

466

INSTITUTE OF TERRESTRIAL ECOLOGY
(NATURAL ENVIRONMENT RESEARCH COUNCIL)

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ITE PROJECT 466

Final Report to Nature Conservancy Council

THE BIOLOGICAL SURVEY OF BRITISH RAIL PROPERTY

Appendix 4 Areas of biological interest on
British Rail London Midland Region

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1 INTRODUCTION

This appendix to the final contract report to the Nature Conservancy Council (NCC) by the Institute of Terrestrial Ecology (ITE) on the survey of British Rail (BR) land, iterates and condenses information about areas of biological interest supplied to the contractors (NCC). It is intended to be distributed within BR and to provide a basis for discussion between them and the NCC on preferred methods of vegetation management.

The appendix begins with a general statement about the conservation interest of railway land and suggests a strategy for verge and permanent way maintenance. This is followed by a list and brief description of sites of interest in the Region. The sites are located by line and mile post within BR areas and divisions, and are cross referenced to the more detailed information held by the NCC.

The list is by no means exhaustive. 18% of all randomly chosen sites visited during the survey proved to be of particular interest (either because habitats or species are locally or nationally scarce), the implication being that a considerable proportion of BR land is of importance to wildlife. An inspection of the regional map (following the list) will show that biological interest sites occur more frequently or are clustered along some lines. In discussion between BR and NCC it may be decided that an approach where particular attention is paid to a stretch of the line, rather than to individual sites would be more effective.

The appendix concludes with a list of NCC offices in the Region, who hold information about the sites in question.

2 MANAGEMENT FOR CONSERVATION AND SAFETY ALONG RAILWAY LINES

"The question of grass cutting is one that a majority of permanent way staff do not like." (Dobson, 1956).

Management at present is concerned largely with the track bed and cess, although the vegetation along verges reflects a century of hand maintenance. Cutting and scything led to a rich grassland with many flowering plants, including primroses, cowslips and orchids, and associated animals. Burning and ballast tipping, however, produced coarse grassland, bramble and tall herb communities. The spread of scrub and secondary woodland was carefully controlled.

The railways were built before the widespread introduction of agricultural chemicals, and serve as a refuge for many plants becoming increasingly rare elsewhere in the countryside. Close to the cess, where disturbance keeps the vegetation open, plants like the Oxford ragwort, narrow-leaved willow herb and small toadflax have been able to spread whilst some seaside plants, such as Danish scurvy-grass and the sand sedge have moved inland along railway lines. On the cinder cess and in yards casual plants, brought in with goods or attached to rolling stock, have appeared and sometimes become established. The most famous of these are the 'shoddy aliens' studied by John Dony (1955) on the Bedfordshire railways.

In recent years the substitution of chemical spraying along the track and a narrow strip of adjacent verge, for hand maintenance, has led to considerable change. Without scything or burning, the character of grassland is altered, with a few coarse species replacing the rich diversity. Scrub develops and secondary woodland spreads. Where yards and tracks are intensively sprayed, the numbers of interesting casual plants diminishes, and plant movement becomes inhibited.

The BR land survey has shown that much of the grassland of conservation interest occurs on previously managed cuttings. The excavated slopes tend to have a nutrient poor mineral soil which supports locally and regionally characteristic plants, and inhibits competition from false oat, even where previously burnt. Embankments, which were often topsoiled after construction, and flat verges, generally support a more disturbed vegetation with many commonly occurring competitive species. Spent ballast is tipped on these formations and chemical and organic wastes from trains drain onto flats and negative slopes. Embankment footings are less well drained than other areas of verge, and ballast may act as a mulching agent, beneath which a damp, organic soil forms. Such areas support nettle, cleavers and rosebay willow herb, whilst false oat grass and bramble colonise the more freely draining upper slopes. In the Scottish uplands, ragwort, bracken and raspberry are more commonly found. Where scrub is not cut, bramble, thorn and sallow may become dense and in many areas give way to secondary ash woodland. Oak and beech woodland are more usually restricted to cuttings.

