



49. Barnsley Canal

NHS Assessment and Phase 1 Survey

Prepared by
TEP

for

Barnsley Metropolitan Borough Council

January 2011

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(Report Ref 2481.11)

Site Name:	Barnsley Canal
Site Area:	8.74ha
Survey Date:	October 2010
Nearest Settlement:	Royston and Carlton, both to the west.
Grid Reference at Centre:	437043, 412429
Surveyor(s)	PG, VG

Site Description:

Stretching from Shaw Lane in the south up to the railway crossing at SE 366 129 (just South of Notton Lane), this is a 3.17km (2 miles) stretch of former canal. More than half its length retains stretches of water (TN1, TN2, TN3).

The site is narrow but quite diverse. For much of the length there is an old established hedge along the eastern side (TN6) and there are also areas of woodland (TN4), swamp and various neutral grassland swards (TN7, TN8). In the south (TN1) the banks and bed of the canal are exposed and water is retained only in the lower section, but further north (TN2 and TN3) the water comes almost up to its original level along the towpath edge, at least at the southern ends of these two areas. Generally the water in the canal is clean and supports aquatic life.

Section TN2 is managed and used by a local angling group, so there may well have been introductions of coarse fish species. However, there has been little in the way of plant introductions and many of the canal plant species are native, exceptions are the large populations of the exotic species Nuttall's pondweed (*Elodea nuttallii*) and least duckweed (*Lemna minuta*).

A total of 137 species were recorded during the 2010 survey.

Important Species:

Least duckweed (*Lemna minuta*) is more or less at its northern geographical limit. **Nuttall's pondweed** (*Elodea nuttallii*) is a Schedule 9 species. Broadleaved helleborine (*Epipactis helleborine*) and greater stitchwort (*Stellaria holostea*) are considered as ancient woodland indicators species.

Little grebe (*Tachybaptus ruficollis*) is an Amber listed Bird of Conservation Concern. Reed bunting (*Emberiza schoeniclus*) is a UKBAP and Amber List species. Willow tit (*Poecile montanus*) is also a UKBAP and is a Red List species. These birds have been recorded in the area, amongst a number of other species.

