

A6.67a Dunlin *Calidris alpina schinzii* (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 (wintering) Unfavourable conservation status (vulnerable) but not concentrated in Europe
Migratory	✓	Wildlife (Northern Ireland) Order 1985	General Protection Schedule 1(2)	(UK) Species of Conservation Importance	Table 4
Wintering	✓	EC Birds Directive 1979	Migratory	All-Ireland Vertebrate Red Data Book	Vulnerable

2. Population data

	Population sizes (pairs)	Selection thresholds	Totals in species' SPA suite
GB	9,150	92	6,812 (74% of GB population)
Ireland	175	2	No SPAs selected in Northern Ireland
Biogeographic population	11,000	110	6,812 (62% of the biogeographic population)

GB population source: Reed 1985; Stroud et al. 1987

All-Ireland population source: Hutchinson 1989

Biogeographic population source: Stroud et al. 1990

3. Distribution

Dunlin have a wide global distribution around the Arctic, and are found in nearly all Arctic regions. In Europe, they also extend south to temperate regions where they are found in wetland habitats. The breeding population extends from east Greenland, across the Russian Arctic (Lappo & Tomkovich 1998) to the Alaskan coast of the Bering Sea. An isolated population breeds in the east Canadian Arctic (Cramp & Simmons 1983). The species is polytypic, with a high degree of variation in different parts of its range. Three sub-species of Dunlin occur in Europe in the non-breeding season: *Calidris alpina alpina*, *C. a. schinzii* and *C. a. arctica*. Two other sub-species (*articola* and *pacifica*) are largely restricted to North America, whilst *sakhalina* breeds in north-east Siberia and winters in the Pacific Far East. *C. a. actites* breeds on Sakhalin, *kistchinski* on Kamchatka, and *centralis* in central Siberia (Cramp & Simmons 1983; Lappo & Tomkovich 1998; Engelmoer & Roselaar 1998).

Breeding Dunlin are characteristic of moorland and upland habitats and this is reflected in the species' breeding distribution in the UK. Concentrations are found in the Flow Country of Caithness and Sutherland, and peat moors in the Orkneys, Shetland, Grampians, Pennines and

Outer Hebrides (Stroud *et al.* 1987, 1988; Gibbons *et al.* 1993). The machair of the Outer Hebrides represents another favoured habitat and up to a third of the British population was formerly estimated to breed here (Fuller *et al.* 1986). Small numbers also breed in the Southern Uplands of Scotland, the hills of central Wales and Dartmoor. Dunlin also breed in some areas of saltmarsh, for example on the Solway Firth. Breeding was only proven in one 10 km square in Northern Ireland during survey work for the 1988-1991 Breeding Bird Atlas (Gibbons *et al.* 1993).

4. Population structure and trends

Dunlin breeding in Britain and Ireland are of the temperate population of *C. a. schinzii* which also occurs in the Baltic region.

The UK breeding population of Dunlin is estimated to be 9,150 pairs (Stone *et al.* 1997, based on Reed 1985), which represents 83% of the biogeographic population. No information is available concerning population change at a national level, but there have been several studies looking at change in key regional areas. In the Flow Country of Caithness and Sutherland, numbers of Dunlin were estimated to have fallen by 17% due to the afforestation that has occurred there since 1945 (Stroud *et al.* 1987; see also Avery & Haines-Young 1990). Afforestation not only resulted in direct habitat loss, but also led to a reduction in numbers up to 800 m from the forest edge – perhaps due to vegetational changes or local increases in predators (Stroud *et al.* 1990).

Although active afforestation has now stopped in the Flow Country, Dunlin numbers have continued to fall. Whitfield (1997) found that numbers fell on five of 12 sites in Caithness and Sutherland surveyed both in the period between 1979 and 1987, and in 1993–1994, and that overall numbers fell by 2.4% per year. Afforestation is also estimated to have resulted in the loss of 400 pairs of Dunlin from Wales, the North York Moors and the Southern Uplands (Stroud *et al.* 1987). Agricultural intensification has caused additional population losses, for example in Orkney (Booth *et al.* 1984; Ratcliffe 1990). In contrast, on peatland sites in Lewis and Harris where there has not been substantial habitat change, numbers of Dunlin showed a slight increase of 1.4% per year between surveys in 1987 and 1994/1995 (Whitfield 1997; see also Stroud *et al.* 1988).

In the southern Outer Hebrides, the large populations that breed on the machair are in decline mainly due to egg predation by introduced Hedgehogs *Erinaceus europaeus* (Jackson & Green 2000). The percentage of first nests hatching fell from 59.6% in the period 1985-1987, when Hedgehogs were absent, to 8.8% in the period 1996-97. Declines have also been recorded in Hedgehog-free areas of North Uist (Fuller & Jackson 1999) and the situation is very complex with a variety of factors probably implicated. Predation of one sort or another is almost certainly involved but changes to the machair land-management systems may be a fundamental reason also.

