

## A6.96 Short-eared Owl *Asio flammeus* (breeding)

### 1. Status in UK

Biological status		Legal status		Conservation status	
Breeding	✓	Wildlife and Countryside Act 1981	General Protection	Species of European Conservation Concern	SPEC 3 Unfavourable conservation status ( <b>vulnerable</b> ) but not concentrated in Europe
Migratory		Wildlife (Northern Ireland) Order 1985	General Protection Schedule 1(1)	(UK) Species of Conservation Importance	Table 4
Wintering	✓	EC Birds Directive 1979	Annex I	All-Ireland Vertebrate Red Data Book	Rare

### 2. Population data

	Population sizes (pairs)	Selection thresholds	Totals in species' SPA suite
<b>GB</b>	1,000	10	131 (13% of GB population)
<b>Ireland</b>			
<b>Biogeographic population</b>	13,400	134	131 (1% of biogeographic population)

GB population source: Gibbons et al. 1993

Biogeographic population source: Hagemeyer & Blair 1997

### 3. Distribution

The Short-eared Owl has a wide global distribution. It breeds in northern boreal regions of the Palearctic, from Iceland and Britain eastwards across northern Asia to the Bering Sea. It likewise occurs across the whole of northern North America. There are isolated populations in the Caribbean (Hispaniola) and northern South America, as well as the southern half of South America. Populations occurring on outlying oceanic islands, such as the Falkland Islands, Hawaii and Juan Fernández, probably derive from the long-distance migrations and dispersive movements typical of this nomadic owl, undertaken by individuals outside the breeding season (Hagemeyer & Blair 1997). The species is polytypic, the nominate race *A. f. flammeus* occurring throughout North America and the Palearctic. At least a further eight sub-species occur elsewhere (Cramp 1985).

In much of its range, the Short-eared Owl is migratory, moving south in winter from northern breeding areas. However, some populations are sedentary, for example those in South America.

Short-eared Owls have a scattered breeding distribution in western Europe, occurring in upland, moorland and heathland areas of Britain, the Low Countries, Denmark and Germany.

Further north and east, in Scandinavia, the Baltic States, Belarus and Russia, the species occurs much more extensively.

In the UK, Short-eared Owls breed locally in south-east England, and in the uplands from the north Staffordshire moors, north to the Scottish border. The Welsh population is concentrated on moorland and afforested tracts flanking central areas and the north Cambrian Mountains. Similar habitats are occupied in the Isle of Man. In Scotland, breeding is recorded in most mainland counties, with greatest numbers found in the Southern Uplands and the foothills along the south and east fringes of the Cairngorm and Grampian mountains. There is a healthy population in Orkney and on islands in the Inner Hebrides, but an absence on Shetland, Harris and Lewis (Gibbons *et al.* 1993). In Ireland, breeding has not been proven.

The species is widely, but sparsely distributed (Stroud *et al.* 1990). In the breeding season they inhabit moorland, heaths, marshes, bogs, sand dunes and young forestry plantations (Stroud *et al.* 1990; Gibbons *et al.* 1993). The species is an opportunistic feeder, heavily reliant upon vole and mice populations, upon which its distribution and nesting success tend to revolve.

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

The European population is between 13,376–26,265 pairs (Hagemeijer & Blair 1997), with large numbers also occurring in Russia (10,000–100,000 pairs) where Short-eared Owls breed from the Arctic tundra south to the steppes. Elsewhere, the next-largest populations occur in Finland (3,000–10,000 pairs), Sweden (2,000–7,000 pairs), Norway (1,000–10,000 pairs), Belarus (1,500–3,000 pairs) and Great Britain (1,000–3,500 pairs) (Hagemeijer & Blair 1997). There is little information on trends in most of these countries.

In Britain, both the breeding distribution and population size of Short-eared Owls have expanded over the past 70 years as a result of young conifer plantations offering high numbers of voles for Short-eared Owl to prey upon (Shaw 1995). However, the suitability of this habitat declines as the plantations mature. For first rotation forestry, suitability is retained up to 12 years post planting (Shaw 1995).

Numbers and local distribution also fluctuate greatly in association with periodic cyclical changes in populations of prey species (Village 1987; Stroud *et al.* 1990; Gibbons *et al.* 1993). Short-eared Owls prey upon field voles almost everywhere, but it is usual for them to specialise on alternative prey. For example, in Norfolk, Short-eared Owls prey upon Brown Rats *Rattus norvegicus*. Lawton Roberts & Bowman (1986) found that numbers and distribution of heathland-breeding owls feeding on small mammals with relatively stable populations (*e.g.* shrews *Sorex* spp. and Wood Mice *Apodemus sylvaticus*) were themselves more stable (Gibbons *et al.* 1993).