Target Note:	TN1	
Habitat:	Standing water, swamp, scattered scrub	
Species List:		
Scientific Name	Common Name	Frequency
<i>Lemna minuta</i>	Least Duckweed	A
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Glyceria maxima</i>	Reed Sweet-grass	F
<i>Typha latifolia</i>	Greater Reedmace	F
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Elodea nutallii</i>	Nuttall's Pondweed	F
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Ceratophyllum demersum</i>	Rigid Hornwort	O
<i>Sparganium erectum</i>	Branched Bur-reed	O
<i>Apium nodiflorum</i>	Fool's Watercress	O
<i>Myriophyllum alterniflorum</i>	Alternate Water-milfoil	O
<i>Alnus glutinosa</i>	Alder	O
<i>Persicaria amphibia</i>	Amphibious Bistort	O
<i>Solanum dulcamara</i>	Bittersweet	O
<i>Quercus robur</i>	English Oak	O
<i>Salix cinerea</i>	Grey Willow	O
<i>Sambucus nigra</i>	Elder	O
<i>Salix fragilis</i>	Crack Willow	O
<i>Juncus inflexus</i>	Hard Rush	O
<i>Stachys palustris</i>	Marsh Woundwort	O
<i>Phalaris arundinacea</i>	Reed Canary-grass	O
<i>Lycopus europaeus</i>	Gypsywort	O
<i>Pentaglottis sempervirens</i>	Green Alkanet	R
<i>Carex otrubae</i>	False Fox-sedge	R
<i>Cirsium arvense</i>	Creeping Thistle	R
<i>Juncus articulatus</i>	Jointed Rush	R
<i>Potamogeton natans</i>	Broad-leaved Pondweed	R
<i>Juncus conglomeratus</i>	Compact Rush	R
<i>Potamogeton pectinatus</i>	Fennel-leaved Pondweed	R
<i>Rosa arvensis</i>	Field Rose	R
<i>Chamerion angustifolium</i>	Rosebay Willowherb	R
<i>Symphytum x uplandicum</i>	Russian Comfrey	R
<i>Hedera helix</i>	Ivy	R
<i>Iris pseudacorus</i>	Yellow Flag Iris	R
<i>Potamogeton crispus</i>	Curled Pondweed	R
<i>Alisma plantago-aquaticum</i>	Water-plantain	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note:	TN2	
Habitat:	Swamp, standing water, scattered scrub	
Species List:		
Scientific Name	Common Name	Frequency
<i>Typha latifolia</i>	Greater Reedmace	A
<i>Crataegus monogyna</i>	Hawthorn	A
<i>Glyceria maxima</i>	Reed Sweet-grass	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Urtica dioica</i>	Nettle	F
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Calystegia silvatica</i>	Large Bindweed	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O
<i>Sparganium erectum</i>	Branched Bur-reed	O
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Betula pendula</i>	Silver Birch	O
<i>Salix caprea</i>	Goat Willow	O
<i>Quercus robur</i>	English Oak	O
<i>Salix fragilis</i>	Crack Willow	O
<i>Sambucus nigra</i>	Elder	O
<i>Lemna minuta</i>	Least Duckweed	O
<i>Salix cinerea</i>	Grey Willow	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Dactylis glomerata</i>	Cock's-foot	R
<i>Angelica sylvestris</i>	Wild Angelica	R
<i>Prunus avium</i>	Wild Cherry	R
<i>Rosa canina</i> agg.	Dog Rose	R
<i>Pteridium aquilinum</i>	Bracken	R
<i>Solanum dulcamara</i>	Bittersweet	R
<i>Populus x canescens</i>	Grey Poplar	R
<i>Viburnum opulus</i>	Guelder-rose	R

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Target Note:	TN3	
Habitat:	Standing water, swamp, semi-natural broadleaved woodland	
Species List:		
Scientific Name	Common Name	Frequency
<i>Rubus fruticosus</i> agg.	Bramble	A
<i>Typha latifolia</i>	Greater Reedmace	A
<i>Crataegus monogyna</i>	Hawthorn	A
<i>Glyceria maxima</i>	Reed Sweet-grass	A
<i>Elodea nuttallii</i>	Nuttall's Pondweed	F
<i>Lemna minuta</i>	Least Duckweed	F
<i>Quercus robur</i>	English Oak	F
<i>Salix cinerea</i>	Grey Willow	O
<i>Salix fragilis</i>	Crack Willow	O
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Rosa canina</i> agg.	Dog Rose	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Nymphaea alba</i>	White Water-lily	R
<i>Sorbus aria</i>	Whitebeam	R
<i>Hedera helix Hibernica</i>	Irish Ivy	R
<i>Rosa arvensis</i>	Field Rose	R
<i>Angelica sylvestris</i>	Wild Angelica	R
<i>Cirsium arvense</i>	Creeping Thistle	R
<i>Rumex conglomeratus</i>	Clustered Dock	R
<i>Ulmus glabra</i>	Wych Elm	R
<i>Solanum dulcamara</i>	Bittersweet	R
<i>Myriophyllum alterniflorum</i>	Alternate Water-milfoil	R
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Target Note:	TN4	
Habitat:	Semi-natural broad-leaved woodland	
Species List:		
Scientific Name	Common Name	Frequency
<i>Quercus robur</i>	English Oak	D
<i>Betula pendula</i>	Silver Birch	D
<i>Fraxinus excelsior</i>	Ash	F
<i>Eurhynchium praelongum</i>	Moss species	F
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Brachypodium sylvaticum</i>	False Brome	O
<i>Dryopteris filix-mas</i>	Male-fern	O
<i>Sambucus nigra</i>	Elder	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Stellaria holostea</i>	Greater Stitchwort	O
<i>Urtica dioica</i>	Nettle	O
<i>Prunus spinosa</i>	Blackthorn	O
<i>Brachythecium rutabulum</i>	Moss species	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Agrostis capillaris</i>	Common Bent	O
<i>Geum urbanum</i>	Wood Avens	O
<i>Arrhenatherum elatius</i>	False Oat-grass	O
<i>Geranium robertianum</i>	Herb-Robert	O
<i>Teucrium scorodonium</i>	Woodsage	O
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O
<i>Salix caprea</i>	Goat Willow	O
<i>Festuca gigantea</i>	Giant Fescue	R
<i>Hieracium</i> sp.	Hawkweed species	R
<i>Senecio erucifolius</i>	Hoary Ragwort	R
<i>Torilis japonica</i>	Upright Hedge-parsley	R
<i>Bromopsis ramosus</i>	Hairy-brome	R
<i>Elymus caninus</i>	Bearded Couch	R
<i>Trifolium repens</i>	White Clover	R
<i>Plantago lanceolata</i>	Ribwort Plantain	R
<i>Malus sylvestris</i>	Crab-apple	R
<i>Taraxacum officinale</i> agg.	Dandelion	R
<i>Sorbus aria</i>	Whitebeam	R
<i>Stachys sylvatica</i>	Hedge Woundwort	R
<i>Rosa arvensis</i>	Field Rose	R
<i>Acer campestre</i>	Field Maple	R
<i>Cerastium fontanum</i>	Common Mouse-ear	R
<i>Digitalis purpurea</i>	Foxglove	R
<i>Moehringia trinervia</i>	Three-veined Sandwort	R
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	R
<i>Artemisia absinthium</i>	Wormwood	R
<i>Corylus avellana</i>	Hazel	R

