

THE WOOD SANDPIPER (*Tringa glareola*) IN SOUTH AFRICA – DATA FROM COUNTING, ATLASING AND RINGING

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ABSTRACT

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Data from ringing, atlasing and waterbird counts from South Africa are compared for the Wood Sandpiper. While Wood Sandpiper atlas records are scattered throughout southern Africa, the birds concentrate in the wetter north-eastern quadrant of the subregion. They prefer wetlands with emergent vegetation, and these are more frequent in the woodland biome. Arrival at southern Africa starts from late July, but mostly lasts from August to September. Departure takes place mainly from March to April. Overwintering is rare in South Africa. The waterbird count data show a wide distribution, but with high numbers reported from artificial wetlands. There are two recoveries from the breeding grounds during the breeding season. Four recoveries provide information on migration routes. Although the recovery data set is small, it seems to indicate that Wood Sandpipers migrate to southern Africa along an inland route from the breeding grounds in eastern Europe and western Asia. There are four recoveries within southern Africa that are probably nomadic movements.

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INTRODUCTION

The Avian Demography Unit coordinates volunteer projects on a national scale in South Africa and the surrounding countries (Underhill *et al.* 1991). These data sets include Bird Ringing in southern Africa (SAFRING, Underhill *et al.* 1999), the South African Bird Atlas Project in southern Africa (SABAP, Harrison *et al.* 1997), and Coordinated Waterbird Counts in South Africa (CWAC, Taylor *et al.* 1999). While some of the data have been published, no detailed comparisons have been attempted using these three data sets for a single species. In this paper the data from these three sources are combined for a single species – the Wood Sandpiper. While atlas and count data indicate distribution and density of birds, ringing recovery data give an idea of movements.

BIRD ATLAS DATA

The SABAP data provide information on distribution, habitat and movements of birds in southern Africa. The data were chiefly collected on a monthly basis, in $15' \times 15'$ grid squares, during the period 1987-1991. The atlas maps show reporting rates, *i.e.* the proportion of checklists on which a species is recorded. This reflects changes in abundance: although reporting rates are not proportional to density, they are monotonically related to density, in the sense that increasing reporting rates are associated with increasing densities (Harrison *et al.* 1997).

Distribution. While Wood Sandpiper records are scattered throughout southern Africa (Underhill 1997; Fig. 1), the birds concentrate in the wetter north-eastern quadrant of the subregion. They prefer pans in the woodland biome in Zimbabwe, western Botswana (the Okavango delta) and northern South Africa. It is the com-

