the waterways and the risks they face. Improvements have been made, but continued efforts are required to manage these causes of biodiversity loss, and to combat new threats which have arisen.

The floods of 2007 caused extensive damage and led to changed attitudes and priorities regarding the waterways. Much riverside habitat was lost as a direct result of the floods or of the subsequent repair and flood risk management work. Investment in flood defences has been prioritised over habitat enhancement. The support of local businesses and community members is needed to protect and enhance the waterways, so it is crucial that the River Don is perceived not as a threat but as an asset to be cherished.

Many locations on the waterways have been identified as strategic areas for redevelopment in the forthcoming Sheffield Development Framework and in the Rotherham Renaissance strategy. Inappropriate development can reduce biodiversity through habitat loss, while unsuitable landscaping around new developments can result in the spread of non-native plants along the river banks. However, innovative architectural solutions and sympathetic landscape design offer an excellent opportunity to restore the biodiversity of the waterways, to mitigate flood risk, and to reap the socio-economic and environmental benefits provided by attractive, well-managed waterways.

The impact of climate change is already affecting our wildlife species and habitats as well as our communities and economy. Healthy waterways provide a route for wildlife to move in search of suitable conditions, making vulnerable species more likely to survive in a changing environment. Improved habitat connectivity along our waterways is therefore becoming ever more important to biodiversity conservation. The restoration of natural habitats along river corridors can reduce the impact of extreme weather events, for example by allowing flood waters to spread out and drain away naturally.

The EA has carried out significant research and practical work to rehabilitate the River Don's fisheries, including protecting breeding areas, identifying and removing barriers to fish passage, re-stocking key species, and working with water companies and industry to improve water quality.

**British Waterways** is responsible for maintaining the canal to navigational standard and for managing the towpath. British Waterways also supports adults with learning difficulties to carry out beneficial work along the canals of Sheffield and Rotherham, such as vegetation management, graffiti removal, tree planting and litter picking.

The **River Stewardship Company** is a pioneering social enterprise which was established in 2007 to improve the riverside environment. The RSC provides cost-effective land maintenance services to companies with waterfront premises. River Stewards also organise events and educational activities to increase public interest in the River Don, encouraging and enabling people to



Niagara Weir



Frog



Attercliffe Tram Bridge



Five Weirs Walk

## Background

The River Don rises on the southern Pennine moors and flows from the Peak District National Park through the urban centres of Sheffield and Rotherham, before joining the River Ouse at Goole. The Don and its major tributaries, the Loxley, Rivelin, Porter and Sheaf, form a network of valleys which give the city of Sheffield its distinctive topography. These rivers are fed by numerous brooks and streams, which add character and beauty to the suburban area.

The River Don feeds the canal system that runs between Sheffield and Rotherham, from the attractive and stylish urban waterfront of Victoria Quays to the wooded banks of Don Island. The canal is the largest body of standing water in the lowland part of Sheffield, and is a key feature of the lower Don Valley, both visually and historically.

## Current Status

As the River Don makes its way through Sheffield and Rotherham it changes in character, providing a mosaic of habitats which supports a great diversity of species.

The western stretch of the Don is shallow and fast-flowing, winding between natural vegetated banks. Here, several UK and Local BAP habitats are found along the river corridor, such as grassland, broad-leaved woodland and fragments of wet woodland. Emergent reeds, rushes and sedges fringe the water's edge, and ancient woodland indicator species such as bluebells, wood anemone and yellow archangel are present on the banks.

On nearing Sheffield City Centre, the Don flows through a more urban landscape and the wooded riverbanks give way to canalised stretches and artificial banks. Even in this highly modified environment there are vital pockets of wildlife habitat provided by vegetation which has colonised islands, silt banks and even stone walls and bridges.

Between Sheffield and Rotherham, the river passes through what was once an extensive floodplain, but is now a post-industrial landscape containing plentiful examples of a new UK BAP priority habitat – 'open mosaic habitats on previously developed land'. This habitat type supports many nationally rare species, particularly invertebrates and plants, as well as several scarce and threatened open vegetation communities. Despite the substantial risk to this valuable habitat from urban development, landfill, inappropriate management and natural succession, few previously developed sites have been afforded SSSI status nationally. Here in the lower Don valley, the canal runs alongside the river, providing a contrasting aquatic habitat with a rich flora and fauna. The biodiversity value of these interconnected watercourses is enhanced further by the areas of wetland habitat which link the canal to the river at Blackburn Meadows and Centenary Riverside.

