

## A6.50a Merlin *Falco columbarius* (breeding)

### 1. Status in UK

Biological status		Legal status		Conservation status	
Breeding	✓	Wildlife and Countryside Act 1981	General Protection Schedule 1(1) Schedule 4	Species of European Conservation Concern	
Migratory	✓	Wildlife (Northern Ireland) Order 1985	General Protection Schedule 1(1)	(UK) Species of Conservation Importance	Table 2
Wintering	✓	EC Birds Directive 1979	Annex I Migratory	All-Ireland Vertebrate Red Data Book	Rare

### 2. Population data

	Population sizes (pairs)	Selection thresholds	Totals in species' SPA suite
<b>GB</b>	1,300	13	426 (33% of GB population)
<b>Ireland</b>	110	1	No SPAs selected in Northern Ireland
<b>Biogeographic population</b>	10,200	102	426 (4% of biogeographical population)

GB population source: Rebecca & Bainbridge 1998

All-Ireland population source: Gibbons et al. 1993

Biogeographic population source: Hagemeyer & Blair 1997

### 3. Distribution

The Merlin has a circumpolar breeding range occurring in northern temperate, sub- and low-Arctic regions. Through most of its range, it is migratory. Birds that breed in the Palearctic move south after breeding to winter in temperate Europe, the Mediterranean Basin, the Middle East and south-east Asia. In North America, birds move from northerly breeding areas to the southern parts of the USA, central America and northernmost parts of South America. The species is polytypic, with ten races described. Two of these (*F. c. aesalon* and *F. c. subaeson*) occur in Europe. British-breeding Merlins are of the race *F. c. aesalon*, and form the western extremity of a range that extends through northern Europe east to central Siberia (Cramp & Simmons 1980; del Hoyo *et al.* 1994). Hagemeyer & Blair (1997), however, regard British birds as belonging to *F. c. subaeson*, with a breeding range of Iceland, the Faeroes and Britain and Ireland.

In Europe, Merlins have a northern distribution, from Iceland through Fennoscandia to Russia. Those breeding in Britain and Ireland are the most southerly in Europe.

In the UK, Merlin is confined as a breeding species to heather moorland areas, mainly in the uplands of Northern Ireland, Scotland, Wales and northern England, with small numbers in south-west England. The range extends into lowland moorland particularly around the north

and west coasts of Scotland and on the Scottish islands. There has been an increase in the last 20–30 years of breeding in conifer plantations, particularly where these border moorland. The highest densities occur in north Yorkshire, the north Pennines and Lake District, and east Scotland (Rebecca & Bainbridge 1998).

#### **4. Population structure and trends**

In Europe there are an estimated 10,166–16,612 pairs, with the largest numbers occurring in Sweden, Norway and Finland – each of which holds more than 2,000 pairs (Hagemeijer & Blair 1997).

The Great Britain population was estimated at 1,300 pairs ( $\pm$  200 pairs) following a survey in 1993 and 1994 (Rebecca & Bainbridge 1998). The population of Northern Ireland was not surveyed at the same time, but is probably around 50% of the all-Ireland estimate of 110–130 pairs in 1988-91 (Gibbons *et al.* 1996).

The British breeding population was thought to have declined from the 1950s until the early 1990s, initially as a result of organochlorine and other pesticide contamination, and more recently through habitat loss (Gibbons *et al.* 1996). The only survey prior to that in 1993-1994 was a partial one in 1983-84, which found 550-650 pairs. However, the 1993-94 survey was more complete because of much better knowledge of Merlin distribution in the intervening period, through the activities of Raptor Study Groups. In all areas where direct comparison was possible, Merlins had increased or remained stable (Rebecca & Bainbridge 1998).

There is little evidence for change in other European populations (Hagemeijer & Blair 1997). The British breeding population appears to be more or less self-contained, with very limited emigration of birds in winter, though many Icelandic breeders winter in Britain (Cramp & Simmons 1980).

Organochlorine and mercury residues, coupled with widespread eggshell-thinning, were identified in the 1970s as serious problems affecting Merlin numbers and breeding success (Newton *et al.* 1982). Despite progressive reductions in the use of the pesticides, residues remained worryingly high for some years afterwards (Newton & Haas 1988).

Habitat loss, especially the conversion of heather moorland to grass moorland, has been identified as the main reason for former areas of the breeding range remaining unoccupied, e.g. parts of Scotland, Wales and the Lake District (Rebecca & Bainbridge 1998). In Wales, breeding success has been directly related to vegetation quality (Bibby 1986). Only the switch from nesting on moorland to nesting in conifer plantations, which ultimately involved over 50% of breeding pairs, effectively allowed the population to remain stable over the period 1970 to 1991 (Parr 1994).

#### **5. Protection measures for population in the UK**

##### **SPA suite**

In the breeding season, the UK's SPA suite for Merlin supports, on average, 426 pairs. This amounts to about a third of the British breeding population. Within an all-Ireland context, there have been no SPAs selected in Northern Ireland, and the overall suite of 14 sites (Table 6.50a.1) contains about 4% of the international population.