In general, where manpower is available, priority should be given to the maintenance of cuttings. This coincides with the permanent way engineers' requirement that trees or scrub likely to drop litter or branches onto the line be controlled. Scything and occasional burning of grassland will prevent the development of scrub, whilst encouraging diversity. Burning, however, should only be carried out over limited areas of verge and not at all during the bird nesting season (as per discussion between BR and NCC). Application of chemical scrub control agents is effective, but leaves standing dead material and does little to encourage the less competitive grassland plants. The use of a flail adapted to be carried by train has been found effective for clearing bramble and low scrub in some areas. A swathe about 3 metres wide can be cleared on either side of the line and, once any mature trees close to the cess have been felled, can be readily maintained by annual or, more usually, biennial flailing.

On embankments the spread of scrub and secondary woodland on lower slopes may lend stability. It will provide cover and nesting habitat. Casualty recordings have shown that over 70% of bird fatalities occur in cuttings where flight from oncoming trains is inhibited. This suggests that it is preferable to leave cover on embankment rather than cutting slopes, although where woodland on the latter is well developed and offers no hazard to rail traffic, this should clearly not be cut. In highland areas of Scottish Region woodland is often at a premium and should not be cleared.

The requirement that annual spraying of main lines by BR and contractor's trains should leave the ballasted width 98%, and the cess 95%, weed free is stringent. Probably the most serious weed along the track bed is the common horsetail. This is a perennating plant which could be controlled by

biennial spraying of the track. The majority of plants which are spray-killed are small annual species and bryophytes which are adapted to survive the very dessicating conditions found during high summer. Many of these are still found on tipped ballast and cinder, although when the vegetation closes over, they are no longer able to compete successfully. It is suggested that, on less important lines, and perhaps initially for a trial period only, tracks on either side be sprayed during alternate years. This will enable some annual plants to maintain their populations. Further, it should substantially reduce maintenance costs without introducing hazard, since all perennating plants will be controlled.

REFERENCES

- DOBSON, J. 1956. The work of a length ganger. *J. Proc. Perm.-Way Instn.*, 74, 2.
- DONY, J. 1955. Notes on the Bedfordshire railway flora. *Beds. Nat.*, 9. 12-17.

LONDON MIDLAND REGION

C PRESTON DIVISION

(111) Skipton - Settle - Carlisle

X.P.	Our Reference	Formation	Vegetation	Preferred Management
246½-3/4	R229 & B173	Cutting/Flat	Damp and dry limestone turf, low scrub and rock faces. Pool and streams	Scything of coarser grassland.
263-276½	-	Cutting/Embankment	Calcareous and calcifuge grassland, rock scrub and secondary woodland	Scything of coarser grassland.
296	B178	Cutting	Pine/birch woodland. Heather and calcifuge grassland. Rock faces, damp/dry.	Burning of old heather.
(1V)	Swinson Branch			
0	B160	Cutting	Calcareous grassland, scrub and cinder waste	Mowing/scything of grassland.
(V)	Carnforth - Workington - Carlisle			
4	B171 (SD 47.75)	Cutting/Embankment	Limestone rock faces, grassland and scrub. Cinder flats, marsh etc.	Some scrub removal and scything.
8-8½	B172 (SD 43.79)	Cutting/Flat	Limestone quarry, grassland and scrub	Mowing of coarse grassland,
23	B175 (SD 240747)	Cutting	Limestone rock faces, rich grassland and scrub. Walls and waste land.	Bramble removal, scything of coarse grassland.
1 3/4-2½	B177	Cutting/Flat	Coastal vegetation on unstable cliffs and mine spoil	None.