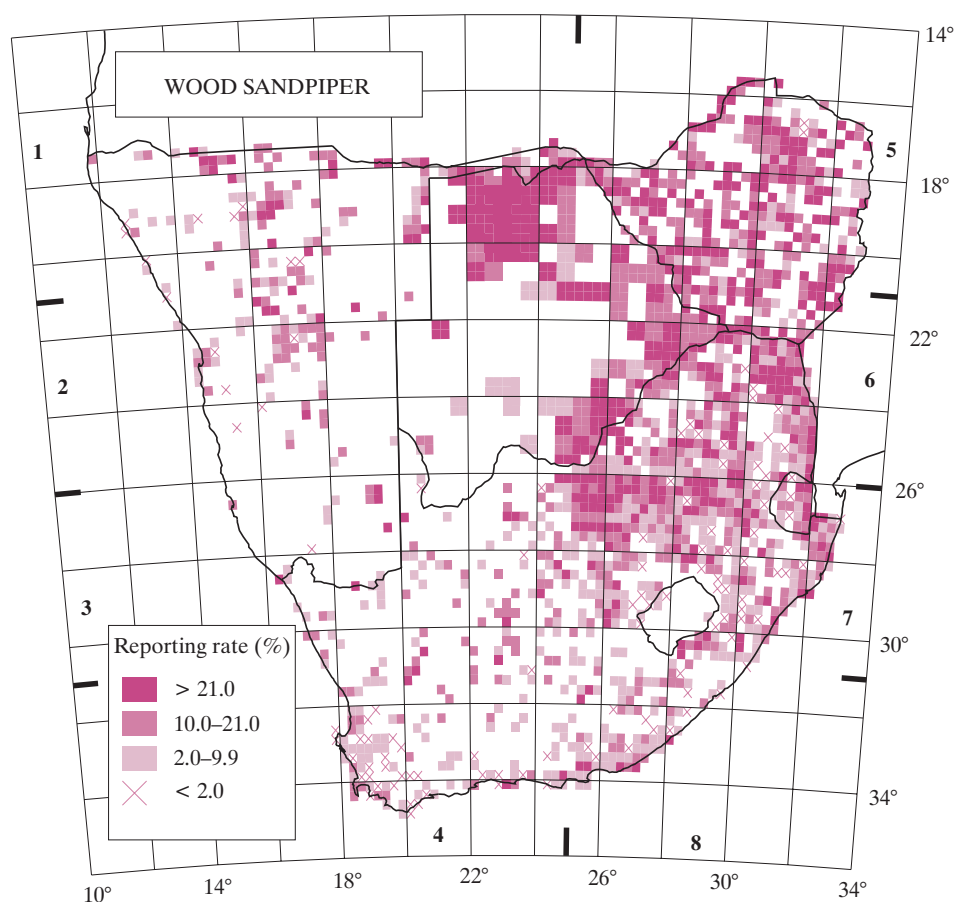


Fig. 1. Distribution of the Wood Sandpiper in southern Africa according to the atlas data

monest wader in Botswana. It is common in the old Transvaal province, but avoids the escarpment.

Habitat. Wood Sandpipers occur along marshy shorelines, especially of ephemeral pans, vleis, dams, streams, floodplains, and the upper reaches of estuaries. They are uncommon in intertidal zones and exceptional on seashores. The species prefers wetlands with emergent vegetation. These wetlands, *e.g.* the “dambos” of Zimbabwe, are more frequent in the woodland biome, while the grassland biome tends to have pans with muddy edges and shallow water, explaining the distribution of these birds (Underhill 2000).

Timing of arrival. The SABAP data indicate arrival and departure times for migrant birds (Fig. 2), according to eight zones that the region has been divided into (Fig. 1). Arrival starts from late July, but mostly lasts from August to September; full numbers are present from December. Departure takes place mainly from March to April. Arrival and departure is more or less simultaneous in the different zones (Fig. 2). Overwintering is rare in South Africa, and not recorded in Mozambique during the atlas period (Parker 1999) but regular further north (Underhill *et al.* 1991).

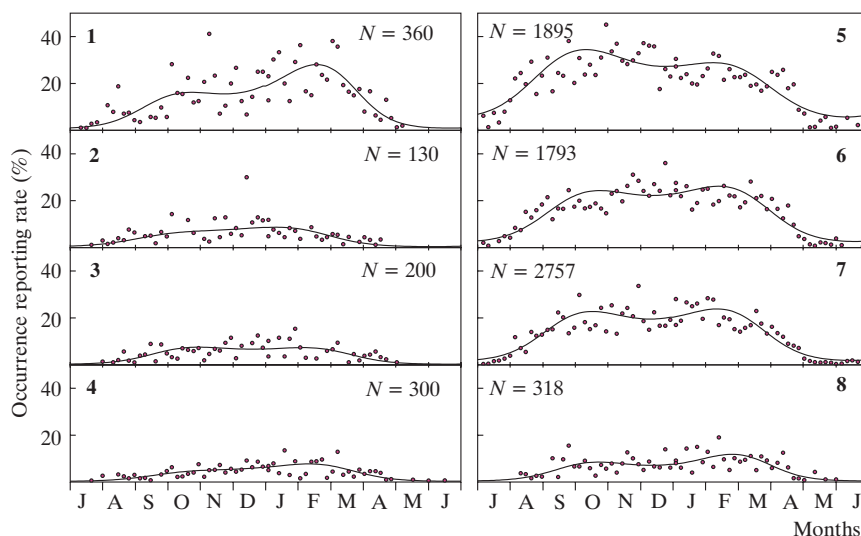


Fig. 2. Seasonality of the occurrence of the Wood Sandpiper in different zones (see Fig. 1) of southern Africa; note that months start from July.

