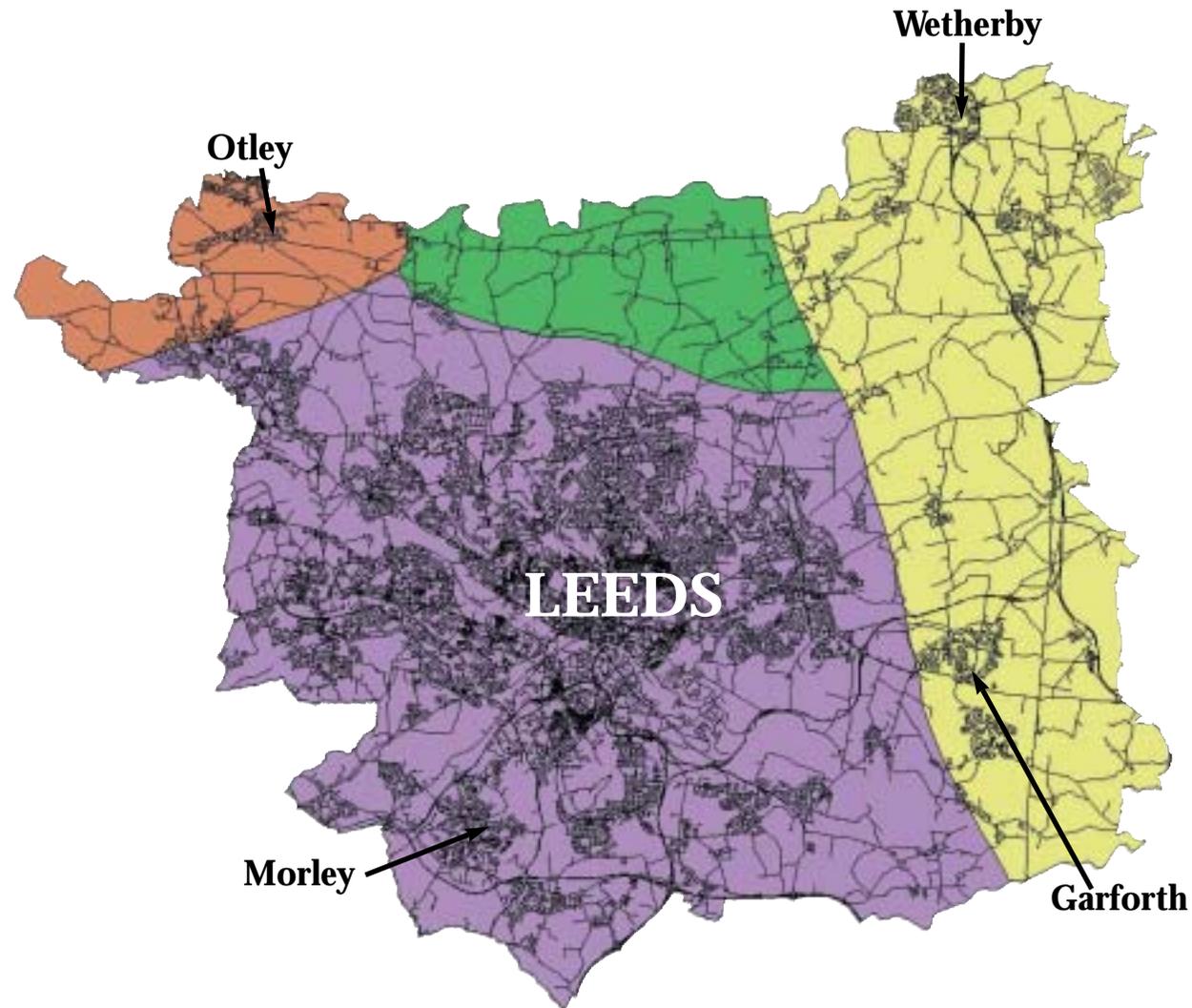


## Natural Areas in the Leeds District

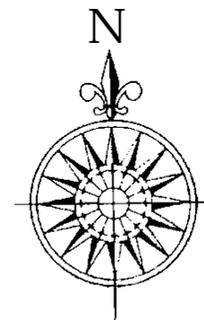


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### Natural Areas

-  Coal Measures
-  Southern Magnesian Limestone
-  Pennine Dales Fringe
-  Southern Pennines





### *The Coal Measures Natural Area*

The Coal Measures Natural Area stretches north from Nottinghamshire, covering the major coalfield areas of South and West Yorkshire. It is an economically important area with major conurbations including Sheffield, Barnsley, Wakefield and most of south, central and west Leeds. In Leeds, it covers Morley and Pudsey; the central Leeds conurbation and inner suburbs; Rothwell and Allerton Bywater.