UK BAP priority species found on our local waterways include otters, water voles, white-clawed crayfish, white letter hairstreak

These watercourses are a defining characteristic of the local landscape and an important part of the region's cultural heritage. They are also of crucial importance to biodiversity conservation. In urban and industrial areas, river and canal corridors can provide a vital link between fragmented habitats, and are often the last refuge for wildlife and vegetation which would otherwise be lost from the surrounding area. Rivers and canals have therefore been identified as priority habitats in the Sheffield Local Biodiversity Action Plan, designated as Areas of Natural History Interest (ANHI) in Sheffield's Unitary Development Plan and proposed as Sites of Importance for Nature Conservation (SINC) in the forthcoming Sheffield Development Framework.

butterflies and several species of bats. Many of these species are also protected under the Wildlife and Countryside Act 1981, a factor which must be taken into consideration when planning development along the waterways.

Otters are starting to return to this stretch of the River Don after a long absence, and it is hoped that their range can be extended by removing barriers to their passage, increasing the amount of bankside vegetation and providing suitable undisturbed sites for resting and breeding.

Water voles used to be common on the Don but populations have declined significantly in recent years due to loss and degradation of their riverbank habitat, and predation by American mink and domestic cats. Urgent action is needed to restore populations.

The white letter hairstreak butterfly was recently added to the UK BAP list of priority species because it relies on elm trees as its sole food plant, so has been threatened by loss of habitat due to Dutch elm disease. Elm trees on the banks of the Don have been found to support breeding populations of these butterflies. Conservation of these trees and ongoing monitoring of butterfly populations is required to prevent further decline.

The waterways support a wide variety of birds, including several of the UK's most threatened species. Many once-common birds such as starlings, song thrushes and house sparrows are seriously threatened by habitat loss and are now on the RSPB 'red list', requiring urgent conservation action. The Don's vegetated banks and islands provide a vital refuge for urban bird species, while the river channel supports various species of waterfowl.

Increased sightings of kingfishers and herons on both the river and canal are indicative of healthy fish populations. Indeed, improvements to the river's water quality have led to a rejuvenation of fish stocks, including some species which are highly prized by fishermen, such as brown trout, grayling and barbel.



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enjoy the river's recreational benefits and appreciate its valuable wildlife.

**Sheffield City Council** is producing a supplementary planning document on waterside development as part of the forthcoming Sheffield Development Framework to ensure that all future waterside developments incorporate sustainable flood mitigation measures, such as SUDS (sustainable urban drainage systems) and green roofs, as well as measures to conserve and enhance the waterways as wildlife habitat corridors.

**Sheffield Waterways Strategy Group** was set up in 2003 to develop a strategy for the regeneration of Sheffield's waterways as part of the city's wider policy agenda. Their final report, entitled Sheffield: City of Rivers, was published in 2008, and steps are now being taken to co-ordinate the delivery of this strategy.

**Rotherham Metropolitan Borough Council** is working to restore the River Don as a key part of the Rotherham Renaissance regeneration strategy. This strategy includes a flood alleviation scheme incorporating the new community wetland area at Centenary Riverside, which will be managed by the Wildlife Trust for Sheffield and Rotherham.

## Benefits of Waterway Restoration

In addition to protecting valuable biodiversity resources and mitigating the impact of climate change, the restoration of our waterways has the potential to bring considerable socio-economic benefits, offering excellent opportunities for recreation and generating a sense of pride and ownership amongst local communities. The aesthetic and cultural appeal of healthy, well-managed waterways can increase land values and help to attract investment and tourism to the region. The creation of natural wetland areas on the floodplain and the restoration of natural

In 2007, the **University of Sheffield** began a £2.5 million project funded by the Engineering and Physical Sciences Research Council to carry out research into options for the sustainable redevelopment of the River Don floodplain. The URSULA (Urban River Corridors and Sustainable Living Agendas) project will run over four years, drawing on expertise from multiple academic departments and working with key partners to identify the ecological, social and economic benefits which can be gained from innovative interventions in urban river corridors.