LONDON MIDLAND REGION

A WATFORD DIVISION

(1) Euston - Shilton (West Coast Main Line)

M.P.	Our Reference	Formation	Vegetation	Preferred Management
48-48 3/4	B114	Cutting	Calcareous rough grassland; scrub	Scrub removal and grazing/scything.
60 3/4	B112	Cutting	Limestone rock cutting, deciduous scrub and calcicolous grassland	Zones of scrub removal.
(11) Neasden - Ruislip - Bicester				
12 1/2	M128	Cutting/Zabankment	Acid woodland and scrub, plus calcifuge turf. Basicolous scrub and grassland	Scrub removal in calcicolous grassland
2-2 1/2	B111	Cutting	Mixed deciduous scrub and calcicolous coarse grassland	Grazing and scything of grassland areas.
(111) Roade - Northampton - Rugby				
6 1/2	B136	Cutting	Calcifuge and calcicole grassland, scrub and lentslip	Burning.
08 3/4-69 3/4	B113	Embankment	Scrub, stream, shelter belt, coarse grass	Scrub thinning and bramble control.
(17) Marton Junction Branch				
9 3/4	B125	Cutting	Calcareous grassland, some scrub and old track bed.	Scrub removal, mowing and relaxation of spraying.
B NOTTINGHAM DIVISION				
(1) (Bedford) - Sharbrook - Leicester				
89 1/2-3/4	B115	Cutting	Varied calcicolous grassland and scrub))) Prevention of scrub encroachment on grassland
56-62	-	mainly Cutting	Calcareous grassland and scrub)))
(11) (Peterborough) - Kettering - Leicester				
103	B148	Cutting	Calcicole and calcifuge grassland and scrub	Mowing, control of scrub.

LONDON MIDLAND REGION

B NOTTINGHAM DIVISION

(111) Leicester - Burton-upon-Trent

N.P.	Our Reference	Formation	Vegetation	Preferred Management
104}	B118	Flat	Cinder waste ground, coarse grassland and marsh	Renewed disturbance.
(14) Pye Bridge - Shirebrook				
138	B150	Cutting/Embankment	Limestone rock face, calcicolous grass cinder flats and rubble waste	Renewed disturbance.
(v) Willington Junction - Scropton (- Stoke-on-Trent)				
28 3/4	R185	Flat/Cutting	Cinder and ballast grassland; sallow carr	Mowing of coarse grassland.

C BIRMINGHAM DIVISION

(1) (Oxford) - Aynho - Birmingham New St.

91-94}	B119	Cutting	Calcicolous grassland - damp and dry. Scrub and old track bed	Scything of coarse grassland and removal of young scrub.
100-100}	B120	Cutting & Flat	Woodland, calcicolous grassland	Scrub clearance on better grassland.
107}	B121	Embankment & Flat	Grassland & waste ground on sea-sand. Some scrub	Renewed disturbance.
(11) Stratford-upon-Avon - Tysley				
8}	R219	Cutting/Flat	Willow carr, damp grassland	Selective thinning of carr and mowing of coarse grassland
(111) Nuneaton - Birmingham New St				
6}	B123	Cutting	Damp and dry calcicolous grassland. Aspen/sallow scrub and thorn	Mowing to prevent scrub spread.

D CREWE DIVISION

(1) (Euston) - Shilton - Crewe - Winsford

156	R211	Flat & Cutting	Recolonised sand excavations with variety of herbaceous calcifuge veg.	Cutting of bramble and rosebay.
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LONDON MIDLAND REGION

