

HA4: Chalk Grassland

Definition

Chalk grasslands develop on shallow lime-rich soils, notably on the downland of south-east England. The habitat supports a wealth of wildflowers and a wide array of butterflies, grasshoppers and other invertebrates, many of which are restricted to chalk soils.

London's Chalk Grassland Resource

In London, chalk grassland is largely restricted to the southern edge of the metropolitan boundary. Here parts of the North Downs lie within the Boroughs of Sutton, Croydon and Bromley. Another area of chalk lies on the extreme north-western edge, in the Borough of Hillingdon, where outliers of the Chiltern Hills are just within the Greater London boundary. Further small patches of grassland containing species typical of the chalk can be found scattered throughout London growing on artificial calcareous substrates such as railway ballast and fly ash.

There are approximately 320 ha of calcareous grassland in Greater London. The approximate figures for each borough are given in Table 1 and represented by the Map. There are approximately 9,560 hectares of calcareous grassland in south-east England.

Table 1: Chalk Grassland Resource in the United Kingdom, South-East Region and Greater London.

| | Total Chalk Grassland Area (ha) | Percentage of London Chalk Grassland Resource (%) |
|-------------------|---------------------------------|---|
| Croydon | 184 | 58 |
| Bromley | 92 | 29 |
| Sutton | 37 | 11 |
| Hillingdon | 6 | 2 |
| Lewisham | 0.52 (1 site) | n/a |
| London Total | 319 | |
| South East Region | 9,509 | |
| United Kingdom | 45,000 | |

NB: Figures have been rounded to the nearest hectare and percentage with the exception of Lewisham

Table 2 breaks these totals down into individual sites within the 5 boroughs. For the purposes of future updates of the audit, a grid reference is included along with the LEU Habitat Survey Parcel number.

Table 2: Chalk Grassland Area in London by Borough**Croydon**

| Name of Site | Grid Ref. | Habitat Survey Parcel | Area (ha) |
|--|------------------|------------------------------|---|
| Montpelier Heights | 5320 1625 | 20008 | 0.85 |
| Foxley Down (wood) | 5315 1605 | 20011 | 2.13 |
| Riddlesdown and surrounds | 5331 1600 | 20012 | 23.67 |
| The Pit * | 5337 1594 | 20014 | 2.31 |
| Addington Golf Complex | 5375 1624 | 20023 | 10.64 |
| Happy Valley and Farthing Down | 5310 1570 | 20038 | 36.34 |
| Croham Hurst | 5340 1632 | 20041 | 3.68 |
| Coulsden Quarry | 5303 1592 | 20046 | 0.55 (0.88 ncc) |
| Fairdean & Hooley Farm * | 5299 1579 | 20047 | 37.72 |
| Chipstead Chalk Pastures * | 5290 1575 | 20048 | 13.82 |
| Croydon Covered Res. | 5316 1627 | 20061 | 1.70 (1.9 ncc) |
| Old Lodge Sports Ground | 5308 1606 | 20065 | 0.3 |
| Kenley Common | 5331 1589 | 20067 | 3.70 |
| Purley Downs | 5327 1614 | 20083 | 7.95 |
| Betts Mead Kenley * | 5319 1585 | 20086 | 2.54 |
| Coulsden Chalk Scrub * | 5302 1590 | 20103 | 0.06 |
| Star Shaw Field & Railway * | 5292 1575 | 20104 | 0.53 |
| Coulsdon Memorial Recreation Ground | 5301 1490 | 20313 | 0.5 |
| Hutchinson's Bank, Frylands Wood & Chapel Hill | 5383 1615 | 20021 | 7.56 |
| Coulsden Common | 5332 1570 | 20069 (site data from CoL) | 2 |
| Roundshaw Open Space | 5313 1627 | | 20 |
| Sub Total | | | <i>184 ha - 58% of London's resource</i> |

Bromley

| Name of Site | Grid Ref. | Habitat Survey Parcel | Area (ha) |
|--|------------------|------------------------------|-----------------------|
| Blackbush Shaw & Cudham Down * | 5440 1591 | 19012 | 3.07 |
| Salt Box Hill Rough * | 5408 1615 | 19025 | 1.94 (7.3 ncc) |
| Jewel Wood Complex (inc Furze Bottom)* | 5406 1613 | 19026 | 24.08 |
| Sunnymede and Stud Farm Woods * | 5426 1579 | 19052 | 0.39 |
| Cudham Frith | 5450 1582 | 19061 | 7.51 |
| Church Hill * | 5443 1603 | 19068 | 1.85 |
| Lordfield Shaw | 5442 1609 | 19070 | 4.96 |