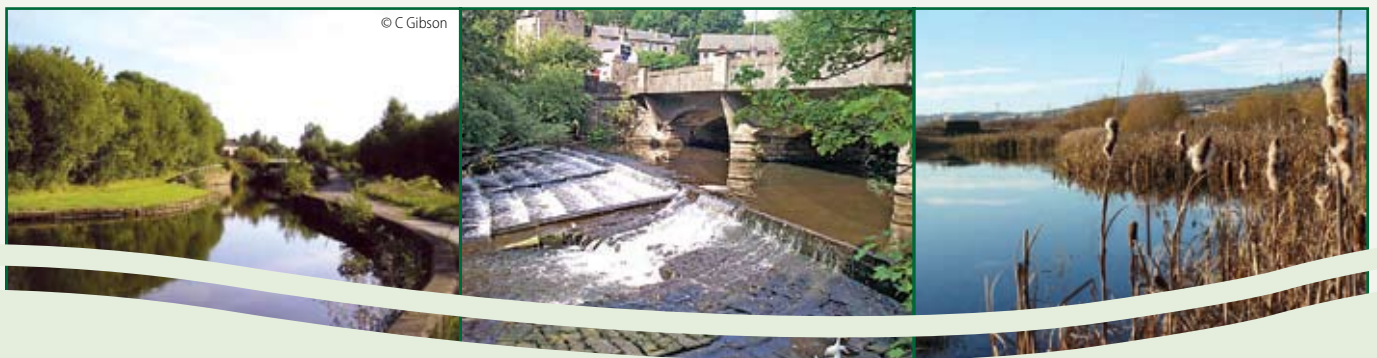
Many **local businesses** are playing an important role in protecting the waterways by enhancing their premises for wildlife or investing in sustainable flood defences such as green roofs and areas of soft landscaping.

Members of the **Sorby Natural History Society** carry out surveys to record and monitor wildlife on the waterways.

The **Five Weirs Walk Trust** has developed a high quality footpath and cycle way along the River Don from Sheffield City Centre to Tinsley, incorporating interpretation boards to raise awareness about the river's history and wildlife. The **Upper Don Walk Trust** is working to provide an accessible trail along the Don from Sheffield City Centre to Oughtibridge.

meanders and vegetated banks along the River Don and its tributaries will help to alleviate flood risk in future.

The Spatial Biodiversity Action Plan for the River Don and the Sheffield and South Yorkshire Navigation Canals provides a framework for all stakeholders to work together to help our waterways to achieve their potential as the focal point of Sheffield and Rotherham; attractive wildlife havens, rich in biodiversity and a resource for the whole community.



The complete Spatial Biodiversity Action Plan can be obtained on request from:

The Wildlife Trust for Sheffield & Rotherham  
37 Stafford Road, Sheffield S2 2SF

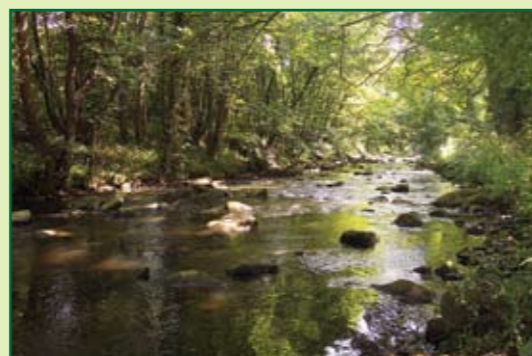
(0114) 263 4335  
mail@wildsheffield.com

This summary document and fact sheets on riverside habitat enhancement can be downloaded from [www.wildsheffield.com](http://www.wildsheffield.com)





Sheffield & Rotherham



Wet woodland on the banks of the River Don, Sheffield

Wet woodland is a UK BAP priority habitat, characterised by alder, birch and willows. This habitat supports a variety of species, including otters and many invertebrates, but is threatened by invasive plants, water pollution and riverside development. The Upper Don Valley supports fragments of wet woodland habitat which could be extended and joined up with careful management.



Vision of Centenary Riverside, Rotherham, in 2028

Creating natural washland areas on the River Don's floodplain will provide valuable wildlife habitat as well as playing a vital role in flood mitigation. A holistic, catchment-scale approach to waterway management is becoming increasingly important as climate change begins to impact on wildlife, our communities and the economy.

The aesthetic appeal of an attractive waterfront location increases property values. Inappropriate development can pose a major threat to vulnerable species and habitats, but creative, forward-thinking development offers the opportunity to restore biodiversity, placing living rivers back at the heart of our city.



Fish pass in Walk Mill Weir, Effingham Street, Sheffield

Weirs, culverts and canalisation are a reminder of the River Don's industrial heritage, but these features act as barriers to wildlife. By re-naturalising the river channel and installing fish passes in weirs, the river can achieve its potential as a green corridor for wildlife.



Riverside apartments at Millsands, Sheffield



Otter (*Lutra lutra*)

The otter is a priority LBAP species. Otters are starting to return to the River Don in Sheffield after a long absence, a welcome sign of improved water quality and rejuvenated fish stocks.