Beyond the major conurbations, agriculture remains the main landuse. However, only small, isolated areas of flower-rich neutral grassland remain and the area's lowland wet grassland has similarly lost most of its botanical interest, due to agricultural improvement, or has disappeared entirely due to drainage works.

Because of its urban nature, the Natural Area is characterised by relict habitats and areas of encapsulated countryside, including heathland, ancient woodland and arable fields bounded by hedgerows. The Meanwood Valley, Middleton and Killingbeck all exemplify this in Leeds.

Streams sustain important populations of fish and aquatic invertebrates, such as Atlantic stream crayfish, (*Austropotamobius pallipes*), and birds such as dipper (*Cinclus cinclus*) and kingfisher (*Alcedo atthis*). Ponds, including field, garden and mill ponds, are particularly important for amphibia, but also for a range of aquatic invertebrates and plants.

Coal mining and the extraction of sand and gravel have resulted in the creation of extensive valley and subsidence wetlands throughout the Lower Aire Valley, such as at Fairburn Ings. These support internationally important numbers of wintering wildfowl as well as breeding birds and invertebrates such as dragonflies. They also offer opportunities for the creation of large areas of reedbed.

Parklands, of 'municipal' origin such as Roundhay, or estates such as Temple Newsam and Oulton Hall, often

contain areas of relict habitats. They are particularly important for their expanses of open grassland with trees, which help define them, and especially for 'veteran' trees with their associated fungi, insects and other fauna.

The urban and suburban areas are particularly rich in exotic and cultivated species. Many of these are found within, or originate from, gardens, which can comprise a rich and complex variety of different habitats such as ponds, hedges, lawns and flower borders. Gardens provide significant areas of habitat for some species, including frog, hedgehog and pipistrelle bat. They are also important for 'common or garden' birds such as song thrush, bullfinch and spotted flycatcher, all of which are Priority Action species in the UK BAP. Other exotic species are associated with transport routes or the modified environments resulting from industrial activity.



*Adel Moor*

Broad Habitat Type	Key Features and Species Groups	Notable Species
<b>Parkland</b>	Permanent grasslands with veteran trees Deadwood beetles Deadwood flies Deadwood fungi Bats	
<b>Woodland</b>	Deadwood beetles Deadwood flies Bats Fungi	<i>Hordelymus europaeus</i> Wood barley <i>Orchis mascula</i> Early purple orchid <i>Meles meles</i> Badger
<b>Wet woodland</b>	Alder carr Sedge swamp Reedbed Ferns Coleoptera	
<b>Valley and subsidence wetlands</b>	Wintering wildfowl Breeding wildfowl Migrant waders Aquatic macrophytes Aquatic invertebrates Breeding waders Reptiles and amphibians	<i>Lutra lutra lutra</i> Otter <i>Arvicola terrestris</i> Water vole <i>Micromys minutus</i> Harvest mouse <i>Aythya ferina</i> Pochard <i>Rallus aquaticus</i> Water rail <i>Anas crecca</i> Teal <i>Anas strepera</i> Gadwall <i>Anas clypeata</i> Shoveler <i>Podiceps nigricollis</i> Black-necked grebe <i>Alcedo atthis</i> Kingfisher <i>Anas querquedula</i> Garganey <i>Cygnus cygnus</i> Whooper swan <i>Bufo bufo</i> Common toad <i>Natrix natrix</i> Grass snake
<b>Lowland wet grassland</b>		<i>Vanellus vanellus</i> Lapwing <i>Gallinago gallinago</i> Snipe <i>Tringa totanus</i> Redshank
<b>Reedbeds</b>	Invertebrates	<i>Arvicola terrestris</i> Otter <i>Lutra lutra lutra</i> Water vole <i>Micromys minutus</i> Harvest mouse <i>Neomys fodiens</i> Water shrew <i>Botaurus stellaris</i> Bittern