There are estimated to be about 2,000 pairs of *schinzii* Dunlin breeding in the Baltic area (Thorup 1998). Tucker & Heath (1994) gave figures of just 500-700 pairs in Estonia and 10-15 pairs in Latvia and Lithuania. These Baltic Dunlin are found mostly in wet coastal meadows and river-mouth floodplains, which are threatened by agricultural intensification and the cessation of grazing and increase in nest predation (Jönsson 1988, 1991; Leibak *et al.* 1994; V•ksne 1997).

5. Protection measures for population in UK

SPA suite

In the breeding season, the UK's SPA suite for Dunlin supports, on average, 6,812 pairs. This amounts to about 74% of the British breeding population. The suite contains about 62% of the international population. Within an all-Ireland context, there have been no SPAs selected in Northern Ireland. The SPA suite total is contained within eight sites (Table 6.67a.1) where breeding Dunlin is a qualifying species.

6. Classification criteria

The seven UK sites (Caithness and Sutherland Peatlands; Lewis Peatlands; North Pennine Moors; North Uist Machair and Islands; South Uist Machair and Lochs; Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); and South Pennine Moors) known to support more than 1% of the international breeding population were considered under Stage 1.2, and all were selected after consideration of Stage 2 judgements. The potential for additional coverage using Stage 1.4 was assessed given that the UK holds a very high proportion (83%) of the temperate population of *schinzii* Dunlin – a population that is in decline both in the UK and elsewhere in Europe. Fetlar was selected accordingly as having the largest, highest-density population in Shetland. Fetlar contributes a significant population to the species' suite as well as range coverage in the northernmost part of Scotland.

The sites are located throughout the UK range of this species, and represent the main centres of occurrence. All the sites in the suite have a high degree of naturalness, and all are multi-species SPAs of importance for other breeding birds. There is a very long recorded history of occupancy at all these sites (Harvie-Brown & Buckley 1887, 1888, 1892; Venables & Venables 1955; Holloway 1996).

Outwith the SPA suite breeding Dunlins have a widely scattered distribution in the British uplands often at (very) low density, and identification of key sites is problematic.

Distribution map for breeding Dunlin SPA suite

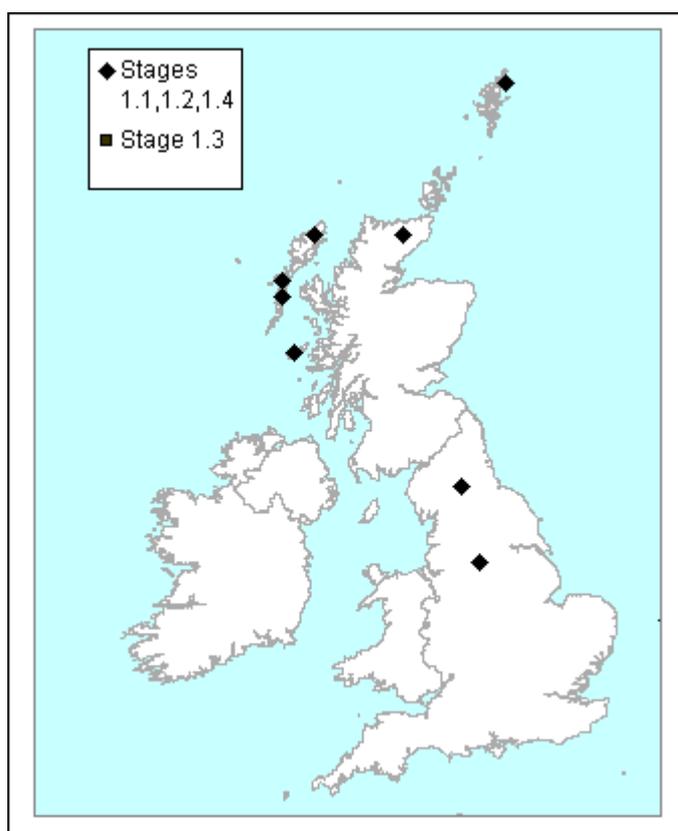


Table 6.67a.1 – SPA suite

Site name	Site total	% of biogeographical population	% of national population	Selection stage
Caithness and Sutherland Peatlands	1,860	16.9	20.3	1.2
Fetlar	90	0.8	1.0	1.4
Lewis Peatlands	3,650	33.2	39.9	1.2
North Pennine Moors	330	3.0	3.6	1.2
North Uist Machair and Islands	260	2.4	2.8	1.2
South Pennine Moors	140	1.3	1.5	1.2
South Uist Machair and Lochs	357	3.2	3.9	1.2
Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	125	1.1	1.4	1.2
TOTALS	6,812	61.9%	74.0%	