**Key**

- River Don
- Canal
- Five Weirs Walk
- Canal Towpath
- Major Road
- District Boundary
- Site of Special Scientific Interest
- Site of Importance for Nature Conservation
- Local Nature Reserve
- Urban Area
- Weir
- Bridge
- Landmark
- Fish Pass
- Area rich in biodiversity
- Area with good potential to benefit from habitat enhancement

## Priority Sites for Biodiversity Conservation and Enhancement

This map highlights some important sites for biodiversity conservation and enhancement on the River Don and the canal. The criteria used to prioritise these sites include the presence of key species or habitats of conservation concern and the site's ability to act as a green link between other ecologically important areas. Other factors for consideration included the

actual or potential community value of each site, current land ownership, and any opportunities or threats posed by future development or change of land use. This is a brief summary of each site's biodiversity value and recommendations for habitat management.

### 1: Near Soughley Bridge

Ordnance Survey grid reference SK292983

A species-rich meadow on the right bank supports a variety of wildflowers including common spotted orchids. Mature broad-leaved woodland on both banks has ancient woodland indicator species in the ground flora. In the woodland along the right bank there is an old mill race with some aquatic and marginal vegetation.

**Restore the mill race and manage the woodland and meadow to maintain species diversity.**

### 2: Deepcar

OS grid reference SK292973

The wet woodland and acidic marshy grassland on the left bank has great ecological value, but this rare habitat is under threat due to development on this stretch of the river. The steep wooded right bank provides undisturbed wildlife habitat.

**Conserve remaining areas of wet woodland and marsh and mitigate for any habitat loss. Enhance the woodland on the right bank by selective coppicing, creating deadwood habitat and controlling bracken to encourage a diverse ground flora.**

### 3: Near More Hall

OS grid reference SK296960

The mosaic of woodland, grassland and standing water habitats on the right bank supports a diverse flora and fauna. The woodland is undisturbed and rich in ancient woodland indicator species. The artificial pond complex has great ecological value but has not been managed since sustaining flood damage in 2007.

**Manage the site around the artificial pond complex to maintain the diversity of habitats and species present. Enhance the woodland through selective coppicing and thinning and create an otter holt at the water's edge.**

### 4: Near Wharncliffe Side

OS grid reference SK298953 to SK300948

A large island provides undisturbed habitat. The surrounding pasture includes areas of marshy grassland, and there is a small area of wet woodland on the left bank. A mill race runs along the right bank, parts of which have been restored.

**Conserve the wet woodland and grassland areas and restore the northern stretch of the mill race.**

### 5: North Oughtibridge

OS grid reference SK306938

The rich mix of habitats here includes steep wooded river banks as well as areas of grassland, scrub, standing water and marsh, supporting a great variety of birds and butterflies, and providing excellent habitat for amphibians and bats.

**Maintain the mosaic of habitats present and conserve the Forge watercourse.**

### 6: Middlewood Park and Niagara Weir

OS grid reference SK323915

Large areas of grassland and wooded riverbanks with good public access. A fish pass is to be installed in the weir by the Environment Agency. Many RSPB red-listed and amber-listed bird species have been recorded here.

**Carry out wildlife-friendly planting, install bat and bird boxes and engage the local community in site stewardship.**

### 7: Sheffield Wednesday Football Stadium and Hillsborough Park

OS grid reference SK332905

A good stretch of the river for fish and otters. The park provides grassland and standing water habitat.

**Install bat and bird boxes and enhance the park's planting scheme for wildlife. Conserve vegetated banks for otters.**

### 8: Hillfoot

OS grid reference SK342894

This site has 'green links' to the Rivelin and Loxley valleys and Parkwood Springs, and is an excellent area for otters and bats. An old water wheel and goit has historic as well as ecological value.

**Restore the water wheel and goit, remove fly tipping, conserve vegetated banks and control invasive plants.**

### 9: Kelham Island

OS grid reference SK351882

Kelham Goit had a rich aquatic flora, and water voles were recorded here in the past. Flood damage and construction work disrupted the ecosystem, but the goit is being restored. The island offers excellent undisturbed wildlife habitat.

**Conserve the vegetated island, and keep the river banks free from invasive plant species. Mitigate for habitat loss with wildlife-friendly planting, bat boxes and bird boxes, and monitor the goit for the regeneration of aquatic flora and fauna.**

### 10: Nursery Street and Lady's Bridge

OS grid reference SK356878

This site holds great potential for biodiversity enhancement, as regeneration plans for this area include the removal of the channel wall and the creation of a riverside pocket park. Much otter activity has been recorded here in the past.

