

24 Petre Street Urban Wildlife Zone



Introduction

In 1988 Derek Whiteley who discovered that this site supported a diverse insect fauna described the Petre Street Urban Wildlife Zone as “a twelve year old, well-established, species-rich open meadow growing on an urban scree of brick rubble”. (Whiteley, Sorby Record No 25). In this same article he stated that the Society had agreed a management plan for the conservation of the existing habitat with the Sheffield City Council which would include “some sort of ground disturbance on a rotational basis to maintain ruderal species”.

It appears that this management plan was not implemented and that the interior of the site has been left undisturbed.

Part of the Petre Street Urban Wildlife Zone is no longer open meadow. Shrub roses dominate half of the upper slope and three massive *Buddleja davidii* are growing on the central slope. Cotoneasters are thriving and multiplying at an alarming rate. Barberry hybrids have also been introduced. Even so, the site still boasts good numbers of common invertebrates. Research needs to be done during the summer months to determine if rare species are still there.

Site details

Site name

Petre Street Urban Wildlife Zone

Location

Ordnance Survey Grid Reference SK 366 890

Land owner

Sheffield City Council, Land and Planning Department.

Nearest road/street

Petre Street, Harleston Street, Earsham Street, Sutherland Street

Adjacent land use

Petre Street

Harleston Street – playing field

Earsham Street – industrial, waste ground, dump

Sutherland Street – housing, Ellesmere public park

Size

1.39229 hectares

Present management

Although the Sheffield City Ecology Unit usually consults The Sorby Natural History Society on matters relating to the Petre Street Urban Wildlife Zone, the Sorby NHS does not manage the site.

In 1988 an agreement was reached between Sheffield City Council and the Sorby NHS to conserve the existing grassland habitat. Trees were to be planted around the perimeter of the site.

The site in general has unrestricted access which has led to its abuse. Tipping and dumping blights the site.

In the autumn of 2003 the Sheffield City Council did carry out some maintenance tree work on this site along Sutherland Road at the same time they were working on the Harlestone Street Playing Field site.

The work on public notice was described as - crown lifting, prune clearing, cut back from street furniture and clear sight lines. According to the notice, Sutherland Road was not actually on the works schedule, but this type of work was urgently needed for a crack willow was sprawling over the pavement.

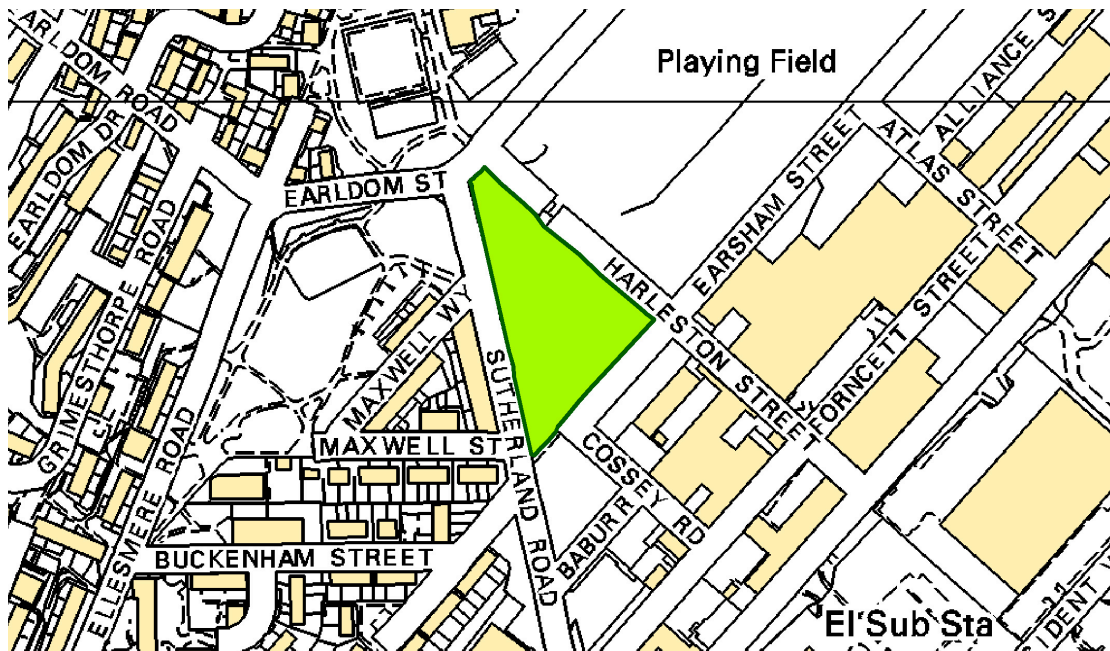
The grassland interior is reverting to scrub.