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Target Note:	TN5	
Habitat:	Modified neutral grassland	
Species List:		
Scientific Name	Common Name	Frequency
<i>Festuca rubra</i>	Red Fescue	D
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Poa annua</i>	Annual Meadow-grass	F
<i>Pentaglottis sempervirens</i>	Green Alkanet	F
<i>Plantago major</i>	Greater Plantain	F
<i>Taraxacum officinale</i> agg.	Dandelion	F
<i>Anthriscus sylvestris</i>	Cow Parsley	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Trifolium repens</i>	White Clover	F
<i>Cerastium fontanum</i>	Common Mouse-ear	O
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Symphytum x uplandicum</i>	Russian Comfrey	O
<i>Achillea millefolium</i>	Yarrow	O
<i>Trifolium pratense</i>	Red Clover	O
<i>Moss</i> sp.	Moss species	O
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare		

Target Note:	TN6	
Habitat:	Species-poor hedge with trees	
Species List:		
Scientific Name	Common Name	Frequency
<i>Crataegus monogyna</i>	Hawthorn	D
<i>Hedera helix</i>	Ivy	F
<i>Galium aparine</i>	Cleavers	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Rosa canina</i> agg.	Dog Rose	O
<i>Sambucus nigra</i>	Elder	O
<i>Prunus spinosa</i>	Blackthorn	O
<i>Sorbus aria</i>	Whitebeam	R
<i>Cotoneaster</i> sp.	Cotoneaster species	R
<i>Lonicera nitida</i>	Wilson's Honeysuckle	R
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare		