There is no evidence for change in status of the Wood Sandpiper in southern Africa. At the beginning of the 20th century it was reported as “fairly abundant where suitable conditions exist” (Stark and Sclater 1906).

WATERBIRD COUNT DATA

Waterbird counts are conducted at a large number of sites throughout South Africa as a part of the African Waterfowl Census (Taylor *et al.* 1999). The data from

midsummer and midwinter counts 1992-1997 have been published, but counts are continuing. In the species accounts section (Taylor *et al.* 1999), the 15 sites with the largest mean summer counts are presented in Table 1. For a selection of sites the annual variation in numbers is shown. In this paper all sites where Wood Sandpiper have been counted have been extracted, including counts since 1997, showing a wide distribution through South Africa (Fig. 3).

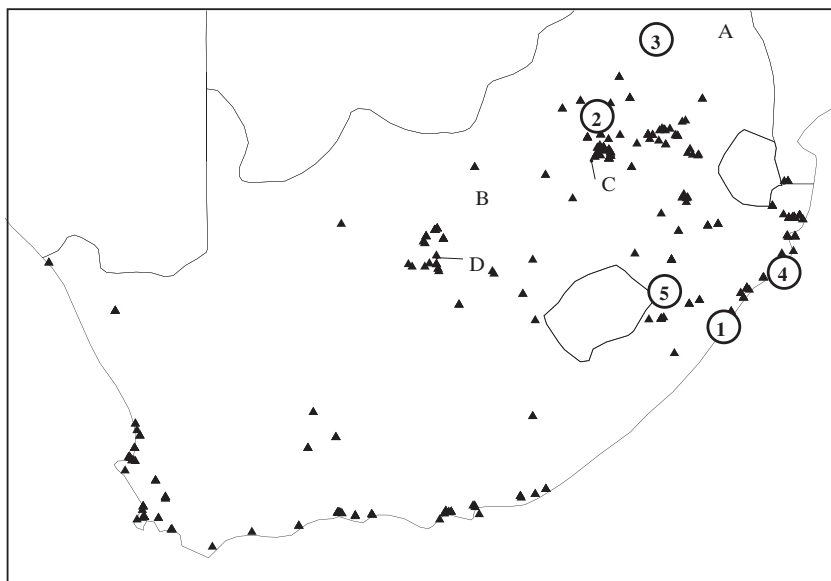


Fig. 3. Wetland sites where Wood Sandpipers have been counted in South Africa. Numbers: 1-5 – sites listed in Table 1; letters: A – Ganzankulu/Phalaborwa distr., Northern Prov., B – Delareyville, Northern Prov., C – Gauteng Prov., D – Kimberley, Northern Cape.

The CWAC data show that the Wood Sandpiper is widespread, mainly at inland waters. It is usually found in small scattered parties, but also in larger flocks (Taylor *et al.* 1999). It uses artificially created wetlands, with the largest count concentrations being recorded from sewage ponds. Maximum numbers vary dramatically at different wetland sites (Fig. 4). The largest concentration on one day was 288 birds in summer (Table 1). A few birds are present in winter at some sites (Table 1).

RINGING DATA

In southern Africa 3725 Wood Sandpipers were ringed between 1948 and 1999, with 25 recoveries and controls (Underhill *et al.* 1991). Currently the ringing total is 3779 (July 2001), with no additional controls or recoveries (Fig. 5). There are two recoveries from the breeding grounds during the breeding season. Bird BB43926 was ringed in Zimbabwe and recovered in NW Russia in May 1987. Bird 290651 was ringed in Zimbabwe and recovered on the east of the Ural Mountains in May 1979.

