

19 Pye Bank Road/Rock Street Local Geological Nature Site



Introduction

This small site is located directly across Rock Street from Denholme Close Open Space. Public access is limited due to the site's topography and vegetation, as well as by the man-made barriers on three sides of it, but there is little incentive for anyone to enter. A low metal barrier does not really prevent access to the site from Rock Street, as it is possible for an adult to climb over it and young children to climb through it. Metal fencing does prevent access from the flats (now a demolition site) above the site. There is no barrier along the Pye Bank Road side of the site where there is a steep rock face that is difficult to climb. However, this is where a fire was set that caused damage to vegetation. The proliferation of birch trees along the lower slope of the site is a possible indicator that this type of damage has occurred before allowing birch to colonise the site where other vegetation has been destroyed.

Site details

Site name

Pye Bank Road/Rock Street Local Geological Nature Site

Location

SK 354 886

Land owner

Sheffield City Council

Nearest road/street

Pye Bank Road

Rock Street

Pitsmoor Road

Adjacent land use

Rock Street is residential. Directly across the street from the site lies the landscaped grounds of Denholme Close Open Space, a rich and diverse green space.

Pye Bank Road was also once residential, but demolition of the maisonettes and flats on this road began in the summer of 2003. The housing directly above this site was being demolished in February 2004.

Size

0.22 hectares

Present management

Cotoneasters and guelder roses were coppiced in 2002.

UDP designations

Geological Local Nature Site

Location map



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Ecology

Phase I ecological survey

Site description

The rock exposure towards Pye Bank Road is designated a geological Local Nature Site which is not to be destroyed or obscured.

The exposure is not of natural origin; it was created when Pye Bank Road was constructed in the early 1960s.

Grasses and short ruderals like red clover and smooth hawksbeard flower around the rock exposure. Dandelion and knotgrass actually flower out of the rock face.



There is a grass verge approximately one metre wide between the base of the rock face and the kerb of the pavement. Many of the grasses growing here are coarse grasses typical of waste ground. Flowering herbs also grow and flower in the grass verge and these include small flowered geranium, dock, plantain, dandelion, catsear, mugwort, hogweed and stinging nettles. At the far end near the brick wall that separates the site from the adjacent housing estate, there is a small berberis growing amongst the tall ruderals. It is at this wall that ivy was probably first planted or took root. It now spreads along the top of the hillside above the rock face then eventually begins to sprawl down the slope reaching as far as the Rock Street pavement.

In addition to the rock feature, closer to Rock Street there is also an exposed brick face. There was a fire here in 2003. Although bare soil was still visible, the grassland was beginning to renew itself by August. Three of the pine trees midway up the slope were damaged, one quite badly. The fire also burnt some of the Japanese knotweed growing along Pye Bank Road near Rock Street, but not enough to knock it back. Looking up at the site from Rock Street, Japanese knotweed can also be seen growing at the top of the slope in the background behind ivy, stinging nettle and bramble. As one approaches the eastern perimeter of the site, there is also a large clump of it on the middle of the slope in the midst of rank grassland.

There are two species of pine trees growing on this small site. Some of the pine trees appear to have been pollarded and others badly pruned or possibly wind damaged. There is a metal barrier along Rock Street which inhibits access to the site. Several cotoneasters growing within 2 metres of this metal barrier were coppiced in 2002. There's a line of silver birches that start just behind the first coppiced cotoneaster. Guelder roses grow amongst the silver birches. These flowered and set fruit this year. There are also a number of guelder roses growing up the slope near the eastern perimeter of the site; these had been coppiced and produced only foliage in 2003. Other shrubs and trees on the site include hazel, sessile oak, two cultivars of buddleja davidii and firethorn.

Large areas of the site are dominated by tall ruderals; some of these (stinging nettle, creeping thistle, common ragwort) insure that the site attracts a good range of invertebrates.



Habitats of interest

The site has some of the characteristics of an urban common. It has an abundance of tall ruderal herbs which attract many invertebrates (including 11 species of butterfly). The bed of bramble is also a valuable habitat for invertebrates.

The fruit bearing shrubs (e.g. guelder rose and cotoneaster) are a source of food for birds, as are the seeds of the tall herbs. The trees and shrubs offer potential nesting cover.

The exposed rock face is too small to provide significant habitats (e.g. for nesting birds). The grassland around the rock face is rather species-poor.