Target Note:	TN7	
Habitat:	Modified neutral grassland, scattered scrub	
Species List:		
Scientific Name	Common Name	Frequency
<i>Arrhenatherum elatius</i>	False Oat-grass	D
<i>Crataegus monogyna</i>	Hawthorn	A
<i>Salix cinerea</i>	Grey Willow	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Plantago lanceolata</i>	Ribwort Plantain	F
<i>Equisetum arvense</i>	Field Horsetail	F
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Stellaria media</i>	Chickweed	O
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Salix caprea</i>	Goat Willow	O
<i>Rosa canina</i> agg.	Dog Rose	O
<i>Senecio jacobaea</i>	Ragwort	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Centaurea nigra</i>	Knapweed	O
<i>Tussilago farfara</i>	Colt's-foot	O
<i>Acer platanoides</i>	Norway Maple	O
<i>Salix purpurea</i>	Purple Willow	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Lonicera periclymenum</i>	Honeysuckle	O
<i>Angelica sylvestris</i>	Wild Angelica	O
<i>Calystegia silvatica</i>	Large Bindweed	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	O
<i>Salix fragilis</i>	Crack Willow	O
<i>Rumex crispus</i>	Curled Dock	O
<i>Quercus robur</i>	English Oak	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Elytrigia repens</i>	Common Couch	O
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Silene dioica</i>	Red Campion	O
<i>Betula pendula</i>	Silver Birch	O
<i>Geranium robertianum</i>	Herb-Robert	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Sambucus nigra</i>	Elder	O
<i>Veronica chamaedrys</i>	Germander Speedwell	O
<i>Salix pentandra</i>	Bay Willow	O
<i>Achillea millefolium</i>	Yarrow	O
<i>Hedera helix</i>	Ivy	O
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Alnus glutinosa</i>	Alder	O
<i>Trifolium pratense</i>	Red Clover	O
<i>Malus domestica</i>	Apple	O
<i>Hieracium</i> sp.	Hawkweed species	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Urtica dioica</i>	Nettle	O
<i>Vicia cracca</i>	Tufted Vetch	O
<i>Tanacetum vulgare</i>	Tansy	O
<i>Vicia sepium</i>	Bush Vetch	O
<i>Conium maculatum</i>	Hemlock	R
<i>Taxus baccata</i>	Yew	R
<i>Fallopia baldschuanica</i>	Russian Vine	R
<i>Populus hybrid</i>	Hybrid Poplar	R
<i>Alliaria petiolata</i>	Garlic Mustard	R
<i>Acer campestre</i>	Field Maple	R
<i>Prunus avium</i>	Wild Cherry	R
<i>Populus x canescens</i>	Grey Poplar	R
<i>Cytisus scoparius</i>	Broom	R
<i>Linaria vulgaris</i>	Common Toadflax	R
<i>Vinca major</i>	Greater Periwinkle	R
<i>Rubus idaeus</i>	Raspberry	R
<i>Aster</i> sp.	Michaelmas-daisy species	R
<i>Chenopodium rubrum</i>	Red Goosefoot	R
<i>Sonchus asper</i>	Prickly Sow-thistle	R

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Target Note:	TN8	
Habitat:	Modified neutral grassland	
Species List:		
Scientific Name	Common Name	Frequency
<i>Plantago lanceolata</i>	Ribwort Plantain	A
<i>Arrhenatherum elatius</i>	False Oat-grass	A
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	F
<i>Odontites verna</i>	Red Bartsia	F
<i>Centaurea nigra</i>	Knapweed	F
<i>Potentilla reptans</i>	Creeping Cinquefoil	F
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Crepis capillaris</i>	Smooth Hawk's-beard	F
<i>Trifolium pratense</i>	Red Clover	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Vicia sepium</i>	Bush Vetch	O
<i>Linaria vulgaris</i>	Common Toadflax	O
<i>Hypochaeris radicata</i>	Common Cat's-ear	O
<i>Hieracium sp.</i>	Hawkweed species	O
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Senecio jacobaea</i>	Ragwort	O
<i>Centaureum erythraea</i>	Common Centaury	O
<i>Juncus inflexus</i>	Hard Rush	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Lolium perenne</i>	Ryegrass	O
<i>Urtica dioica</i>	Nettle	O
<i>Achillea millefolium</i>	Yarrow	O
<i>Agrostis capillaris</i>	Common Bent	O
<i>Solanum dulcamara</i>	Bittersweet	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	O
<i>Carex otrubae</i>	False Fox-sedge	O
<i>Vicia sativa</i>	Common Vetch	O
<i>Hypericum sp.</i>	St John's-wort	R
<i>Carex sp.</i>	Sedge species	R
<i>Pteridium aquilinum</i>	Bracken	R
<i>Salix cinerea</i>	Grey Willow	R
<i>Rubus fruticosus agg.</i>	Bramble	R

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Management Issues:

Hedgerows along the footpath in the southern half of the site will require continuing management to keep the main footpath open safely. The middle section of still watered canal receives management input from the angling club.