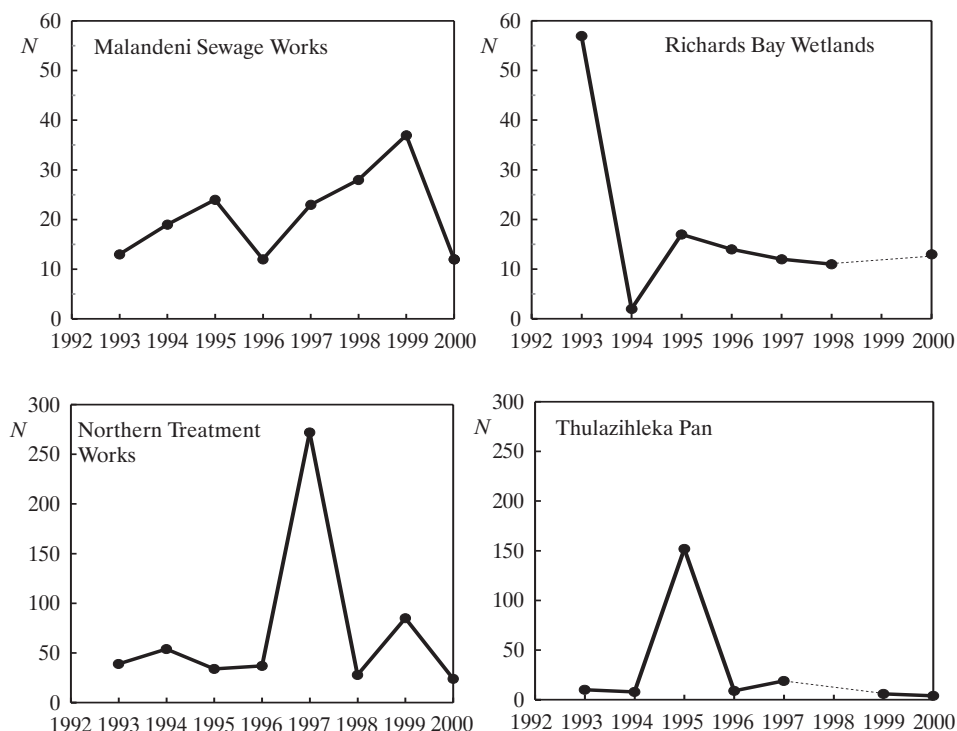


Fig. 4. Summer counts at four selected sites, showing annual variation, 1992-2000

Five recoveries provide information on migration routes (Fig. 5). Bird 96195 was ringed in Italy and controlled in Namibia, bird Z679471 was ringed in Slovakia and controlled in Zimbabwe five months later, bird B09642 was ringed in Kenya and recovered in the Eastern Cape, bird 258579 was ringed in Zimbabwe on 1 September 1974 and controlled at Marievale, Gauteng on 21 September 1975. Individual A387667 was ringed in Finland and controlled in Zambia. Although the recovery data set is small, it indicates that Wood Sandpipers migrate to southern Africa along an inland route from the breeding grounds in eastern Europe and western Asia. There are four recoveries within southern Africa which are probably nomadic movements. The recovery of bird 259241 on 8 August in Zimbabwe indicates early arrival. The longest elapsed time in SAFRING's database is 9 years 2 months (individual B09642).

DISCUSSION: COMBINING THE DATASETS

The most interesting comparisons for the Wood Sandpiper lie in the SABAP (atlas) data (see Fig. 1) and CWAC (count) data (see Fig. 3). While the SABAP data show reduced reporting rates along the coast of southern Africa (confirmed by a count of 930 birds – Summers *et al.* 1987), two of the top four CWAC counts are near the coast. These are the Northern Treatment Works (Durban) and Thulazihleka Pan.

