

Common Sandpiper *Actitis hypoleucos*

North Pennines, England (Miss S.Jones, Dept. of Biology, University of Durham, South Road, Durham DH1 3LE, England) colour rings
 South Pennines, England (South Pennine R.G., J.E.Robson, 1 Lawnfold, Hadfield, Hyde, Cheshire, England) colour rings
 Lower Saxony, Germany (see Little Ringed Plover) colour rings
 Angus, Scotland (Tay R.G.; B.Lynch, 15 Falkland Crescent, Broughty Ferry, Dundee DD5 1NX, Scotland) colour rings
 Midlothian, Scotland (Dr. I.R.Poxton, 54 Eskhill, Pencuik, Midlothian, Scotland) colour rings
 Northumberland, England (T.Cadwallender, 27 Sycamore Avenue, Guide Post, Choppington, Northumberland NE62 5NU, England) colour rings
 Strathclyde, Scotland (Brian J.Broadley, 92 Hyndland Road, Glasgow G12 9PZ, Scotland) colour rings and dye
 Møre og Romsdal, Norway (Lars Lofaldi, Dept. of Animal Ecology, Zoologisk Museum, University of Bergen, N-5014 Bergen-Univ., Norway) colour rings

Turnstone *Arenaria interpres*

Teemouth (Durham University - see Grey Plover) colour rings
 East coast of Scotland (Tay R.G. - see Purple Sandpiper) colour rings
 Greenland (Expeditions in 1973 and 1974) tall colour rings
 SW Norway (Aanen Munkejord, Dept. of Animal Ecology, Zoologisk Museum, N-5014 Bergen-Univ., Norway) colour rings
 Banc d'Arguin, Mauritania (J.Trotignon - see Ringed Plover) colour rings
 Nidingen Island, Sweden (Thomas Carlen, Nidingense Fagelstation, Box 10305, 434 01 Kungsbacka, Sweden) colour rings
 Ayrshire, Scotland (Dr. R.W.Furness - see Purple Sandpiper) colour rings
 Marcus Island, South Africa (P. Hockey, see Grey Plover) colour rings
 Lothian, Scotland (Dept. of Zoology, University of Edinburgh) colour rings

COLOUR FLAGS AND COLOUR DYES: TEMPORARY MARKS

The following species will be the subject of one or more studies involving such marking in 1981-82:

Oystercatcher	<u>Haematopus ostralegus</u>	Sanderling	<u>Calidris alba</u>
Ringed Plover	<u>Charadrius hiaticula</u>	Dunlin	<u>C.alpina</u>
Kentish Plover	<u>C.alexandrinus</u>	Bar-tailed Godwit	<u>Limosa lapponica</u>
Grey Plover	<u>Pluvialis squatarola</u>	Curlew	<u>Numenius arquata</u>
Lapwing	<u>Vanellus vanellus</u>	Redshank	<u>Tringa totanus</u>
Knot	<u>Calidris canutus</u>	Common Sandpiper	<u>Actitis hypoleucos</u>
		Turnstone	<u>Arenaria interpres</u>

The following ringers/organizations have registered their projects with WSG:
 WSG project on Movements of Wader Populations in Western Europe
 Dr. R.W.Furness, Glasgow University
 F.L.Symonds, Nature Conservancy Council & Edinburgh Ringing Group
 Miss C.M.Lessells, Edward Grey Institute & Station Biologique de la Tour du Valat
 R.D.Elliott, Aberdeen University
 Dr. E.Nieboer, Vrije Universiteit Amsterdam
 B.J.Broadley, Clyde Ringing Group
 Geir Olav Toft, University of Bergen
 Dr. R.W.Summers ; Dr Rhys Green, RSPB

IT IS VITAL THAT NO OTHER SCHEMES ARE UNDERTAKEN WITHOUT PRIOR CONSULTATION WITH WSG

Observers seeing birds marked with dye and/or flags (or other marks) should send the record with as much detail as possible to M.W.Pienkowski, Wader Study Group, Dept. of Zoology, University of Durham, South Road, Durham DH1 3LE, GB, who will forward it to the appropriate scheme. Points to note, if possible, are:-
 colour of dye position of dye on body colour of leg flag
 position of flag (above or below 'knee' joint; which leg) date
 location
 but incomplete details are welcome.