A watching brief is advisable on the spread of swamp and scrub over the canal, causing loss of open water and/or increased shading.

Diversity:

This surviving stretch of canal supports a variety of habitat types with 134 vascular plant species being noted here during one day of fieldwork in October 2010. The standing water is clean and supports much life and is augmented by a range of swamp types as well as hedgerows, trees, semi-natural broad-leaved woodlands and a variety of neutral grasslands, providing significant structural diversity as well as species diversity.

Naturalness:

Although there are some quite abundant exotic water plants, the majority of plant species noted here are natives. Even though the canal is man-made, colonisation has been by natural regeneration and the processes of natural succession can be observed in many places along the site.

Rare or Exceptional Features:

The most important feature of the site is the old canal, particularly those stretches that still hold clean standing water.

The woodland in the north-eastern end of the site (TN4) appears quite long-established and has a small population of broadleaved helleborine (*Epipactis helleborine*).

Fragility:

In some stretches the canal is elevated above the surrounding ground levels, sitting in raised embankments. It is important that future adjacent development do not impair the structural integrity of these features.

Water is one of the significant assets of this site and could be vulnerable to pollution incidents from adjoining land uses, industrial, agricultural or drainage-related.

Typicalness:

The aquatic and swamp vegetation is typical of remaindered canals and the majority of plant species noted here are typical natives of the Barnsley area.

Recorded History & Cultural Associations:

The history of the canal system is well-documented locally and links closely with the development of coal mining in the area.

Connectivity within the Landscape:

This linear site mainly passes through agricultural landscapes in its southern half, generally elevated above the surrounding land to the east. South of Shaw Lane, industry has developed over the route of the canal. The northern part of the site runs through mainly residential development, the eastern fringes of the settlement of Royston. The wildness of the canal therefore has links for birds and other wildlife of agricultural landscapes as well as those of suburban gardens.

North of Royston the canal again runs through agricultural and industrial areas, but also links into significant areas of semi-natural broadleaved woodland, with a single-track railway running alongside for the final stretch.

Value for appreciation of Nature and Learning:

A section of the Trans-Pennine Trail follows the route of the towpath through the entire length of the site, giving strong links to both north and south. In the south the site is accessible directly from Shaw Lane. Further north, Low Cronkhill Lane cuts across the canal, via an old bridge, giving east/west connections.

Within Royston there is an access point where Church Hill/ Pools Lane crosses the site and further north Lund Hill Lane gives links to Royston in the west and countryside to the east. Just north of the site the canal passes under Navvy Lane. These links add to the potential for increasing local appreciation of nature and nature conservation.

There are schools close by, in Royston, including a newly built one whose grounds abut the western site edge, so the intrinsic value and accessibility of the site makes it useful for appreciation of wildlife and ecological processes.

Recommendations:

