# HA14: Railway linesides

## Definition

For the purposes of this audit railway linesides are the vegetated lands that lie adjacent to operational above-surface railways. Closed railway routes – those that are no longer in railway ownership – are not included. Vegetated lineside land may include embankments, cuttings, areas around stations and by junctions, above tunnel-mouths, and derelict sidings and marshalling yards. The habitats present are predominantly grassland, scrub, woodland and ruderal vegetation – wetlands are noticeable by their virtual absence – the key link is that they are all on land owned and/or managed as part of the railway network.

## London's Railway Lineside Resource

The railway network in London was largely created between 1836 and 1936, both stimulating and reacting to the rapid urban growth of the capital. Although the network cut rudely into open countryside when it was first built, most has subsequently become part of the urban landscape and, through the process of natural colonisation, now provides significant areas of wildlife habitat.

There are approximately 795km (492 miles) of open operating railway corridors in London, not including closed railway lines such as Horniman Railway Trail in Lewisham and Parkland Walk in Haringey, which are managed for nature conservation and/or amenity. The open corridors are owned predominantly by two companies; Railtrack Plc and London Underground Limited (LUL) and a number of corridors are used by both underground and surface rail trains. Smaller lengths of railway are owned and/or managed by Docklands Light Railway (DLR), Tramlink in Croydon and a few private industries. Most London boroughs contain between 10 and 35km of railway corridor; see Table 1 and Map b. Only four contain more than 40km (Bromley, Croydon, Lewisham and Brent), whilst two contain less than 5km (Westminster and City of London). Some boroughs have larger lineside networks than others proportional to their area. The best include Lewisham, Tower Hamlets (although much of this is raised DLR), and Newham; the poorest include Westminster, Redbridge and Camden. The total area of railway corridors has yet to be calculated, as has the total area of linesides of wildlife value.

### Table 1: Lengths of Railway Corridor and Extent of Sites of Importance for Nature Conservation by Borough

| Borough | Railway corridor (Railtrack/ LUL/ Tramlink/ DLR) (km) | Railway lineside SINCs (ha) a | Borough corridor as % of total London resource |
|---|---|---|---|
| Barking & Dagenham | 15.74 | 2.4 | 2.0 |
| Barnet | 34.89 | 28.5 | 4.3 |
| Bexley | 24.86 | N | 3.1 |
| Brent | 41.40 | 93.0 | 5.2 |
| Bromley | 51.12 | N | 6.4 |
| Camden | 18.57 | 25.1 | 2.3 |
| City of London | 1.80 | N | 0.2 |
| Croydon | 49.69b | 31.3 | 6.2 |
| Ealing | 33.03 | 162.7 | 4.1 |
| Enfield | 34.74 | 45.2 | 4.4 |
| Greenwich | 19.94 | N | 2.5 |
| Hackney | 10.66 | 5.1 | 1.3 |

| Borough | Railway corridor (Railtrack/ LUL/ Tramlink/ DLR) (km) | Railway lineside SINCs (ha) a | Borough corridor as % of total London resource |
|---|---|---|---|
| Hammersmith & Fulham | 17.22 | 25.0 | 2.2 |
| Haringey | 19.20 | 12.3 | 2.4 |
| Harrow | 22.70 | 17.1 | 2.8 |
| Havering | 28.50 | N | 3.6 |
| Hillingdon | 27.69 | 5.3 | 3.5 |
| Hounslow | 22.52 | 2.5 | 2.8 |
| Islington | 10.07 | 34.2 | 1.3 |
| Kensington & Chelsea | 6.56 | 24.6 | 0.8 |
| Kingston upon Thames | 15.99 | 1.9 | 2.0 |
| Lambeth | 23.41 | 28.9 | 2.9 |
| Lewisham | 41.86 | 86.0 | 5.3 |
| Merton | 28.70 | 53.0 | 3.6 |
| Newham | 37.47 | 50.0 | 4.8 |
| Redbridge | 13.43 | 41.0 | 1.7 |
| Richmond upon Thames | 25.73 | 2.9 | 3.2 |
| Southwark | 22.23 | 27.2 | 2.8 |
| Sutton | 17.92 | 17.8 | 2.2 |
| Tower Hamlets | 22.07c | 0.0 | 2.8 |
| Waltham Forest | 25.27 | 2.0 | 3.2 |
| Wandsworth | 27.51 | 13.3 | 3.4 |
| Westminster | 4.08 | 0.0 | 0.5 |
| **London Total** | **796.57 ha** | **838.3 ha** | |

a = Areas identified by the London Ecology Unit
b = Includes over 8km of new Tramlink corridors, but not street lines
c = Includes over 8km of the raised tracks of the Docklands Light Railway
N = Linesides not surveyed; to be identified.