D CREWE DIVISION

(11) Oakmoor Branch

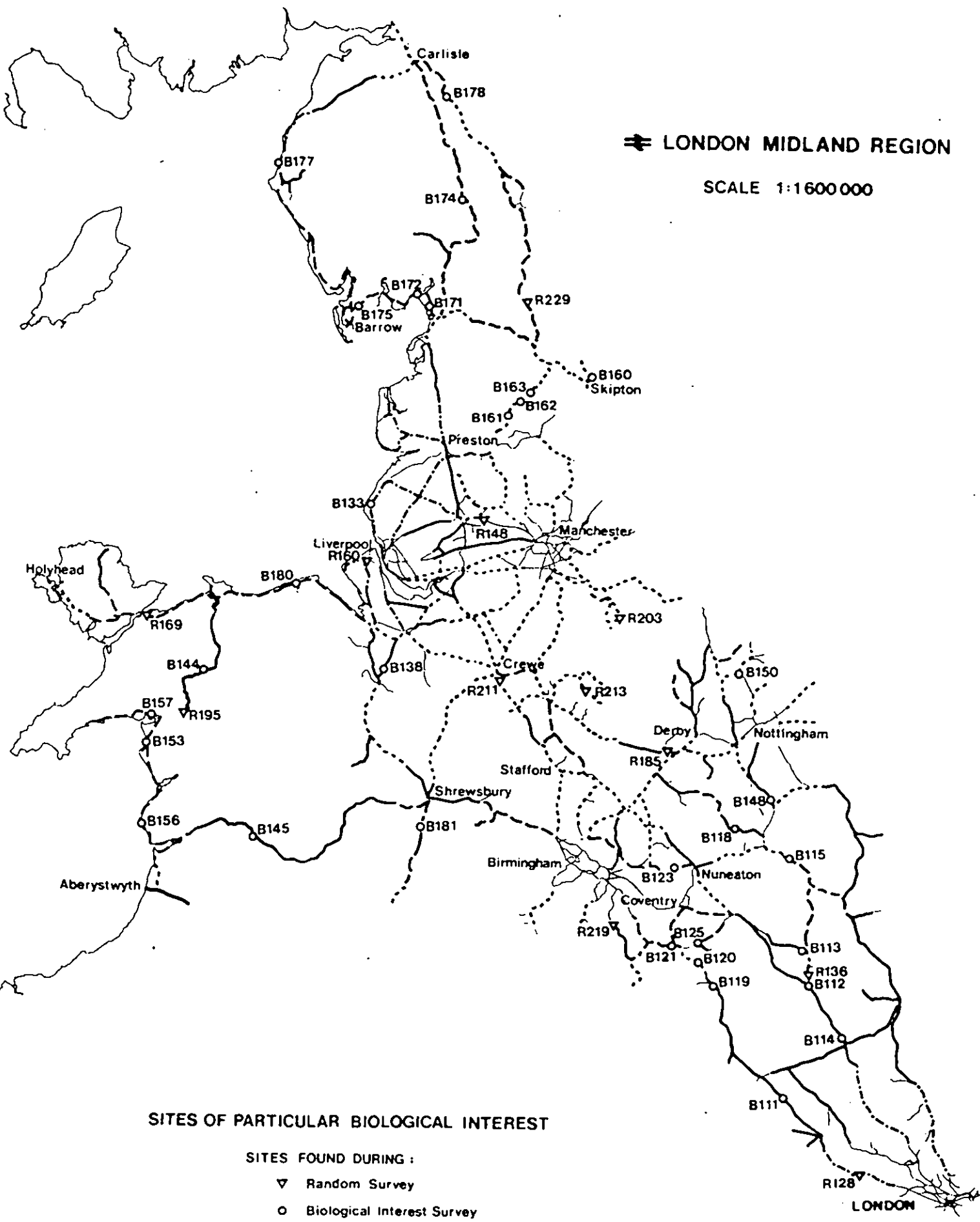
M.P.	Our Reference	Formation	Vegetation	Preferred Management
0½ (14)	R213	Flat/Embankment	Cinder and ballast waste. Tall herb veg. Woodland. River and canal banks.	Scything of rough grassland etc.
(11i) Shrewsbury - Craven Arms				
10½	B181	Cutting	Rich dry grassland; some bramble etc.	Mowing of grassland.
(1v) Shrewsbury - Chester				
204½-205	B138	Cutting/Embankment	Varied scrub and woodland with some rough grass and ruderal veg.	None for sometime.
(v) Crewe - Holyhead				
240½-241	R169 & B141	Cutting/Flat	Limestone rock and grassland. Scrub and tall herb veg. Cinder flats	Scrub removal from better grassland.
(vi) Dysorath Branch				
c.2	B180	Cutting/Embankment	Limestone rock, grassland and scrub; cinder of line colonised.	Scrub thinning.
(vii) Llandudno - Llanrwst - Trwsafnydd				
19	B144	Cutting/Embankment	Rock faces, scree, oak woodland	None
20½	R195	Cutting/Flat/Embankment	Varied calcifuge grassland, sallow scrub. Cinder flats and bracken	Grazing.
(viii) Asluch Branch				
4½-7	-	Cutting/Embankment	Calcifuge grassland, cut scrub and rock faces.	None.
(ix) Shrewsbury - Aborystwyth				
61½-3/4	B145	Cutting	Rock cutting, scree, varied grassland heath, scrub and streams	Mowing of coarse grassland.
(x) Dovey Junction - Pwllhell				
80½	B156	Embankment	Forb-rich sandy turf	Mowing of coarse grass
109½-110	B153	Cutting	Douglas clay cliff, with earth slips. Low heath of grass and undershrubs	None.