##### **6. Classification criteria**

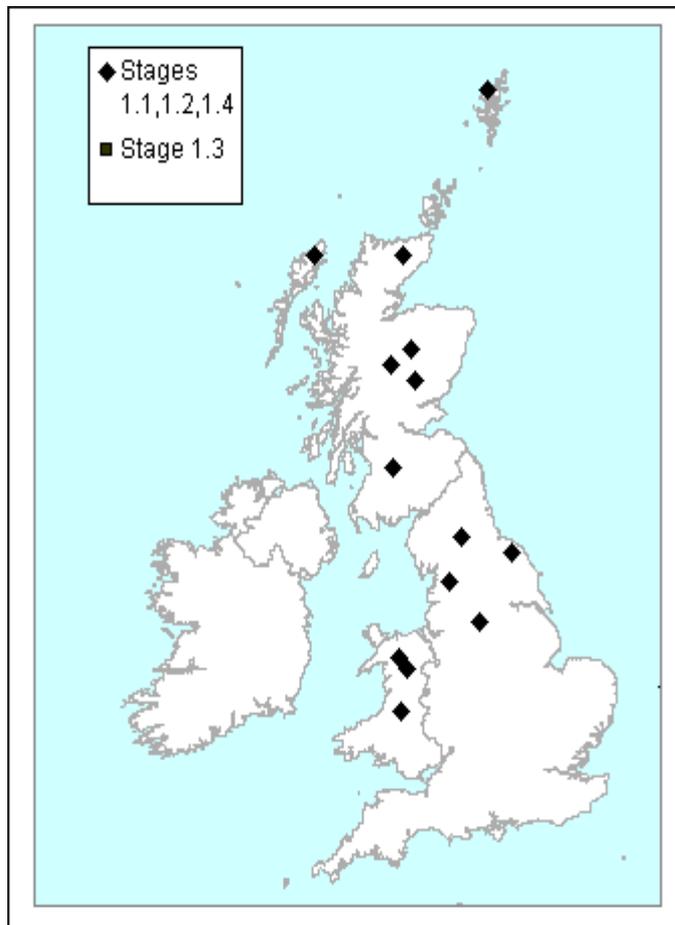
All sites in the UK that were known to support more than 1% of the national breeding population of Merlins were considered under Stage 1.1, and all (Berwyn, Bowland Fells,

Cairngorms, Caithness and Sutherland Peatlands, Lewis Peatlands, North Pennine Moors, North York Moors, and South Pennine Moors) were selected after consideration of Stage 2 judgements (in particular, population size, breeding density and range). As the UK holds a significant proportion of the European population of this Annex 1 species at the southern edge of its European range, and as the species regularly occurs within SPAs selected for other species, additional coverage of population size and range was sought using Stage 1.4.

Accordingly, a further six sites (Drumochter Hills, Elenydd-Mallaen, Forest of Clunie, Migneint – Dduallt, Muirkirk and North Lowther Uplands, and Ronas Hill – North Roe and Tingon) were identified and selected after consideration of Stage 2 judgements. Elenydd-Mallaen provides additional coverage of range in central Wales (approximately the southern edge of the UK range); Muirkirk and North Lowther Uplands provides additional coverage of range in the Southern Uplands of Scotland, whilst Ronas Hill – North Roe and Tingon contributes to range coverage in the northernmost part of the UK range. The Drumochter Hills, Forest of Clunie, and Migneint – Dduallt include significant additional coverage of breeding populations in the main upland parts of the range.

The sites within the suite are distributed through the breeding range of the population in the UK, and cover all population centres, from northernmost parts of Scotland to the southern edge of the breeding range in Wales, including the English uplands. All sites are multi-species SPAs, of importance also for a range of other breeding birds. There is a very long recorded history of occupancy at many of these sites with records from the 19<sup>th</sup> century for many sites (Harvie-Brown & Buckley 1887, 1888; Holloway 1996).

#### **Distribution map for breeding Merlin SPA suite**



**Table 6.50a. 1 – SPA suite**

<b>Site name</b>	<b>Site total</b>	<b>% of biogeographical population</b>	<b>% of national population</b>	<b>Selection stage</b>
Berwyn	14	<0.1	1.1	1. 1
Bowland Fells	20	0.2	1.5	1. 1
Cairngorms	14	<0.1	1.1	1. 1
Caithness and Sutherland Peatlands	54	0.5	4.2	1. 1
Drumochter Hills	7	<0.1	0.5	1. 4
Elenydd-Mallaen	7	<0.1	0.5	1. 4
Forest of Clunie	12	<0.1	0.9	1. 4
Lewis Peatlands	20	0.2	1.5	1. 1
Migneint - Dduallt	7	<0.1	0.5	1. 4
Muirkirk and North Lowther Uplands	12	<0.1	1.0	1. 4
North Pennine Moors	136	1.3	10.5	1. 1
North York Moors	40	0.4	3.1	1. 1
Ronas Hill - North Roe and Tingon	6	<0.1	0.5	1. 4
South Pennine Moors	77	0.8	5.9	1. 1
<b>TOTALS</b>	<b>426</b>	<b>4.2%</b>	<b>32.8%</b>	