| Name of Site | Grid Ref. | Habitat Survey Parcel | Area (ha) |
|--|-----------|-----------------------|--|
| Pratts Bottom & Lattice Woods | 5473 1614 | 19060 | 0.90 |
| West Kent Golf Course | 5427 1605 | 19071 | 5.01 |
| Doctors Wood & Owen's Wood | 5496 1645 | 19073 | 1.18 |
| Hookspring & Tile Kilns Woods & Pastures * | 5500 1678 | 19077 | 11.93 |
| The Larches * | 5433 1637 | 19085 | 0.75 |
| Chelsfield Chalk Railway Cutting * | 5474 1634 | 19090 | 1.08 |
| Broom Wood | 5458 1606 | 19094 | 1.56 (2.8 ncc) |
| Cuckoo Wood High Elms Golf Course | 5443 1628 | 19097 | 6.56 |
| Rushmore Hill * | 5476 1616 | 19110 | 0.08 |
| Sevenoaks Road | 5464 1627 | 19111 | 0.28 |
| West Kent Golf Course * | 5423 1615 | 19116 | 1.68 |
| Hazel Wood * | 5444 1615 | 19121 | 0.44 |
| Downe Bank | 5437 1608 | 19122 | 0.25 |
| Knockholt Station | 5482 1630 | 19141 | 5.06 |
| Farnborough Way Embankment * | 5444 1646 | 19153 | 0.16 |
| Chelfield Hill & Wood Pastures | 5466 1632 | 19241 | 1.42 |
| Ramus Wood & Scrub * | 5452 1636 | 19244 | 0.27 |
| Goddington Park | 5474 1653 | 19101* | 2.97 |
| Sub Total | | | 92 ha - 29% of London's resource. |

Sutton

| Name of Site | Grid Ref. | Habitat Survey Parcel | Area (ha) |
|--|-----------|-----------------------|---|
| Roundshaw Downs (Park) | 5307 1631 | 21001 | 15 |
| Carshalton Road | 5278 1608 | 21011 | 5.90 |
| Woodcote Park Golf Course | 5286 1606 | 21014 | 0.72 (7.8 ncc) |
| Fairlawn Oaks Park & Golf Course | 5273 1616 | 21021 | 0.30 |
| Cuddington Golf Course & Cuddington Hospital | 5242 1613 | 21041 | 1.5 (ncc) |
| Devonshire Avenue Playground | 5262 1632 | Su. BII 8 | 0.2 |
| Banstead Downs | 5259 1619 | 21161(?) | 0.5 |
| Water Gardens Bank | 5262 1641 | | 0.2 |
| East Sutton Railway Line (The Warren) | 5266 1640 | | 5 |
| Sub Total | | | 36 ha - 11% of London's resource |

Lewisham

| Name of Site | Grid Ref. | Habitat Survey Parcel | Area (ha) |
|---|-----------|-----------------------|--|
| Hither Green Nature Reserve (Grove Park Railway Cutting & Allotments) | 5402 1728 | 7002 | 0.52 |
| Sub Total | | | <i>0.5 - 0.3% of London's resource</i> |

Hillingdon

| Name of Site | Grid Ref. | LEU Habitat Parcel | Area (ha) |
|-------------------------------|-----------|--------------------|---------------------------------------|
| Summer House Lane Chalk Pit * | 5043 1916 | 26113 | 0.44 |
| Springwell Chalk Pit * | 5048 1926 | 26114 | 0.84 |
| Coppermill Down | 5043 1906 | 26059 | 4.40 |
| Sub Total | | | <i>6 ha - 2% of London's resource</i> |

NB: Sub Totals are rounded to the nearest hectare.

* Not shown in LEU 1984 data as CG. Data source Swales, 1992.

Nature Conservation Importance

Greater London's chalk grassland supports a number of nationally rare species. Many of these are continental in distribution and occur in Britain only on the downland of the Southeast, where climatic conditions are comparable to those of mainland Europe.

The London Boroughs of Sutton and Croydon support populations of the extremely rare and specially protected greater yellow rattle *Rhinanthus serotinus*. The populations found in Sutton, Croydon and in nearby parts of Surrey represent the national stronghold for this species. The London Borough of Bromley holds Britain's largest colony of the nationally rare Kentish milkwort *Polygala amarella*.

Greater London's chalk grassland also support a number of other rare or local plant species such as knapweed broomrape *Orobanche elatior*, lesser calamint *Clinopodium calamintha*, man orchid *Aceras anthropophorum* and fragrant orchid *Gymnadenia conopsea*. Other species typical of chalk grassland which are indicative of the habitat in Greater London are salad burnet *Sanguisorbia minor* ssp. *minor* and kidney vetch *Anthyllis vulneraria*.