LONDON MIDLAND REGION

D CREWE DIVISION

(x) Dovey Junction - Pwllheli (continued)

M.P.	Cur Reference	Formation	Vegetation	Preferred Management
118 3/4	B157	Embankment	Scrub and carr, marsh and rough grass	Selective scything of herbaceous vegetation.
E MANCHESTER DIVISION				
(1) Chinley - Peak Dale - Buxton				
162½-0½	R203 & B165	Cutting/Embankment	Rock faces, calcicolous grassland, scrub and woodland. Old track bed and station	Scything of grassland and some scrub removal.
(11) Manchester Victoria - Hindley (- Nigan)				
12 3/4	R148	Cutting	Damp and dry calcifuge grassland, some disturbed	None in near future.
F LIVERPOOL DIVISION				
(1) Hawarden - Bidston				
0½	R100	Flat	Sallow carr, mixed coarse grassland, marsh reedswamp and open pools	Grazing and some cutting of scrub.
(11) Kirkdale - Southport				
13½-14	B133	Flat	Stabilised duno grassland	No broadscale spraying and occasional scrub removal.
G PRESTON DIVISION				
(1) Loyland - Gretna (West Coast Main Line)				
36 3/4-37½	B174	Cutting	Heather moor, sallow scrub, acid grassland, rock faces, basicolous grassland	A little scrub clearance from better grassland.
(11) Blackburn - Hellisfield				
20½	B161	Cutting	Damp calcicolous grassland, some scrub	Some scrub removal and scything.
23 3/4	B162	Cutting	Rock faces, calcicolous grassland, scrub	Scything of grassland, spray control.
26½-27½	B163	Cutting	Calcicolous grassland, rock faces mixed scrub, woodland. Walls and ditches	Scything of better grassland and control of spraying.



Carlisle

B178

B177

B174

LONDON MIDLAND REGION

SCALE 1:1600 000

B172

B171

R229

B175

Barrow

B163

B160

Skipton

B161

B162

Preston

B133

Liverpool

R148

Manchester

B180

Holyhead

R169

R203

B144

B138

Crewe

R211

R213

B157

R195

B153

Derby

B150

Nottingham

Stafford

R185

Shrewsbury

B148

B156

B145

B181

B118

B115

Aberystwyth

Birmingham

Coventry

Nuneaton

R219

B125

B121

B120

B113

B119

R136

B112

B114

B111

R128

LONDON

SITES OF PARTICULAR BIOLOGICAL INTEREST

SITES FOUND DURING :

▽ Random Survey

○ Biological Interest Survey

NCC Regional Offices, London Midland Region

West Midlands Region
Attingham Park
Shrewsbury SY4 4TW
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North West Region
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