Broad Habitat Type	Key Features and Species Groups	Notable Species
		<i>Circus aeruginosus</i> Marsh harrier <i>Emberiza schoeniclus</i> Reed bunting <i>Anas querquedula</i> Garganey <i>Cettia cetti</i> Cetti's warbler <i>Locustella luscinioides</i> Savi's warbler <i>Locustella naevia</i> Grasshopper warbler <i>Panurus biarmicus</i> Bearded tit (reedling)
<b>Canals</b>	Pondweeds Freshwater sponges Freshwater molluscs Aquatic coleoptera Dragonflies and damselflies Mayflies Caddis flies Hoverflies	<i>Potamogeton trichoides</i> Hairlike pondweed
<b>Rivers and streams</b>	Fish	<i>Lutra lutra lutra</i> Otter <i>Arvicola terrestris</i> Water vole <i>Austopotamobius pallipes</i> Atlantic stream crayfish <i>Alcedo atthis</i> Kingfisher <i>Cinclus cinclus</i> Dipper
<b>Heathland/acid grassland mosaic</b>		<i>Lacerta vivipara</i> Common lizard <i>Saxicola ruberta</i> Whinchat
<b>Neutral grassland</b>	Diptera Coleoptera Hemiptera Lepidoptera	<i>Perdix perdix</i> Grey partridge <i>Saxicola ruberta</i> Whinchat <i>Tyto alba</i> Barn owl
<b>Urban and post-industrial habitats</b>	Lepidoptera Coleoptera Diptera Hemiptera	<i>Pipistrellus sp.</i> Pipistrelle bat <i>Phoenicurus ochurus</i> Black redstart <i>Pyrhula pyrrhula</i> Bullfinch <i>Turdus philomelos</i> Song thrush <i>Charadrius dubius</i> Little ringed plover

Broad Habitat Type	Key Features and Species Groups	Notable Species
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**Ponds**

Amphibia  
Aquatic macrophytes  
Aquatic invertebrates

*Triturus cristatus* Great crested newt

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**Hedgerows and field margins**

Birds

*Perdix perdix* Grey partridge  
*Carduelis cannabina* Linnet  
*Passer monantus* Tree sparrow  
*Lepus europaeus* Brown hare





### Southern Magnesian Limestone Natural Area

The Southern Magnesian Limestone Natural Area is a long, narrow strip running from Nottingham, in the south, to Ripon, in the north, following the out-cropping ridge of magnesian limestone rock. In Leeds, this corresponds to the eastern part of the district and includes Ledston, Ledsham, Kippax, Barwick, Bramham, Boston Spa, Thorp Arch and Walton.

Its well-drained, fertile soils make it an agriculturally productive area, although this has led to large areas of former pasture being ploughed and put to arable use. Quarrying of the limestone and mining of the coal beneath have also left their impact.

The area is characterised by flower-rich, calcareous grasslands, such as at Townclose Hills, Kippax, with a variety of orchids and other, nationally scarce plants. These include pasqueflower (*Pulsatilla vulgaris*) and dark red helleborine (*Epipactis atrorubens*). The grasslands are also important for invertebrates such as glow-worm (*Lampyrus noctiluca*).

On areas of drift overlying the limestone, soils tend to be neutral, with different grassland communities. A few sites with mesotrophic swards support populations of thistle broomrape (*Orobancha reticulata*) which, nationally, is almost entirely confined to the Southern Magnesian Limestone Natural Area.



Scrub within the natural area is important for invertebrates and summer migrant birds such as turtle dove (*Streptopelia turtur*). Characteristic shrubs include dogwood (*Cornus sanguinea*), wild privet (*Ligustrum vulgare*) and spindle (*Euonymus europaeus*). The rarer alder buckthorn (*Frangula alnus*) is the foodplant of the brimstone butterfly's caterpillar.

Although much of the ancient semi-natural woodland within the Natural Area has been replanted and managed as mixed or coniferous plantations, much of the field layer of the former ash and field maple woodland is suppressed and could re-emerge given appropriate changes in management. Notable species include baneberry (*Actaea spicata*) and fingered sedge (*Carex digitata*).