UDP designations

Area of Natural History Interest, (Green Environment). Open Space Area, (Leisure and Recreation).

The site is designated as a Community Wildlife Area in the Sheffield Nature Conservation Strategy.

Location map



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Ecology

Phase I ecological survey

Site description

This is an urban scree meadow that is allowed to flourish hidden from view by trees planted along its perimeter. It is situated on land that slopes down from Petre Street to Earsham Street.

The northern slope is partially wooded. Trees along Petre Street and Sutherland Road form the canopy. Inside this tree line dense scrub (primarily hawthorn and cotoneaster) form the understorey. Saplings of sessile oak and pedunculate oak can be found growing side by side. Small glades have formed naturally, but are unfortunately blighted by fly tipping. At the woodland edge there is bramble scrub and just a scattering of creeping thistles amongst the coarse grasses. Stinging nettle is also surprisingly rare. In summer the eastern half of the slope is remarkable for the flowering of its numerous shrub roses. All produce hips that provide a valuable food source for wildlife.

The central slope is rank grassland with some bramble scrub and scattered tall ruderals (rosebay willowherb). However there are three massive *Buddleja davidii*, a number of self-seeded rowan trees, several cotoneasters, and a stand of mature goat willows. Hidden amongst the tall grass there is a small barberry. Where the grass is shorter, there is a large patch of stonecrop.

Norway maples have been planted along the eastern perimeter. Trees along southern perimeter are primarily hedgerow species and include pedunculate as well as sessile oak. The unmanaged grass verge between trees and East Earsham Street includes some bramble scrub and tall ruderals (stinging nettles).

Habitats of interest

The Petre Street Urban Wildlife Zone is an excellent example of an urban common. Urban commons are listed as being of high conservation importance in the Sheffield Local Biodiversity Action Plan because they often support a rich diversity and abundance of species.

Although urban commons, especially those on nutrient-poor soils, may be notable for their vegetation, it is not the vegetation on this site that is particularly notable. What originally attracted the attention of the Sorby Natural History Society in the 1980s was the site's invertebrate population. Common species were found in abundance along with a few rarities. Sorby rarely surveys this site now-a-days. However, Derek Whiteley did make a quick foray through the site in October and found that common species still appear here in good numbers. He suggested to colleagues [personal communication] that it would be worth surveying the site again next year to look for the rarities to see if they are still there.

Grasslands in general are considered to be of high conservation importance in the Sheffield Local Biodiversity Action Plan. The grassland at the Petre Street Wildlife Zone is rank neutral grassland. Stonecrop is abundant in one area of the southern slope.

Particularly pleasing are the pockets of grassland along the inner edges of the plantation woodland. Sometimes a comma butterfly can be seen perched on one of the trees, like a sentry, looking over the glade.

Species of interest

Fauna species of high conservation importance are listed below in Habitats/Species of Conservation Importance.

Currently, the most interesting botanical aspect of this site is the flora that have been introduced here and have thrived, threatening to turn the scree meadow into scrub.

Buddleja davidii, butterfly bush, is often considered to be an essential component of wildlife gardens as its flowers are a rich source of nectar for Hymenoptera and Lepidoptera. At the Petre Street Urban Wildlife Zone there are three butterfly bushes that can only be described as massive. These bushes in full bloom are practically ignored by the site's grassland invertebrates that prefer to take their nectar from ground flora such as common ragwort.

