

HA15: Farmland

Definition

Farmland can be broadly defined as land under cultivation that is tilled at least once every five years (Wicks & Cloughley 1998). This can include land in set-aside, or temporary grassland (an agricultural ley).

London's farmland resource

The data used for audit purposes fell under the following MAFF land use headings: arable, 'other' (e.g. vegetables and feed), bare fallow, grassland (excluding rough grazing), rough grazing, set aside and woodland on agricultural land. Orchards have also been identified.

In 1997 MAFF estimated approximately 12,872 ha of farmland in Greater London (see *Table 1*), 529 ha of which was under set-aside. The total area of farmland in London represents 8% of the total area of Greater London. There are estimated to be 1,156,114 ha of farmland in Southeast England; London accounts for just 1% of this. MAFF's 1997 figures show that the majority of farmland in London is made up of arable (27%) and grassland (44%, excluding rough grassland).

The overall farmland resource in London declined by 30% between 1965 and 1997. This included declines in arable of 42%, orchards 90%, bare fallow 75%, grassland (excluding rough grazing) 22% and rough grazing 39% (see *Table 1*).

Data is available for the farmland resource in the following boroughs: Barnet, Bromley, Enfield, Havering, and Hillingdon. Bromley contains approximately 30% of London's agricultural land followed by Havering (24%), Hillingdon (13%), Enfield (12%) and Barnet (6%) (see *Table 2* and the *Map*). Approximately 85% of Greater London's farmland resource is contained within these five boroughs.

Nature Conservation Importance

The intensification of farming over the last 20-30 years (and the reduction in farmed land in London) has led to significant nation-wide declines in many species dependent upon habitats associated with 'traditionally' farmed landscape. This has led to farmland habitats being highlighted as a priority for nature conservation by the UK Biodiversity Steering Group (1995). Of particular nature conservation importance are traditional hay meadows, old hedgerows and ponds, and farmland birds such as tree sparrow and skylark.

Although most of the modern-day farmed landscape supports far fewer species than unimproved pasture and traditionally farmed arable land (which allowed for a fallow period and was less dependent upon pesticides and artificial fertilisers), there are still a number of species which are associated with farmland. In London several bird species are, in part, dependent upon farmland; corn bunting, yellowhammer and wintering golden plover are largely confined to the capital's remaining farmland. Farmland also supports important populations of tree sparrow, grey partridge, lapwing and skylark. Most of these species are especially dependent upon hedgerows and other features such as small woodlands, rough headlands and ditches within the farmland matrix.

Table 1: Audit of Greater London Farmland Holdings in 1997, 1985, and 1965.

Year/Greater London and South East Region	Total Tillage					Total Grassland (not rough grazing)	Rough Grazing	Woodland	Set Aside	Total
	Total Arable	Total Orchards	Other (e.g. Veg. /Feed.	Bare Fallow	Sub Total					
1997 Greater London	3,486	39	1,893	155	5,573	5,656	733	381	529	12,872
1997 South East Region	407,687	13,911	169,717	4,354	595,669	412,300	32,547	66,697	48,901	1,156,114
1985 Greater London	5,045	51	1,710	275	7,081	7,037	1,320	895	-	16,333
1985 South East Region	807,276	20,790	150,122	9,651	987,839	567,275	43,408	103,235	-	1,701,757
1965 Greater London	5,971	390	2,995	610	9,966	7,284	1,200	-	-	18,450
1965 South East Region	455,943	33,530	77,318	15,105	581,896	429,279	43,010	-	-	1,054,185

NB: Sub totals may not add up to totals due to rounding. Data taken from final results of the June 97, June 85 and June 65 MAFF Agricultural and Horticultural Census.