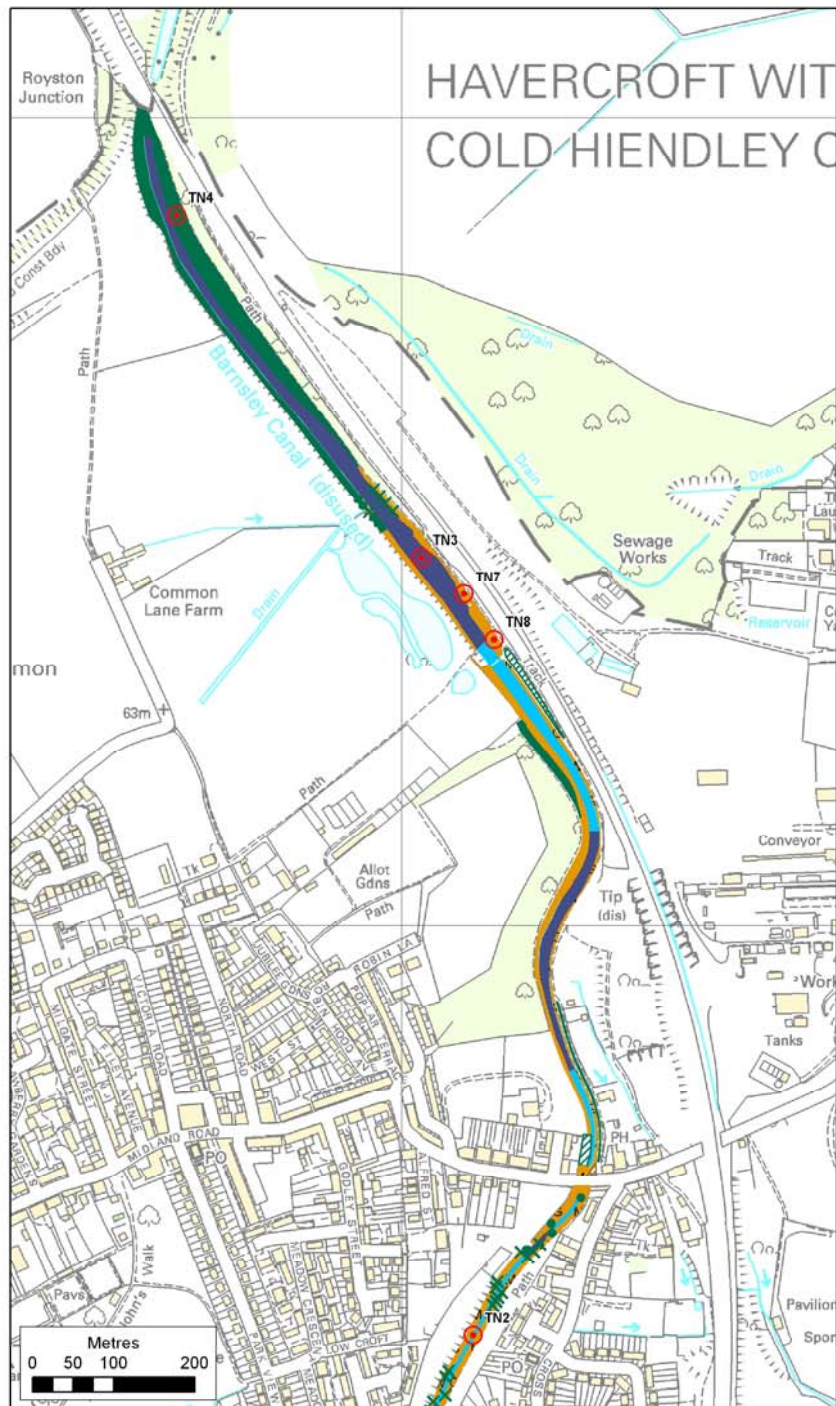
This site is an important connective feature in the landscape, providing a 'natural' corridor along which and within species can flourish.

In addition to its wildlife value, which is considerable, it provides a recreation opportunities for the local communities.

Action: Retain as a Natural Heritage Site

Support the local user groups in their protection and management of the site

Encourage adjacent landowners to adopt more wildlife friendly land management alongside the canal



Natural Heritage Sites

Site Name

Barnsley Canal

Area

8.74ha

Nearest Settlement

Royston

Key	Value
1	1
2	2
3	3
4	4
5	5
6	6
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99	99
100	100

-  Study Boundary
-  Target Notes
-  Scattered Scrub
-  Scattered broadleaved trees
-  Species-poor intact hedge
-  Semi-natural broadleaved woodland
-  Plantation broadleaved woodland
-  Unimproved acid grassland
-  Unimproved neutral grassland
-  Modified neutral grassland
-  Swamp
-  Standing water
-  Introduced shrub cultivated/disturbed land

Data Sources: BMBC

Scale 1:6,000 @A3



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