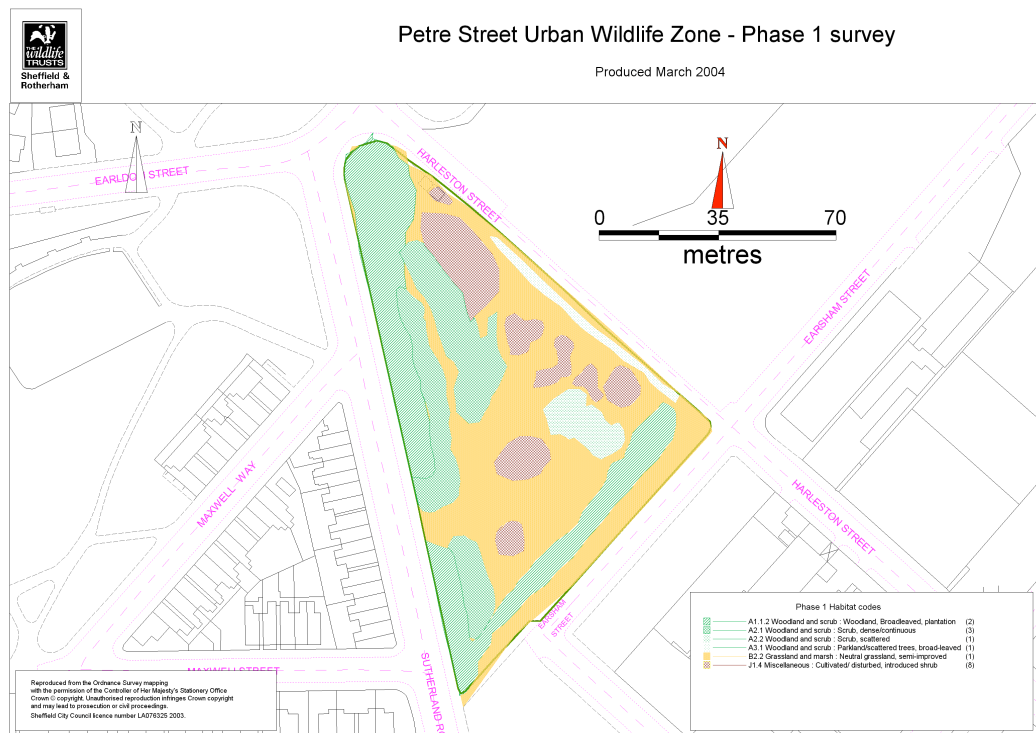
Shrub roses are a definite feature of this site. Most of the roses have single open white flowers and are likely to be variants of *Rosa rugosa* and *Rosa canina*.



All bear hips. The size and colour of these hips provide a clue to the actual number of rose species found here. Their origin is not known, whereas the Polyanthus shrub rose 'Ballerina' growing amongst the trees on the southern-most slope was probably planted by the Sheffield City Council when they landscaped the grassland perimeter. Another hybrid rose can be seen climbing up one of the huge *Buddlejas* on the central slope.

Cotoneaster scrub also typifies the site. There are several similar upright varieties varying in leaf shape or size and colour of berries. All these varieties have prominent veins in their leaves. The most common species have lanceolate entire leaves and pinkish red berries which are held upright from twig. Only one Cotoneaster on the site has cuspidate leaves and large bright red berries that hang down from the twigs. *Cotoneaster horizontalis* also grows on the site.

Phase 1 habitat map



Invertebrates

Noted on site

<i>Diptera</i>	fly, hoverfly, swarm of midges
<i>Hymenoptera</i>	bumble bee, bee
<i>Odonata</i>	brown hawk moth

Specialist invertebrate survey

Because this site had been so well researched in the 1980s and there were budget limitations restricting number of specialist invertebrate surveys, Derek Whiteley was not asked to survey this site in the summer of 2003.

In 1988, however, he reported (Whiteley, Sorby Record No. 25) “ that it is possible to observe over 100 taxa of flying insects (there) in a single afternoon. Ground invertebrates are common too, and include some specialities.”

He provided a summary of findings.

Centipedes	5 species identified
Millipedes	5 species identified
Slugs and snails	9 species identified
Ladybirds	5 species identified
Hoverflies	20 species, all common, mostly typical of urban wasteland
Butterflies	8 species
Moths	2 species of day-flying moths

Species that were considered rare or especially interesting were named and described:

<i>Carabus granulatus</i>	Large ground beetle	Rare in Sheffield area, almost certainly introduced
<i>Staphylinus olens</i>	Devils Coach Horse Beetle	Urban specialist Common on this site amongst brick rubble
<i>Bradycellus verbasci</i>	Ground beetle	Demolition site specialist Rare outside urban areas
<i>Demetrias atricapillus</i>	Ground beetle	Known from only one other urban site
<i>Aeshna grandis</i>	Brown Hawker dragonfly	Uses the site for feeding and resting
<i>Polysphincta tuberosa</i>	a Pimpline Echnemon Wasp	Known previously from only one other site in Yorkshire
<i>Leptogaster cylindrical</i>	a Robber Fly	Fond of tall dense grassland and particularly frequent on open urban site
<i>Cylisticus convexulus</i>	Curly Woodlouse	Well known on this site but uncommon elsewhere in Sheffield region.
<i>Androniscus dentiger</i>	Pink Woodlouse	Limestone-scrub specialist often associated with brick mortar