Table 1

Mean and maximum numbers of the Wood Sandpiper counted in summer and winter (1992-1997) at wetland sites in South Africa with the highest mean summer count.

No – numbers of five top CWAC sites marked at Fig. 3, *N* – number of counts;

bold – sites cited at Fig. 4.

<i>No</i>	Locality	Co-ordinates	Summer			Winter		
			Mean	Max.	<i>N</i>	Mean	Max.	<i>N</i>
1	Northern Treatment Works, KwaZulu-Natal	29°48'S, 31°00'E	87	272	5	0	1	5
2	Rooiwal Sewage Works, Gauteng	25°34'S, 28°14'E	82	288	4	1	3	5
3	Pietersburg Bird Sanctuary, Northern Province	23°51'S, 29°27'E	45	45	1	0	0	1
4	Thulazihleka Pan, Richards Bay, KwaZulu-Natal	28°47'S, 32°03'E	40	152	5	0	1	5
5	Hlatikulu Vlei, KwaZulu-Natal	29°15'S, 29°41'E	35	54	2	0	0	1
	Blesbokspruit, Nigel, Gauteng	26°29'S, 28°28'E	30	30	1	2	2	1
	Espagdrift Vlei, Jan Kempdorp, Northern Province	27°56'S, 24°44'E	25	47	2	0	0	2
	Bitou River, Plettenberg Bay, Western Cape	34°01'S, 23°23'E	24	36	2	0	0	3
	Ghio Pans, Kenton-on-Sea, Eastern Cape	33°38'S, 26°34'E	23	38	4	0	0	4
	Mtunzini Prawn Hatchery, Mtunzini, KwaZulu-Natal	28°57'S, 31°46'E	22	34	2	1	3	3
	Rietvlei, Milnerton, Western Cape	33°51'S, 18°29'E	22	30	5	0	0	4
	Lake Chrissie East Pan, Mpumalanga	26°19'S, 30°15'E	21	21	1	0	0	1
	Kamfers Dam, Kimberley, Northern Cape	28°40'S, 24°46'E	21	48	3	0	1	3
	Richards Bay, KwaZulu-Natal	28°49'S, 32°02'E	20	57	5	0	0	5
	Malandeni Sewage Works, Ladysmith, KwaZulu-Natal	28°34'S, 29°48'E	18	24	5	0	1	5

leka Pan (Richards Bay). The sites are not strictly coastal, and they are both artificial wetlands, indicating the birds' preference for this habitat. The third and fourth largest counts are from Pietersburg and Rooiwal – sites within the core distribution of this species. Looking in finer detail, however, indicates that the highest reporting rates in South Africa are Gazankulu/Phalaborwa districts (about 17°S, 31°E),