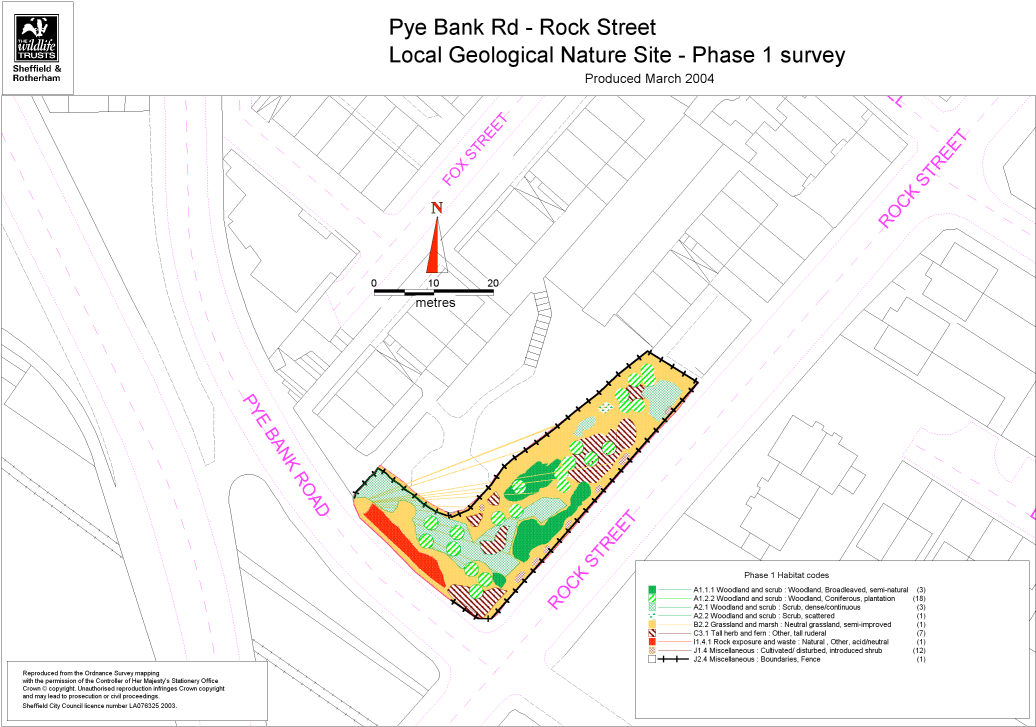
Species of interest

The site contains a mixture of cultivated and wild plants. Although none of them can be described as being rare or endangered, several species are noteworthy for their associations with invertebrates. Stinging nettle is an important larval foodplant for several species of butterflies, including small tortoiseshell, comma and red admiral. Common ragwort is the main foodplant for the caterpillars of the cinnabar moth, which were much in evidence on the site in June 2003. Other species of moth are attracted to tall herbs such as rosebay willowherb and mugwort.

The list of 11 species of butterfly is remarkable for a small urban site. It includes comma, a Local Red Data Book species which was, until recently, scarce in the Sheffield district.

Guelder rose is an indigenous species with a patchy distribution in the Sheffield area. Its flowers are an important source of nectar for invertebrates and its berries are eaten by birds.

Phase 1 habitat map



Invertebrate survey

Noted on site:

Hemiptera: shield bug (*Eysarcoris fabricii*), grasshopper

Odonata: brown hawker dragonfly

Specialist Lepidoptera Survey

Small skipper

Large skipper

Small white

Small copper

Red admiral

Painted lady

Small tortoiseshell

Comma

Wall brown

Gatekeeper

Meadow brown

Cinnabar moth

Vertebrates

Bird survey

(Birds recorded outside of the breeding season: robin, long-tailed tit)

Species Recorded	Possible Breeding Species	Probable Breeding Species	Confirmed Breeding Species	Territory Numbers
Blackbird Chiffchaff Magpie Sparrow, House Tit, Blue	Tit, Blue			

Mammals

No mammals were recorded on the site.

Evaluation

The site appears to have been planted with trees and shrubs in the late 1980s or early 1990s. A mixture of native and cultivated species were used. Since then, it seems to have received little maintenance, apart from the ad hoc pruning of shrubs that overhang the pavement and an occasional clear-out of accumulated rubbish.

The site's main ecological interest is as a habitat for invertebrates, principally Lepidoptera. In this respect, the most important features are the tall ruderal herbs. Some of the shrubs are also of value for invertebrates and birds.

Suggested improvements:

- remove the accumulated rubbish;
- remove the dead and damaged pine trees;
- control the Japanese knotweed to prevent it from spreading further;
- mow the grass beneath the rock exposure on a regular basis;
- install an interpretative panel near the rock exposure;
- create a 'tidy strip' along the edge of the site that adjoins Rock Street;
- paint the railings.

Species found

A (tree or shrub)

<i>Berberis sp.</i>	barberry
<i>Betula pendula</i>	silver birch
<i>Buddleja davidii</i>	butterfly-bush
<i>Corylus avellana</i>	hazel
<i>Cotoneaster sp.</i>	cotoneaster
<i>Fallopia japonica</i>	Japanese knotweed
<i>Pinus nigra ssp laricio</i>	Corsican pine
<i>Pinus sylvestris</i>	Scots pine
<i>Pyracantha rogersiana</i>	firethorn (red berries)
<i>Quercus petraea</i>	sessile oak
<i>Rubus fruticosus agg.</i>	bramble
<i>Viburnum opulus</i>	guelder-rose

B (herb)

<i>Artemisia vulgaris</i>	mugwort
<i>Bellis perennis</i>	daisy
<i>Brassica oleifera</i>	oil seed rape
<i>Cerastium fontanum</i>	common mouse-ear
<i>Chamerion angustifolium</i>	rosebay willowherb