Specialist butterfly survey

Small skipper

Large skipper

Large white

Small white

Small copper

Common blue

Holly blue

Red admiral

Painted lady

Small tortoiseshell

Comma

Speckled wood

Gatekeeper

Meadow brown

Burnet moth

Cinnabar moth

Silver Y

Vertebrates

Bird survey

SPECIES RECORDED ON AT LEAST ONE OCCASION DURING THE BREEDING SEASON	<u>POSSIBLE</u> BREEDING SPECIES ¹	<u>PROBABLE</u> BREEDING SPECIES ²	<u>CONFIRMED</u> BREEDING SPECIES ³	NUMBER OF TERRITORIES HELD BY SELECTED SPECIES
Blackbird Goldfinch Greenfinch Magpie Robin Starling Tit, Blue Tit, Great Tit, Long-tailed Warbler, Willow Wren	Blackbird Goldfinch Robin Tit, Blue Warbler, Willow Wren			

¹ Evidence: present on more than one occasion in suitable breeding habitat.

² Evidence: singing/displaying male in suitable breeding habitat on more than one occasion; pair in suitable habitat showing courtship or territorial behaviour; bird visiting probable nest site; nest building; anxiety calls; recently used nest

³ Evidence: Adult carrying food or faecal sac; adult sitting on nest; nest with eggs/young; egg shells found away from nest; recently fledged young.

Mammals

A number of foxes live here. At least one pair is known to have bred here in 2003.

Evaluation

In 1988 the Sorby Natural History Society and the Sheffield City Council agreed that this site would be managed as an urban wildlife sanctuary and that its diverse insect fauna would be safeguarded.

Photographs taken at that time show the site as being open grassland with flowering flowering herbs. Common poppies in flower provided a colourful sight in July. The wooded edges were described as tidy and the centre as wild. The wooded edges are no longer tidy and the centre is rank grassland and scrub. Not a single red poppy was to be seen in the summer of 2003. Local residents treat the site with scorn and fly tipping and dumping is commonplace. Complaints are increasing and residents are incredulous that the site should be preserved for its invertebrate populations. Developers are eyeing the site citing that it would be cheaper to put a sports complex there than on the steeply sloping corner of the Harleston Street playing field site.

The site is badly in need of management. The trees closely planted along the perimeter of the site have grown and spread beyond their allotted space. A crack willow was sprawling over the pavement of Sutherland Road until it was cut down to ground level in November 2003 by the Sheffield City Council in order to clear the sight line.

Some expansion of the wooded areas is desirable and to be expected as the trees mature and regenerate. At both the top and bottom of the slope there are pockets of grassland encompassed by trees forming small glades. Unfortunately, these areas are often targetted for dumping.

The central grasslands are converting to scrub. Shrub roses have multiplied and dominate the upper slopes of the grassland. Cotoneasters are becoming too plentiful on the site in general and the three *Buddleja davidii* are much too big.

Despite this the site remains a good one for invertebrates. Several species of butterflies were noted including three species listed in the Local Red Data Book. Derek Whiteley noted seeing an abundance of common species of invertebrates when visiting the site in October 2003. October is fairly late in the season for invertebrate surveys and it is hoped that the Sorby NHS will visit the site in 2004 to determine if rarer species noted in the 1980s can still there.

To discourage abuse of the site and encourage local interest in its continued preservation, it might be a good idea to take school children to the site on minbeast hunts so that they can learn why entomologists originally sought to conserve this site.

A grassland management plan should be put in place.. The management plan should allow for the selective clearance of some of the scrub on the central slopes of the grassland and some of the rose bushes on the upper slope. This management plan should be drawn up by an ecologist with a knowledge of habitat management for invertebrates.

The wooded areas need to be managed properly. The Sheffield City Council's primary approach is to cut back from street furniture and clear sight lines. Selective removal of saplings to keep the wooded areas from encroaching too far into the grassland is something else to be considered. Careful

monitoring of the wood is also necessary to spot the introduction of unwanted species such as cherry laurel so that they can be eradicated quickly.