Arable land makes up a significant proportion of the rural landscape. It is a key habitat for many farmland birds such as corn bunting (*Miliaria calandra*), tree sparrow (*Passer montanus*) and skylark (*Alauda arvensis*). Changes in farming practices, including the autumn sowing of crops and the loss of winter stubbles, has had a dramatic impact on the populations of these species. Similarly, many cornfield annuals such as cornflower (*Centaurea cyanus*) and night-flowering catchfly (*Silene noctiflora*) have declined, with more effective cleaning of seed grain, the use of selective herbicides and high rates of nitrogen application all contributing.



Giant bellflower

Broad Habitat Type	Key Features and Species Groups	Notable Species
<b>Woodland</b>		<i>Actaea spicata</i> Baneberry <i>Carex digitata</i> Fingered sedge <i>Epipactis phyllanthes</i> Green-flowered helleborine <i>Epipactis youngiana</i> Young's helleborine <i>Gymnostomum calcarum</i> A moss <i>Helleborus foetidus</i> Stinking hellebore <i>Hordelymus europaeus</i> Wood barley <i>Satyrrium w-album</i> White-letter hairstreak butterfly
<b>Scrub</b>	Invertebrates Summer migrant birds	<i>Berberis vulgaris</i> Barberry <i>Frangula alnus</i> Alder buckthorn <i>Streptopelia turtur</i> Turtle dove
<b>Magnesian limestone grassland</b>	Invertebrates	<i>Carex ericetorum</i> Rare spring-sedge <i>Epipactis atrorubens</i> Dark red helleborine <i>Linum perenne spp. Anglicum</i> Perennial flax <i>Orchis ustulata</i> Burnt orchid <i>Potentilla neumanniana</i> Spring cinquefoil <i>Pulsatilla vulgaris</i> Pasqueflower <i>Silene nutans</i> Nottingham catchfly
<b>Neutral grassland</b>		<i>Orobanche reticulata</i> Thistle broomrape
<b>Ponds</b>	Amphibia	<i>Triturus cristatus</i> Great crested newt
<b>Hedgerows and field margins</b>	Birds Cornfield annuals	<i>Lepus europaeus</i> Brown hare <i>Micromys minutus</i> Harvest mouse <i>Miliaria calandra</i> Corn bunting





### *The Pennine Dales Fringe Natural Area*

The Pennine Dales Fringe Natural Area lies on the eastern flank of the Pennines. It is a narrow area, about 100km long, stretching from the northern outskirts of Leeds to north of Barnard Castle. It includes a number of market towns, with Harrogate the largest conurbation.

Farming is the major landuse with most of the area enclosed and only a little open moor. The area is well-wooded and forestry is also a significant landuse.

In Leeds, the Natural Area is bounded by Pool and Bramhope to the west and the district boundary, which is largely coincident with the River Wharfe, to the north.

It includes Arthington and Harewood, but is one of the less populous areas of the Leeds district. Of the principal habitat types in the Natural Area, riparian, woodland and parkland habitats are the more significant in Leeds.

The River Wharfe is important for a range of wildlife from otter (*Lutra lutra lutra*) and water vole (*Arvicola terrestris*), to birds, such as kingfisher (*Alcedo atthis*) and goosander (*Mergus merganser*), fish, such as grayling (*Thymallus thymallus*), and a wide variety of invertebrates, including Atlantic stream crayfish (*Austropotamobius palipes*), banded demoiselle (*Calopteryx splendens*) and the fine lined pea mussel (*Pisidium tenuilineatum*). The river also supports populations of scarce plants such as stream water-crowfoot (*Ranunculus penicillatus fluitans*), blue water-speedwell (*Veronica anagallis-aquatica*) and the rare Swedish pondweed (*Potamogeton x suecicus*).

The Natural Area has also seen the recent return of the red kite (*Milvus milvus*) which disappeared from Yorkshire in the late nineteenth century as a result of persecution. Although occasional wandering kites have been spotted in the region in recent years, 23 kites were released in the summer of 1999 in the hope of re-establishing a third English breeding population.