In inner London the railways are mostly elevated on viaducts or in deep cuttings and hence support very limited biodiversity. Further than 5km from the city centre, the linesides become broader (usually as they meet ground level) and begin to support vegetation. Towards the London borders quite significant areas of semi-natural habitat can be included within the railway corridor. Lineside habitats are largely a legacy of the countryside they were originally built through, their subsequent management, together with the indirect impacts of railway operation. Linesides were once managed intensively and although in certain areas trees were planted to screen residential properties, the 'railway' poplar, *Populus x canadensis* 'Regenerata' for example, the majority were maintained as grassland. From the 1920s, with the change to electrification and the ever-increasing labour costs, management became more relaxed, especially so after the Modernisation programme of 1955. From the 1970s scrub and woodland began to appear on the more rural stretches, to the extent where many of today's railsides support recent sycamore woodlands – often the only significant stands of woodland in many inner London areas.

Changes to the railway network and land area have been significant since the mid-1980s, and with privatisation development pressure may result in further land-take, particularly on derelict marshalling yards (although the growing trend for increased rail freight traffic may prevent this on certain routes). New railway projects have led to corridors being created, often at the expense of semi-natural habitat (e.g.

Addington Hills in Croydon), but such projects now require environmental assessments and with heightened public sensitivity are unlikely to proceed without considerable ecological compensation.

## Nature Conservation Importance

The railway network supports significant areas of biodiversity importance in London. A total of 838 ha of lineside have been identified as Sites of Importance for Nature Conservation to date by the London Ecology Unit (LEU) (see Map a). The range of habitats (from chalk cliffs to early successional wastelands), together with their relative lack of human disturbance, provides a diversity of fauna and flora that in some areas can be relatively rich. In inner London they often support the only significant woodlands and rough grasslands. Sunny grass embankments may be havens for butterflies, grasshoppers, slow-worm and kestrel, whilst woodlands can support great tit, great spotted woodpecker and sparrowhawk. Derelict marshalling yards with a free-draining, alkaline substrate often support a diverse range of ruderal plants, before succeeding towards birch scrub and woodland. Temple Mills and Feltham are two fine examples, with a new species of spider to the UK, *Zodarion rubidum*, being recorded at the former site in 1999.

A number of plants and animals are characteristic of London's linesides. Plants such as everlasting sweet-pea, rosebay willowherb and Oxford ragwort have spread through the development and operation of railways, whereas sycamore is the predominant tree species. *Buddleia* occupies lineside ballast and cracks in railway structures. Some 'pest' species such as Japanese knotweed and giant hogweed have also taken root, often in large monocultures.

Well-vegetated linesides will act as 'green corridors' and the combined network of railways will help to permit movement of some species along them between adjoining sites – either through direct movement (e.g. mammals) or dispersal assisted by the movements of trains (e.g. seeds of plants). Thus railway linesides will add to and benefit from the ecological integrity of adjacent SINCs and other open green space. The value of green corridors has been recognised in PPG9, in that they "*help form a network to ensure the maintenance of the current range and diversity of our flora [and] fauna*" (para. 15).

A few lineside areas such as Gunnersbury Triangle in Chiswick, Gillespie Park in Islington and New Cross Gate Cutting in Lewisham are actively managed as nature reserves. Work by Railtrack and London Wildlife Trust to identify further nature reserves as well as priority 'conservation zones' began in 1997, but requires further development. LB Lewisham is also seeking to create a large railside Local Nature Reserve. A leaflet, 'W*ild Linesides'*, was published in 1998 to promote the ecological interest of London's railways to the travelling public.

**Some Railway Linesides of nature conservation value in Greater London**

Tall vegetation between Wembley Park and Preston Road, Metropolitan Line

Scattered trees and tall vegetation between Brent Cross and Hendon Central, Northern Line

Grassland between Dagenham Heathway and Elm Park, District Line

Woods between Cockfosters and Oakwood, Piccadilly Line

Woods at Sydenham Hill Nature Reserve, Sydenham Hill station, Connex Southeastern

## Threats and Opportunities

### Threats

The two most significant threats to the biodiversity of London's linesides are loss of habitat through development (and occasionally operational requirements), and under-management.