Table 2: Available Farmland Holdings Audit Data for Five London Boroughs

Land Use	London Borough Holdings (ha)					
	Barnet	Bromley	Enfield	Havering	Hillingdon	Total
Total Crops and Fallow (tillage)	197	1,994	626	1,922	296	5,035
Recent and Temporary Grassland (<5 years)	***	224	262	138	118	***
Permanent Grassland (> 5 years)	449	1,078	415	580	864	3,386
Rough Grazing (sole rights)	***	121	31	107	236	***
Woodland	***	153	28	54	***	***
Set - Aside	***	183	59	142	***	***
All Other Land	8	95	55	140	62	360
Total Area on Holdings (ha) (% Total Resource).	783 (6%)	3,848 (30%)	1,475 (12%)	3,084 (24%)	1,624 (13%)	10,814 (84%)

NB: *** To prevent the disclosure of information about individual holdings the number of holdings has been suppressed and the data averaged over a wider area. Sub total may not add up to totals due to rounding. Data taken from MAFF Agricultural and Horticultural Census: 2 June 1997. Parish Group Data (excluding minor holdings).

Although most mammal species are found within a range of habitats in London, the remaining populations of brown hare are virtually confined to arable areas on the fringes of the Capital.

There are few plant species with specific associations with agricultural land which still occur in London, largely due to the use of herbicides. However, some of these species (such as poppy *Papaver rhoeas*) are making a welcome comeback as a result of Countryside Stewardship and set-aside schemes. Rarities such as Deptford pink *Dianthus armeria* may survive as viable seed in the seed-bank in the margins of arable land on the chalk. It is perhaps interesting to note that many plant species formerly regarded as weeds of arable land are now more often encountered on wasteland sites across the Capital.

Much of the nature conservation value of 'active' farmland has become concentrated in the field margins, headlands and along field boundaries, particularly hedgerows. These remaining semi-natural habitats often support populations of common grassland butterflies such as gatekeeper and a host of other invertebrates which are an important food source for farmland birds, particularly during the breeding season.

Some farmland areas of nature conservation value in Greater London

Arkeley South Fields. Set-aside with breeding skylarks, LB Barnet

Fairlop Plain. Arable farmland complex with species such as brown hare and wintering golden plover, LB Redbridge

Several farms with arable reversion schemes, LB Bromley

Threats and Opportunities

Threats

The threats to farmland biodiversity have been well documented; indeed the rapid decline in once familiar farmland birds was one of the main catalysts for the biodiversity action planning process in the UK.

In recent years the primary threat to farmland biodiversity in London, in common with the rest of the UK, has been continued agricultural intensification driven by advances in technology and falls in farm incomes. Application of artificial fertiliser and the widespread use of herbicides and insecticides have resulted in a severe decline in the biodiversity of intensively farmed fields. Simplification of the crop rotation cycle - including the decline in the use of root crops in stock rearing areas, use of pre-emergence weed killers, rapid re-seeding of grassland in rotation cycles, change from spring to autumn sown cereals and the switch from hay to silage production – has taken its toll on farmland wildlife.

However, these widespread changes in farming practice are not the sole threat to farmland biodiversity. Loss of farmland to outdoor leisure activities (e.g. golf courses) has become a significant issue in recent years and the need for new cemetery space may impinge upon the farmed landscape in the years to come. The rise of 'horsiculture' in London's Green Belt has caused many pastures to be subdivided, frequently resulting in severe overgrazing.

In addition to the above threats, which are driven largely by strategic policy decisions, farmland biodiversity is threatened at a more local scale by a variety of small-scale impacts with a significant collective effect on certain habitats or species. These include:

- Ill-considered tree planting schemes. These are often targeted at marginal agricultural land, rough grazings etc. with little consideration of the nature conservation value of the existing habitat.
- Various 'urban fringe' pressures such as illegal motorcycling rubbish dumping and disturbance.

- Continuing small-scale loss of remnant semi-natural habitats by, for example, regular flailing of hedgerows or neglect of hedgerows; drying out or over-shading of ponds; tidying of headlands and marginal areas and over-deepening of ditches, etc.

A more subtle threat, perhaps, is the lack of awareness and understanding of farming and the agricultural landscape (and, thereby, the biodiversity which still occurs there) amongst the increasingly urban perspective of the majority of London's population.