Broad Habitat Type	Key Features and Species Groups	Notable Species
<b>Rivers and streams</b>	Salmonid fish Aquatic macrophytes Diptera Coeloptera	<i>Lutra lutra lutra</i> Otter <i>Arvicola terrestris</i> Water vole <i>Myotis daubentoni</i> Daubenton's bat <i>Alcedo atthis</i> Kingfisher <i>Mergus merganser</i> Goosander <i>Thymallus thymallus</i> Grayling <i>Alosa sp.</i> Shad (a fish) <i>Lampetra fluviatilis</i> River lamprey <i>Lampetra planeri</i> Brook lamprey <i>Austopotamobius pallipes</i> Atlantic stream crayfish <i>Calypteryx splendens</i> Banded demoiselle <i>Pisidium tenuilineatum</i> Fine lined pea mussel <i>Spiriverpa lunulata</i> A stiletto fly
<b>Parkland</b>	Permanent grassland with veteran trees grasslands Deadwood beetles Deadwood flies Deadwood fungi Bats	<i>Milvus milvus</i> Red kite
<b>Woodland</b>	Deadwood beetles Deadwood flies Bats Fungi	<i>Quercus quercus</i> Purple hairstreak butterfly <i>Phoenicurus phoenicurus</i> Common redstart





### The Southern Pennines Natural Area

The Southern Pennines Natural Area comprises the gently sloping, wild, open plateaux of acid Millstone Grit rock, high above the urban areas of Manchester, Huddersfield, Burnley, Blackburn and Bradford. In Leeds it covers Hawksworth Moor, the northern side of Guiseley and Otley, stretching to Pool in the east.

It is an internationally important area, special for its heather moorland and the variety and rarity of the birds it supports. These include red grouse (*Lagopus lagopus scoticus*), merlin (*Falco columbarius*) and twite (*Carduelis flavirostris*). The heather moorland is part of an extensive mosaic with wet heath, blanket bog and acidic grassland.

Reservoirs built in the uplands provide an additional habitat for some bird species.

Down-slope from the open moor, on more fertile soils, the land has been enclosed for winter grazing and summer hay crops. This 'inbye' is important for breeding birds such as curlew (*Numenius arquata*), redshank (*Tringa totanus*), lapwing (*Vanellus vanellus*) and snipe (*Gallinago gallinago*) and many meadows still support colourful swards with ragged robin (*Lychnis flos-cuculi*) and cuckoo flower (*Cardamine pratensis*), devil's bit scabious (*Succisa pratensis*), betony (*Stachys officinalis*) and pignut (*Conopodium majus*).

Clough woodlands provide suitably humid environments for lush growths of ferns and mosses, including the Killarney fern (*Trichomanes speciosum*).

Although the Leeds district has only a small area of the Southern Pennines Natural Area within its boundary, it includes part of the South Pennine Moors Site of Special Scientific Interest and Special Protection Area. This is an extensive area of international importance and, within Leeds, adds significantly to the diversity of habitats and species.



Broad Habitat Type	Key Features and Species Groups	Notable Species
<b>Blanket bog</b>	Breeding birds Coleoptera Arthropods	<i>Pluvialis apricaria</i> Golden plover <i>Numenius arquata</i> Curlew <i>Gallinago gallinago</i> Snipe
<b>Heathland/ acid grassland mosaic</b>	Coleoptera Tipulids	<i>Lycopodium clavatum</i> Stag's-horn clubmoss <i>Carduelis flavirostris</i> Twite <i>Lagopus lagopus scoticus</i> Red grouse <i>Pluvialis apricaria</i> Golden plover <i>Numenius arquata</i> Curlew <i>Callophrys rubi</i> Green hairstreak butterfly <i>Lepus europaeus</i> Brown hare
<b>Reservoirs</b>	Breeding wildfowl Wintering wildfowl Breeding waders Migrant waders	
<b>Inbye</b>		<i>Numenius arquata</i> Curlew <i>Tringa totanus</i> Redshank <i>Vanellus vanellus</i> Lapwing <i>Gallinago gallinago</i> Snipe
<b>Clough woodland</b>	Ferns Bryophytes	<i>Trichomanes speciosum</i> Killarney fern