Protective actions:

- Clear dumping and continue to do so regularly
- Monitor wooded areas and remove unwanted species, such as cherry laurels, from woodland while they are still small.
- Remove barberries from grassland and discourage introduction of cultivars such as this in the future

Potential improvements:

- Mow the grass verge along Earsham Street
- Remove at least two of the massive *Buddleja davidii*
- Selectively remove cotoneaster scrub from central slopes of grassland
- Selective removal of saplings to keep regeneration of wooded areas in check

Species found

A (tree or shrub)

<i>Acer campestre</i>	field maple
<i>Acer platanoides</i>	Norway maple
<i>Acer pseudoplatanus</i>	sycamore
<i>Berberis sp.</i>	barberry
<i>Berberis thunbergii</i>	barberry
<i>Betula pendula</i>	silver birch
<i>Buddleja davidii</i>	butterfly-bush
<i>Corylus avellana</i>	hazel
<i>Cotoneaster bullatus</i>	hollyberry cotoneaster
<i>Cotoneaster sp.</i>	cotoneaster
<i>Crataegus monogyna</i>	hawthorn
<i>Cytisus scoparius</i>	broom
<i>Fraxinus excelsior</i>	ash
<i>Ilex aquifolium</i>	holly
<i>Ilex x altaclarensis 'Wilsonii'</i>	holly hybrid
<i>Populus nigra</i>	black poplar
<i>Prunus avium</i>	wild cherry
<i>Prunus laurocerasus</i>	cherry laurel
<i>Pyracantha coccinea</i>	firethorn
<i>Quercus macranthera</i>	Caucasian oak
<i>Quercus petraea</i>	sessile oak
<i>Quercus robur</i>	pedunculate oak
<i>Quercus sp.</i>	oak

	<i>Rosa canina</i> agg.	dog rose
	<i>Rosa rugosa</i>	Japanese rose
	<i>Rosa</i> sp.	rose
	<i>Rubus fruticosus</i> agg.	bramble
	<i>Salix capraea</i>	goat willow
	<i>Salix fragilis</i>	crack willow
	<i>Sambucus nigra</i>	elder
	<i>Sambucus nigra</i> 'Aurea'	golden elder
	<i>Sorbus aucuparia</i>	rowan
	<i>Sorbus intermedia</i> agg.	Swedish whitebeam
	<i>Tilia</i> sp.	lime sp
	<i>Ulmus</i> sp.	elm sp.
	<i>Viburnum opulus</i>	guelder-rose
B (herb)		
	<i>Alliaria petiolata</i>	garlic mustard
	<i>Artemisia absinthium</i>	wormwood
	<i>Aster novi-belgii</i>	michaelmas daisy
	<i>Calystegia silvatica</i>	large bindweed
	<i>Chamerion angustifolium</i>	rosebay willowherb
	<i>Cirsium arvense</i>	creeping thistle
	<i>Cirsium vulgare</i>	spear thistle
	<i>Galium aparine</i>	cleavers
	<i>Hieracium pilosella</i>	mouse-ear hawkweed
	<i>Hieracium umbellatum</i>	leafy hawkweed
	<i>Hyacinthoides hispanica</i> x <i>non-scripta</i>	hybrid bluebell
	<i>Hypochaeris radicata</i>	cat's-ear
	<i>Lapsana communis</i>	nipplewort
	<i>Lathyrus pratensis</i>	meadow vetchling
	<i>Linaria purpurea</i>	purple toadflax
	<i>Linaria vulgaris</i>	common toadflax
	<i>Matricaria matricarioides</i>	pinappleweed
	<i>Medicago lupulina</i>	black medick
	<i>Melilotus altissima</i>	melilot
	<i>Plantago lanceolata</i>	ribwort plantain
	<i>Plantago major</i>	greater plantain
	<i>Polygonum aviculare</i>	knotgrass
	<i>Potentilla erecta</i>	tormentil
	<i>Potentilla reptans</i>	creeping cinquefoil
	<i>Ranunculus acris</i>	meadow buttercup
	<i>Rumex obtusifolius</i>	broad-leaved dock
	<i>Sedum reflexum</i>	reflexed stonecrop
	<i>Senecio jacobaea</i>	common ragwort
	<i>Senecio squalidus</i>	Oxford ragwort
	<i>Silene alba</i>	white campion
	<i>Stachys sylvatica</i>	hedge woundwort
	<i>Tanacetum parthenium</i>	feverfew
	<i>Taraxacum officianale</i> agg.	dandelion
	<i>Trifolium arvense</i>	hare's-foot clover
	<i>Trifolium campestre</i>	hop trefoil
	<i>Trifolium pratense</i>	red clover

