

## Knots in southern Africa

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The number of Knots wintering in southern Africa is approximately 13,000. Their provenance is probably the Taymyr Peninsula, Russian Republic, and they migrate to and from southern Africa along the west coasts of Africa and Europe. The birds have a mean winter mass of 127 g and do not show winter fattening.

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### INTRODUCTION

The Western Cape Wader Study Group (WCWSG) has been studying Knots *Calidris canutus* at Langebaan Lagoon (33°05'S, 18°02'E), the most important locality for this wader in southern Africa. Ringing and counting have been carried out since 1970. In addition, a series of coastal surveys (details in Summers *et al.* 1987) for waders have helped to describe the distribution and population size of the Knot in southern Africa.

### POPULATION

The winter population of Knots in southern Africa has been estimated at 13,000: 4,000 in Namibia and 9,000 in South Africa (Summers *et al.* 1987). The main sites are Walvis Bay, Sandwich Harbour and Langebaan Lagoon (median winter population 3,301, minimum 2,154, maximum 6,219 based on 13 mid-winter surveys, 1976 - 1988; WCWSG unpubl. data). Other sites are given in Dick *et al.* (1976). Langebaan Lagoon has also a population of over-summering birds (mainly first-year birds) with large numbers occurring in years following good breeding seasons, which follow a *c.* 3 year cycle (Underhill 1987, Underhill *et al.* 1989). The moult patterns of the young birds are complex, including moult of the inner primaries, moult of the outer primaries, two moult centres and three generations of feathers occurring simultaneously.

There has been little study of seasonal changes in numbers. Pringle & Cooper (1975) indicate that

immigration takes place in October/November and emigration in April. As Langebaan Lagoon is at the southern end of the range in Africa and because there are few other sites that contain Knots it is unlikely that turnover occurs.

The population size of Knots in southern Africa appears to have increased between 1956 and 1975 (Waltner 1985). Quantitative evidence for this increase is that in March 1956 there was one Knot per 340 Curlew Sandpipers *Calidris ferruginea* (Rudebeck 1963), compared with an average ratio of 1 : 7.4 during midwinter surveys between 1976 and 1987 (Underhill 1987).

### ORIGINS AND DESTINATIONS

Countries of ringing or recovery of Knots involving southern Africa have been summarized by Underhill *et al.* (1989), who considered that the Taymyr Peninsula was the likely origin of southern African Knots, basing their argument on correlations with Brent Goose *Branta bernicla* and Curlew Sandpiper breeding productivity. This conclusion supports an earlier study by Dick *et al.* (1976), who showed that southern African Knots had larger bills than those wintering in Europe and thus categorized them as Siberian in origin. The migration route appears to be along the west coasts of Africa and Europe (Dick *et al.* 1987). There are no recoveries on the great circle route (*cf.* Sanderling *Calidris alba* and Curlew Sandpiper, Underhill *et al.* 1989).

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## BODY MASS AND FAT DEPOSITS

The seasonal pattern of mass of first-year and 1Y+ birds has been described by Summers & Waltner (1979). First-year birds have a relatively constant mass throughout the winter, and have a higher mass in summer (when it is colder). 1Y+ birds have their lowest mass in December ( $127 \pm 10$  g; there is no winter fattening). Between the second half of March and second half of April, mass increases at an average rate of 1.5 g/day. Departure occurs in the second half of April (mean mass  $191 \pm 14$  g) and the latest date on which a heavy bird was caught was 21 April.

Knots in winter had a fat index of 6.6% and lean mass of 127 g. Given a departure mass of 191 g the fat index would then be 34%.

## FUTURE PLANS

The WCWSG has biometric and moult details of c. 3,000 Knots and is currently writing a paper. The WCWSG plans to continue regular ringing and counting at Langebaan Lagoon, in order to monitor annual breeding productivity. The WCWSG will be willing to participate in any future colour dyeing projects for Knots on the east Atlantic coastline.

## ACKNOWLEDGEMENTS

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