**Incorporate ecologically-led planting schemes and undisturbed wildlife areas into the pocket park. Mitigate for any habitat loss caused by development or flood risk management work. Maintain good otter habitat and monitor the site for otters.**

### 11: Salmon Pastures Nature Reserve

OS grid reference SK371881

Salmon Pastures provides areas of woodland, scrub, acid grassland and heathland, which is a rare habitat on the river corridor. There is good woodland cover on the river banks, and marginal and aquatic plants in the river channel.

**Maintain habitat diversity by controlling birch and bramble scrub, and cutting the heather on a five year cycle. Create deadwood habitat, and monitor the site for biodiversity. Keep the river banks free from invasive plants and fly tipping.**

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### 12: Sanderson's Ecology Park and mill race

OS grid reference SK 374890

The mill race contains diverse aquatic vegetation and supports breeding wildfowl and dragonflies. The grassland is rich in wildflowers, including orchids. The site's wildlife value is threatened by pollution, fly tipping and potential development.

**Remove fly tipping and clear pollution from the mill race. Maintain the mix of habitats in the ecology park and prevent encroachment by invasive species. Ensure any change of land use does not detract from the site's biodiversity.**

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### 13: Pinfold Bridge

OS grid reference SK377884

Reed beds with diverse aquatic vegetation are present on both sides of the canal. The right bank supports acid grassland and woodland with a diverse ground flora and scattered scrub.

**Conserve the reed beds and the bank side vegetation. Keep the area free from litter and fly tipping.**

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### 14: Sheffield Forgemasters International Ltd and Loadhog Ltd

OS grid reference SK386901

These riverside premises have been enhanced with wildlife-friendly planting schemes and the installation of bat boxes.

**Monitor biodiversity at these sites and seek opportunities to engage more businesses in this area in river stewardship.**

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### 15: Tinsley Locks

OS grid reference SK393899

The ponds between the locks have rich aquatic vegetation and support amphibians, fresh-water sponges and mussels, breeding moorhens and roosting herons. Otters and water voles have been recorded here. There are areas of species-rich grassland with yellow rattle and heather.

**Conserve the grassland by mowing less frequently, removing cuttings and controlling scrub. Monitor mammal activity.**

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The areas described above have particular potential to benefit from habitat management and enhancement, but the full length of these watercourses and their tributaries must be managed and restored in a way that is sensitive to their ecological value.

### 16: British Land premises including Meadowhall Centre

OS grid reference SK386901 to SK395911

The undeveloped urban common has areas of calcareous grassland and woodland with ancient woodland indicators, both rare habitats on the lower Don. Meadowhall's river bank has a good mix of grassland and woodland, which has been enhanced by the installation of bat and bird boxes and the creation of a wildflower meadow.

**Conserve the calcareous grassland and species-rich woodland. Continue to manage the river banks for wildlife.**

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### 17: Tinsley Viaduct

OS grid reference SK399913

The canal and river provide contrasting running and standing water habitats, with undisturbed woodland on both banks and a glade-like area of grassland on the left bank. This site is rich in wildlife, notably amphibians, butterflies and otters.

**Conserve the grassland and vegetated banks, and monitor this site for biodiversity.**

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### 18: Holmes Goit

OS grid reference SK406923

The goit is rich in aquatic vegetation and supports thriving amphibian populations. Water voles were recorded here in the past. Silt deposition and encroaching vegetation threaten the goit, but it was cleared out by British Waterways in 2008.

**Maintain the area of open water, and enhance the site for amphibians and grass snakes through the provision of wood piles and compost heaps. Monitor the site for aquatic flora and fauna and mammal activity.**

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### 19: Blackburn Meadows Nature Reserve

OS grid reference SK410922

The nature reserve provides a large area of standing water between the river and canal, supporting a diverse bird life.

**Conserve meadow areas by controlling willow scrub. Enhance the site for birds by creating a floating island, building a sand martin bank and installing owl boxes.**

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### 20: Centenary Riverside urban wetland nature park

OS grid reference SK420920

This new nature park will provide a good range of wildlife habitats, including marshy grassland, reed beds, large areas of standing water with marginal and aquatic vegetation, and species-rich native woodland.

**Monitor and maintain biodiversity, and seek opportunities to engage the local community and businesses in stewardship.**

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Only a holistic and integrated catchment-scale approach will enable the waterways to function as living green corridors, supporting sustainable and diverse wildlife populations and providing the basis for a network of open spaces linking Sheffield and Rotherham to each other and to the surrounding countryside.