	<i>Trifolium repens</i>	white clover
	<i>Tussilago farfara</i>	colt's-foot
	<i>Vicia hirsuta</i>	hairy tare
	<i>Vicia sativa</i>	common vetch
	<i>Vicia sepium</i>	bush vetch
C (grass)		
	<i>Alopecurus pratensis</i>	meadow foxtail
	<i>Arrhenatherum elatius</i>	false oat-grass
	<i>Bromus hordeaceus</i>	soft-brome
	<i>Dactylis glomerata</i>	cock's-foot
	<i>Elytrigia repens</i>	common couch
	<i>Festuca rubra</i>	red fescue
	<i>Holcus lanatus</i>	Yorkshire fog
	<i>Lolium perenne</i>	perennial rye-grass
	<i>Phleum pratense</i>	timothy
	<i>Poa trivialis</i>	rough meadow-grass
E (Pteridophyte)		
	<i>Equisetum arvense</i>	field horsetail
F (Bryophyte)		
	<i>Brachythecium rutabulum</i>	rough-stalked feather moss
	<i>Polytrichum juniperinum</i>	

Habitats/species of nature conservation importance

UK BAP Priority Habitats

None

Sheffield LBAP Priority Habitats

Grassland

Urban common

UK BAP Priority Species

None

Sheffield LBAP Priority Species

None

UK BAP Species of Conservation Concern

Blue tit

Goldfinch

Willow warbler

Wren

UK Red List Birds

None

UK Amber List Birds

None

Local Red Data Book Species

Lepidoptera Grade A Species

Comma

Holly blue

Speckled wood

Previous surveys

AUTHOR/RECORDER	DATE	COVERAGE	LOCATION
Sorby NHS	1984		
Sorby NHS	1985		
Sorby NHS	1986		
Sorby NHS	1988		
Sorby NHS	05/07/01	Flora	

History and Geology

Geological survey

The site is underlain by Sedimentary rocks from the Lower Coal Measures series, this was deposited during the Upper Carboniferous period.

Archaeological survey

No archaeological or historical features were identified within the Petre Street Urban Wildlife Zone in the South Yorkshire Archaeological Service SMR, English Heritage National Monuments Records.

Historical survey

The Petre Street Urban Wildlife Zone was created on the site of former terraced housing on Harleston Street and Sutherland Road. The housing was first shown on the 1905 Ordnance Survey 25" map. The site of the Urban Wildlife Zone is previously shown as part of the *Hall Carre Wood* on Harrison's survey of Southall Soake (1637), however, its southern tip corresponds to a plot of land labelled as *Over Field*. By 1975, the extent of Hall Carre Wood shown on Fairbank's map of the Parish of Sheffield had greatly decreased and the entire site had become agricultural land. Subsequently, residential development would appear to have encroached on the site. Terraced housing is shown within the limits of the Urban Wildlife Zone along Earsham Street, Harleston Street, Thorndon Road and the eastern edge of Sutherland Road on the 2nd edition Ordnance Survey 25" map (1905).

A Methodist Chapel (OS 13) is shown at the northern extent of Petre Street Wildlife Zone on the 2nd edition Ordnance Survey 25" map (1905). The chapel lies on Petre Street, at the intersection of Harleston Street and Sutherland Road. It was later demolished, along with the terraced housing built on the Urban Wildlife Zone during the late nineteenth or early twentieth century.

Recommendations

The Petre Street Urban Wildlife Zone is of limited archaeological or historical significance. It would appear to have been used for housing during the early to mid twentieth century. Following the demolition of the housing, the site remained undeveloped and has since become one of the many open or green spaces in the Burngreave NDfC area. Consultation of census records will help identify former residents of Earsham Street, Harleston Road, Sutherland Road and Thorndon Road. This information may help improve understanding of local social history.

Notes by ecologists

In 1850 the site appears to be on the edge of a field boundary with no discernible dwellings.

Harleston Street is clearly marked on the 1880 map.

Scenes from old photographs of the early 1900s show the area at that time as being dark and grimy. Smoke from adjacent factories filled the air. Harleston Street was lined with tall, imposing housing with a very narrow gap between them.

Community

No community survey was carried out.