<i>Chenopodium album</i>	fat-hen
<i>Cirsium arvense</i>	creeping thistle
<i>Conium maculatum</i>	hemlock
<i>Convolvulus arvensis</i>	field bindweed
<i>Crepis capillaris</i>	smooth hawk's-beard
<i>Epilobium hirsutum</i>	great willowherb
<i>Epilobium montanum</i>	broad-leaved willowherb
<i>Fumaria officinalis</i>	common fumitory
<i>Galium aparine</i>	cleavers
<i>Geranium pusillum</i>	small flowered cranesbill
<i>Geranium robertianum</i>	herb-robert
<i>Hedera helix</i>	ivy
<i>Heracleum sphondylium</i>	hogweed
<i>Hieracium sp.</i>	hawkweed
<i>Hyacinthoides hispanica</i>	Spanish bluebell
<i>Hypochaeris radicata</i>	cat's-ear
<i>Lactuca serriola</i>	prickly Lettuce
<i>Lapsana communis</i>	nipplewort
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Narcissus</i> Division 2	daffodil cultivars
<i>Papaver rhoeas</i>	common poppy
<i>Plantago lanceolata</i>	ribwort plantain
<i>Polygonum aviculare</i>	knotgrass
<i>Ranunculus acris</i>	meadow buttercup
<i>Ranunculus repens</i>	creeping buttercup
<i>Rumex crispus</i>	curled dock
<i>Rumex obtusifolius</i>	broad-leaved dock
<i>Senecio jacobaea</i>	common ragwort
<i>Senecio squalidus</i>	Oxford ragwort
<i>Silene alba</i>	white campion
<i>Sinapis arvensis</i>	charlock
<i>Sisymbrium officinale</i>	hedge mustard
<i>Sonchus asper</i>	prickly sow-thistle
<i>Taraxacum officinale</i> agg.	dandelion
<i>Trifolium pratense</i>	red clover
<i>Urtica dioica</i>	common nettle
<i>Veronica persica</i>	common field-speedwell
<i>Vicia sativa</i>	common vetch
C (grass)	
<i>Alopecurus pratensis</i>	meadow foxtail
<i>Arrhenatherum elatius</i>	false oat-grass
<i>Bromus hordeaceus</i>	soft-brome
<i>Bromus sterilis</i>	barren brome
<i>Dactylis glomerata</i>	cock's-foot
<i>Elytrigia repens</i>	common couch
<i>Festuca rubra</i>	red fescue
<i>Hordeum murinum</i>	wall barley
<i>Poa annua</i>	annual meadow-grass

Habitats/species of nature conservation concern

UK BAP Priority Species

House sparrow

Sheffield LBAP Priority Species

House sparrow

UK BAP Species of Conservation Concern

Blue tit

Chiffchaff

UK Red List Birds

House sparrow

UK Amber List Birds

None

Local Red Data Book Species

Lepidoptera Grade A Species

Comma

Previous surveys

There do not appear to have been any previous ecological surveys of this site. It was not covered by the Inner City Habitat Survey undertaken in the late 1980s and early 1990s.

History and Geology

Geological survey

This site lies upon the sandstone known as the Silkstone Rock, which outcrops along Pye Bank Road.

The following information is taken from File G329 held at the Sheffield Geological Records Centre.

Outcrop length: 18 metres.

Height: 2 metres.

Description: The outcrop consists of gently dipping sandstone beds. The outcrop protrudes from a grassy bank obscured by vegetation. Cracks and joints (horizontal and vertical) are present.

Stratigraphy: Westphalian A, Silkstone Rock.

Petrology: Medium sandstone.

Mineralogy: Quartz.

Structure: Bedding joints.

The rock exposure was designated as a Geological Local Nature Site in the 1998 edition of the Unitary Development Plan. However, it was not included in the list of Regionally Important Geological Sites drawn up in the 2003.

Further information concerning the status of the exposure can be obtained from the Sheffield Geological Records Centre (Tel 0114 2782650).

The exposure is not of natural origin; it was created when Pye Bank Road was constructed in the early 1960s.

Archaeological survey

[This site was not covered by the archaeological survey undertaken by ASE Ltd.]

The Sheffield City Council Archaeology Department had no archaeological information about this site.

Historical survey

[The site was not covered by the historical survey undertaken by ASE Ltd.]

The large scale Ordnance Survey map of 1851 shows the area covered by the site today as being part of a formal garden. According to the 1890 map, this garden was part of the grounds of Rock House*, a substantial property on the hillside overlooking Rock Street.

By 1903, the grounds of Rock House land had been built on. The area covered by the site today was occupied by a row of semi-detached houses (numbers 25 to 43 Rock Street). The houses appear to have been constructed of brick and raised up from the road with gardens at the front.

Pye Bank Road was created in the early 1960s during the redevelopment of Woodside. The rock exposure (see 3.4) was created during the construction of the road. The housing on the site was demolished later, at sometime between 1963 and 1972.

Judging from the size of the trees, the site appears to have been planted with trees and shrubs in the late 1980s or early 1990s. The shrubs were cut back heavily a few years ago to facilitate the removal of accumulated rubbish.

The housing blocks on the northwestern side of the site were demolished in February 2004.

Community

No community survey was carried out.