This rich and diverse habitat supports numerous invertebrates, with some sites recording as many as 43 butterfly species, some of which are also nationally rare. These include the small blue and chalkhill blue. Most chalk grasslands also support a range of other uncommon or declining species such as skylark, linnet, goldfinch, slow worm and common lizard.

Some calcareous grassland sites of nature conservation value in Greater London

Cudham Frith, Downe Bank & High Elms and Salt Box Hill, LB Bromley

Coppermill Down, LB Hillingdon

Happy Valley and Farthing Down and Hutchinson's Bank, LB Croydon

Roundshaw Open Space and Woodcote Park Golf Course, LB Sutton

Threats and Opportunities

Threats

Traditionally, sheep grazing maintained a short sward and prevented scrub invasion, but with intensification of farming this traditional management practice has largely been abandoned in London. The decline in sheep pasturing and rabbit grazing (following myxomatosis) has resulted in many chalk grasslands succumbing to scrub invasion and natural succession to woodland. Other remaining chalk grassland sites have been modified by applications of fertiliser, partial reseeding and frequent mowing. The continued sprawl of urban London has led to large losses of habitat and conversion to arable has been a problem in the past.

All these factors have led to a reduction in the extent and distribution of this habitat and continue to threaten remaining chalk grassland. The fragmented, isolated nature of the remaining sites makes further decline in their nature conservation interest more likely, particularly the loss of small populations of vulnerable animal species.

Opportunities

Efforts to reverse this trend have been made on a number of sites with some success, particularly through the removal of invasive scrub and restoration of grazing. Where former chalk grassland has been lost to previous arable conversion, there is the potential for reversion to grassland which can become quite species rich. Arable reversion can provide an opportunity for linking together isolated chalk grasslands by providing stepping stones, habitat corridors or extensions to existing habitat.

Old mineral workings and quarries such as those found in Hillingdon and Croydon, may also contain valuable calcareous communities. With suitable management and protection, these often neglected sites represent considerable opportunity for the conservation of species associated with chalk grassland.

Protection from development should be ensured to prevent further losses of this valuable habitat and the UDP status of all chalk grassland sites should be assessed. The potential for LNR status (and SSSI status for all sites where greater yellow rattle occurs) should be fully investigated.

Data Sources

Clenet, D., Britton, B., & Game, M. (1988). *Nature Conservation in Croydon*. Ecology Handbook Number 9. London Ecology Unit.

English Nature (1995). *Grassland Inventory Greater London*. English Nature.

Farino, T., & Game, M. (1988). *Nature Conservation in Hillingdon*. Ecology Handbook Number 7. London Ecology Unit.

Hedley, S. (1988). *London Chalk Grassland Survey*. Project No. 92. England Field Unit. Nature Conservancy Council.

London Wildlife Habitat Survey (1984/5). Held by LEU, includes habitat dot distribution maps, aggregated area figures and standardised information on every survey parcel.

Swales, S. (1992). *Ecological Audit of Land Owned and Managed by Leisure Services*. London Borough of Bromley Parks and Conservation. Unpublished.

Yarham, I., Barnes, R., & Britton, B. (1993). *Nature Conservation in Sutton*. Ecology Handbook Number 22. London Ecology Unit.

Rationale and limitations of approach

The audit was conducted using the best available data. Some figures used are estimates and the quality of the data may vary from site to site. For many of the sites there is no recent data; consequently the data will include some inaccuracies when compared with the present day situation. Habitat areas have been rounded to the nearest hectare to avoid misleading precision in the figures.

The audit should be used as a guide and not as a definitive statement of Greater London's chalk grassland resource. Each borough could refine the audit by comprehensive re-survey.

Much of the data collected was taken from the London Wildlife Habitat Survey (1984/5). This survey represents the most fully comprehensive survey to date. The survey data have been cross-referenced and updated by re-surveys carried out by the LEU and others.

The data was further cross-referenced with the 'Phase 2' chalk grassland survey undertaken by the Nature Conservancy Council (1988) and the Greater London Grassland Inventory (English Nature 1996). However, JNCC's 1988 survey used stricter criteria in identification of chalk grassland. The distinction between calcicolous and mesotrophic grassland can be uncertain and can lead to double accounting or even omission of sites which would benefit from the Chalk Grassland Habitat Action Plan.

In view of the above, the 1988 data has replaced the 1984/5 data when the area of chalk grassland had increased, but not when chalk grassland area had been reduced or sites omitted. Although this may lead to an inflated estimate of the resource, it is an attempt to provide a comprehensive list of Greater London's chalk grassland in its widest context and to include all potentially applicable habitat in the Habitat Action Plan.