Opportunities

The opportunities for effecting biodiversity conservation and enhancement on farms are almost as well documented as the litany of losses of biodiversity throughout the agricultural landscape. Various agri-environment schemes across the UK, such as set-aside and Countryside Stewardship, ensure that some farmland areas are maintained more favourably for wildlife. In addition, some areas of intensively farmed land have been targeted for reversion to more 'traditional' farming methods including organic farming, in an attempt to restore priority habitats and species.

Countryside Stewardship and other agri-environment schemes are in place on some farmland in Greater London – there has been a particularly good uptake in Bromley for example. Promotion of these schemes and targeting of important sites in the urban fringe needs to continue. A review of current agri-environment schemes might be beneficial, with a view to identifying mechanisms for combining opportunities for biodiversity conservation and recreation/amenity in the urban fringe.

The recent economic crises in the farming industry and the ongoing debate concerning the perceived need for a large number of new homes (particularly in and around London) has highlighted the potential resource provided by London's farmland. These agricultural landscapes could provide tremendous potential for biodiversity conservation as part of a holistic approach to the management and enhancement of London's Green Belt. The two Community Forests on the fringes of London (Thames Chase in the east and Watling Chase in the north) provide a model for this approach, although biodiversity has not been an integral theme in the respective 'Forest Plans' to date.

Data Sources

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Farmland Audit: Rationale and limitations of approach

The farmland audit should be used as a guide and not as a definitive statement of Greater London's farmland resource. Data was provided by MAFF. This data represents the most fully comprehensive data available. Totals were available for farmland in London as a whole (see Table 1), which provides an overview of the resource. The data provided by MAFF has enabled land use comparisons to be made between 1997, 1985 and 1965 for both Greater London and the Southeast Region.

Individual totals were not available for each borough due to data protection mechanisms (where land holdings within a parish are too small or farmers may have requested a non-release of data policy). However, data for the following boroughs was available: Barnet, Bromley, Enfield, Havering and Hillingdon. The borough data provides an indication of the outer London farmland resource.

The Institute of Terrestrial Ecology holds satellite data on land uses in Greater London. This data has been used by the London Research Centre (LRC) in the production of their Focus on London Report (1999). In this report, percentages of land cover types were estimated for each 1 km grid square. However, there are drawbacks to this approach caused by limited resolution and inclusion of land outside of the Greater London boundary (data from entire grid squares was included even when it fell outside the Greater London boundary). The latter results in exaggerated figures for Greater London. This can be illustrated by comparing the LRC total for agriculture, which is 13,600 ha and the total for agriculture taken from 1997 MAFF data - 12,872 ha.

Satellite data is useful for gaining a quick overview of Greater London land use but does not enable the more detailed assessment provided by the MAFF data. Furthermore, MAFF data is based upon the 1997 'returns' and provides the most up to date view available, the satellite data dating from 1988 and 1991.

Coverage of the MAFF Census The 1997 annual June survey covered 237,720 agricultural holdings in the United Kingdom. In England only main holdings were surveyed. The MAFF definition of a 'holding' is "*land on which agricultural activities are carried out and which is by and large farmed in one unit having regard to such supplies as machinery, livestock, feeding stuffs and manpower, and to the distance of any separate areas of land involved and their type of farming*" (MAFF 1998b).

The survey aimed to estimate the aggregates of individual items collected. To this end, 'minor' holdings are excluded in England as they contribute only a small proportion of the totals and are therefore considered statistically insignificant.

A holding is classified as minor if all the following criteria are true:

- The total area is less than 6 hectares

- There is no regular whole time farmer or worker
- The estimated annual labour requirement is less than 100 days (of 8 hours productive work by an adult worker under average conditions)
- The occupier does not farm another building
- The glass house area is less than 100 square metres

If any of these conditions are not satisfied the holding is considered as 'main'. So although the MAFF data represents the most comprehensive and up-to-date data available there will still be a shortfall in terms of the farmland resource represented by these statistics. As the LRC data over-estimates the resource it is fair to say that the total for farmland within Greater London lies somewhere between the LRC figure of 13,600 ha and the MAFF figure of 12,782 ha.