Although the development of railway land began in the 1960s on a number of closed lines, it sharply increased during the 1980s, with the loss of large marshalling yards such as Bricklayers' Arms and the reduction of space around junctions to housing, for example near Drayton Park, Islington. With privatisation this may set to increase; Railtrack has an obligation to maximise its assets, and this will include selling off redundant land for development. Some railway corridors will be exempt due to their slope, structure or narrowness, but larger areas of flat land (especially those adjacent to existing residential areas) will be under increasing pressure. Only a few railway sites are 'protected' in London borough's Unitary Development Plans (UDPs), and efforts should be made by organisations to seek inclusion of the most important areas in the UDP reviews.

The importance of railway linesides lies with the mosaic of habitats that they support. However, rough grasslands and ruderal habitats, by virtue of their decline elsewhere in London, are relatively important in the lineside context. Management to meet operational standards is geared to the prevention of trees growing too near the tracks, especially those with a mucilaginous leaf litter (e.g. sycamore and ash), and a 15m swathe is regularly clear-felled. This is not enough to maintain existing grassland, nor enough to restore grassland that has since turned to scrub and woodland. The likelihood is that on all but the poorest of soils, linesides will become predominantly low sycamore/ash scrub, banking onto stands of oak/sycamore woodland, and maintained as such. Additional management in areas of existing grassland will be required in order to maintain their biodiversity interest; how this will be undertaken in areas not within nature reserves is not known.

Less direct threats include the in-built bias against vegetation within the railway industry, the use of contractors for lineside management and the results of weaknesses in communication and control. In addition, the existing management of the permanent way (through herbicide treatment), potential for widening the rail corridor for new strategic rail links (e.g. the Central Railways proposal of 1996/7), garden encroachment and fly-tipping all threaten lineside biodiversity.

## Opportunities

Although it is unlikely that any of London's railway corridors will be managed primarily for wildlife, there is significant room to enhance their value for biodiversity. In recent years, management guidance produced by the railway companies has begun to take account of ecological issues (e.g. *Maintaining the Track Environment*, LUL, 1995), and this should be encouraged to progress further. Seeking to restore grassland habitats and manage graded woodland edges, for example, need not compromise the railway companies meeting their operational standards and obligations. Therefore identification of the most important stretches for nature conservation (which will require some further survey) and preparing 'Conservation Zone Plans'as guidelines for their management by contractors, should be seen as priorities. This would help to target limited management resources effectively. However, the screening and landscape value of tree stands and woodlands should not be under-estimated, and a Habitat Action Plan should take these into account where appropriate. There has been some limited tree-planting on railway land in recent years (e.g. Wandsworth Common), but in light of the priorities to expand the grassland element this should be restricted to identified areas. There may also be opportunities for habitat creation similar to the new ponds created by Railtrack for amphibians at Selhurst.

There is also the potential to seek the creation of more lineside nature reserves managed in partnership between railway companies and conservation groups. These can provide local involvement in lineside habitat management. A number already exist, but there is the opportunity for more throughout London, although it must be recognised that local groups are rarely in a position to manage them without adequate resources.

Railway linesides are seen by many hundreds of thousands of travellers on a daily basis, and for many they are places where they can see the colour and spontaneity of wildlife. Their linear character emphasises the feeling of more or less uninterrupted countryside, almost into the centre of the city. However, there is very little information on railway wildlife or the value of London's linesides and the potential for raising the awareness of their biodiversity is considerable. This may be through on-train information, station interpretation, lineside signs and leaflets.

## Data sources

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## Rationale and Limitations of Approach

Although the ecological interest of London's railsides has long been recognised (e.g. Fitter, 1945), strategic survey only began with the 1984/5 London Wildlife Habitat Survey. Much has subsequently been reviewed through the work of the LEU, though access to linesides is difficult and, bar the few areas where survey has been more than that viewed from a bridge, platform or moving train, the quality of existing information is poor. An exception is London Underground Limited's Ecological Report for the Northern Line (1997) and survey of LUL's above-surface linesides by LEU during 1999. Not all of London's linesides have been surveyed since 1985, however. The audit has been prepared from stretches identified in the LEU handbooks and other existing information. Therefore, it is not an exhaustive audit and will benefit from more detailed research.

There is further disparity between railside SINCs in these boroughs, as railside land began only to be considered after 1992. Borough surveys prior to this date (e.g. Greenwich, Hillingdon) have virtually no railway land included. Boroughs that have not been surveyed by the Unit (e.g. Bromley, Havering) probably support significant lengths of railside of nature conservation importance; a few are probably some of London's best (e.g. Elmstead Woods in Bromley). There are therefore opportunities to identify more railway lineside SINCs.