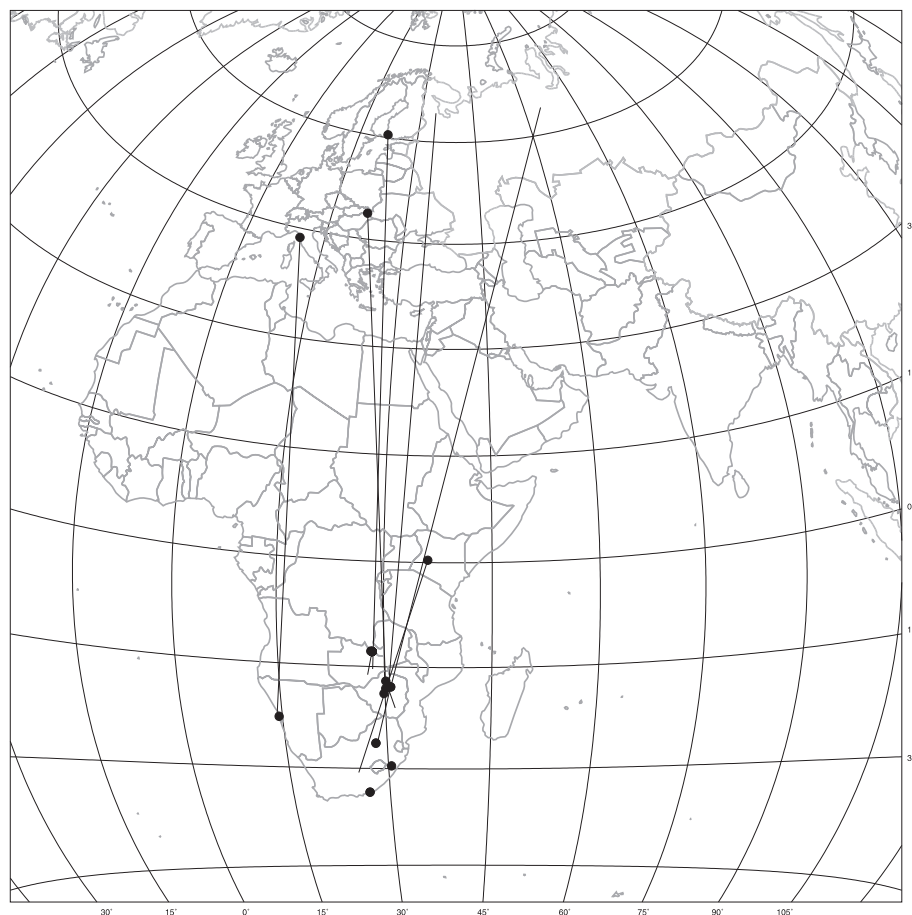


Fig. 5. Ringing sites and recovery places (dots) of the Wood Sandpiper from SAFRING's database

Northern Province, and Delareyville (27°S, 25°E), Northwest Province. These areas are not currently well represented by CWAC counts. There is a conglomeration of sites with at least one Wood Sandpiper counted in Gauteng and around Kimberley (28°40'S, 24°46'E), due to high observer effort in these regions. While the atlas data show a distributional preference for pans in woodland areas, the waterbird counts show how the Wood Sandpiper has successfully adapted to artificial wetlands and may congregate in large numbers at these.

Ringing data in southern Africa have not been computerised except if a bird has been recovered or controlled, as is the case with most ringing schemes worldwide. Due to the low number of Wood Sandpiper recoveries, the distribution of ringing and recovery coordinates within southern Africa is very limited. Ringing in southern Africa started in 1948, decades before most monitoring projects began, thus providing the longest monitoring series. Plotting all ringing coordinates would be a valuable exercise as this could provide data on distribution and timing of migration. The ringing coordinates since 1991 have been computerised (245 records) and

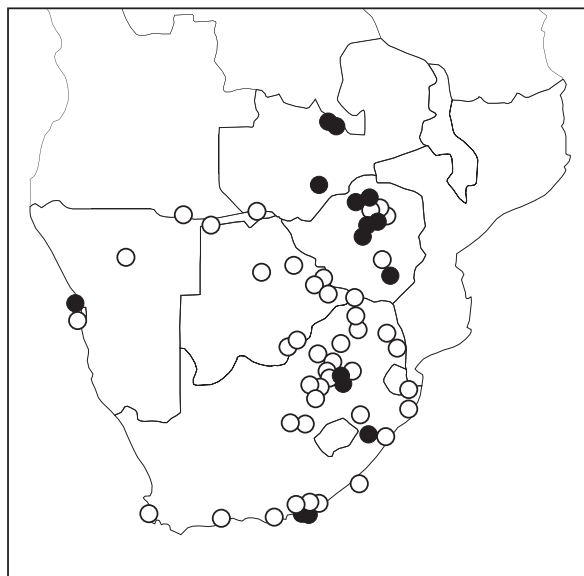


Fig. 6. Ringing sites of Wood Sandpipers, 1991-2001 (circles), compared to recovery data set (dots)

provide a slightly more comprehensive coverage (Fig. 6). In addition the moult and morphometrics of the Wood Sandpiper need to be computerised and analysed.

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