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

##### **SPA suite**

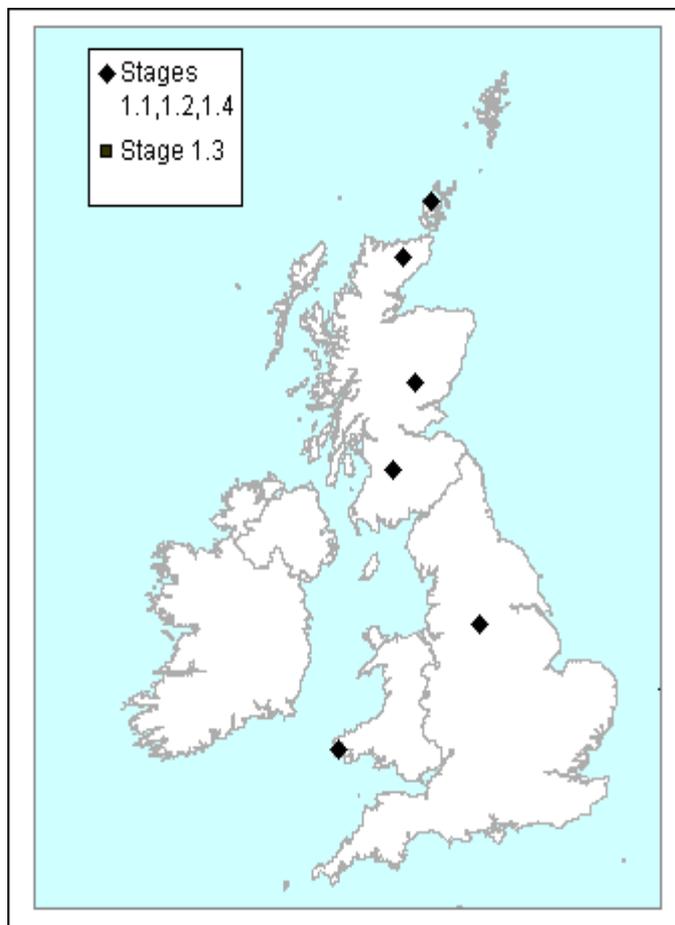
During the breeding season, the UK's SPA suite for Short-eared Owls supports, on average about 131 pairs. This amounts to about 13% of the British breeding population and about 1% of the international population. Short-eared Owls do not regularly breed in Northern Ireland. The suite contains six sites (Table 6.96.1) spread across the British uplands, where Short-eared Owl has been listed as a qualifying species.

## 6. Classification criteria

All sites in the UK that support more than 1% of the national breeding population were considered under Stage 1.1, and all were selected after consideration of Stage 2 judgements. All sites selected are multi-species SPAs and are distributed throughout the uplands, from the moors of Orkney, south to Skomer in west Wales and the South Pennines, reflecting the breeding distribution of Short-eared Owls in Britain.

Knowledge of numbers of Short-eared Owls breeding in different parts of the British uplands is generally poor. They are typically distributed widely, often at low densities, although numbers vary considerably between years according to vole population cycles. Site occupancy also tends to be erratic, with territory and hunting ranges small but variable in relation to prey numbers (Mikkola 1983; Village 1987; Gibbons *et al.* 1993). All these factors make the identification of further sites outside core areas, problematic. Accordingly, no further sites have been selected under Stage 1.4.

### Distribution map for breeding Short-eared Owl SPA suite



**Table 6.96.1 – SPA suite**

<b>Site name</b>	<b>Site total</b>	<b>% of biogeographical population</b>	<b>% of national population</b>	<b>Selection stage</b>
Caithness and Sutherland Peatlands	30	0.2	3.00	1.1
Forest of Clunie	20	0.1	2.00	1.1
Muirkirk and North Lowther Uplands	30	0.2	3.00	1.1
Orkney Mainland Moors	20	0.1	2.00	1.1
Skomer and Skokholm	6	<0.1	0.60	1.1
South Pennine Moors	25	0.2	2.50	1.1
<b>TOTALS</b>	<b>131</b>	<b>1.0%</b>	<b>13.1%</b>	