NOTE
 British ringers, in particular, should remember that any bird which is marked in any way additionally to the metal ring must be so indicated on the ringing schedules. The appropriate codes for this are given in the Ringers' Manual, as amended by Ringers' Bulletin.

ASPECTS OF OVERLAND WADER MIGRATION IN AUTUMN AT A RESERVOIR IN SOUTHERN SCOTLAND

by Tom W. Dougall

Introduction

During the autumns of 1974-76 inclusive, regular counts of waders were made at Alemoor Reservoir, near Hawick, Roxburghshire (see Dougall 1980).

This reservoir lies at an altitude of 275 m above sea level and is surrounded by hills with a narrow opening to the north-east. The site is 70 km from the nearest part of the Scottish east coast, and 48 km from the nearest part of the Solway coast in the west. It lies near the divide between the land draining to the North Sea and to the Solway Firth and is in a very favourable position for observing cross-country migration between the two coasts. The reservoir is composed of two lochs; most observations were carried out at the West Loch.

Results

The table presents the total numbers of bird-visitors of all species recorded during the three year period (c.6500 bird-visitors (b-v) by 19 species, with an average of c.65 birds per visit). The most numerous species were Lapwing Vanellus vanellus, Snipe Gallinago gallinago, Dunlin Calidris alpina, Ringed Plover Charadrius hiaticula and Redshank Tringa totanus, respectively. All other species' occurrences involved less than 100 b-v and four species occurred once only. Most bird-visitors and species occurred between 11 August and 10 September, with almost half of the bird-visitors and 16 of the 19 species having occurred before 20 August. Peak passage was from mid-August to mid-September.

Notes were made on any birds seen to arrive at, or depart from, or pass over the reservoir; and notes were made on the durations of stay of particular birds or groups. Nocturnal arrivals and departures were estimated from the differences between counts at dusk and at dawn the following day. Although the sample sizes are small (41 for arrivals and 25 for departures) arrivals occurred both at day (35) and night (6) but these numbers are not, of course, directly comparable. Of the 15 day time arrival times known, 6 were in the early morning, 4 in mid-morning, 1 in late afternoon and 4 in the evening, suggesting a tendency for pre-noon arrivals (10/15). There were no obvious departure patterns, 12/25 being diurnal and 13/25 nocturnal.

Most arrivals were from the east (1/19 from N, 1/19 from NE, 15/19 from E, 1/19 from SE and 1/19 from SW) and departures were to the west (1/12 to NE, 5/12 to SW, 4/12 to W, 2/12 to NW). Five birds which overflew the reservoir or stopped only briefly also moved E to W. The data, though scanty, suggests that in autumn waders migrate through the Alemoor area east to west, tending to arrive before noon. Extrapolation suggests that birds could be arriving from the lowlands of the Tweed, the Scottish south-east coast/Firth of Forth, or north-west Europe and could be heading to the Solway Firth, Morecambe Bay and beyond.

As to durations of stay, 19 birds were present at the reservoir for less than 36 hours. The remaining 7 records of over 36 hours could be of birds feeding up in preparation for a migratory flight. The species involved were Ringed Plover, Knot Calidris canutus (2 cases), Curlew Sandpiper Calidris ferruginea, Ruff Philomachus pugnax (male) and Greenshank Tringa nebularia. However, without weights or detailed observations on feeding rates, this must remain conjecture.

All these observations are complicated by the presence of breeding (less than 15 pairs each) Lapwing, Snipe, Curlew Numenius arquata, Redshank and Common Sandpiper Actitis hypoleucos.

Discussion

Overland migration across Southern Scotland, probably from the Forth to the Solway, has long been known. Baxter and Rintoul (1953) mention that W. Evans (late 19th/early 20th century) described a route from mid-Forth to Solway much used in autumn but less so in spring; and they note that Eagle-Clarke concluded that migration took place between the end of July and the end of September but with peak numbers in August, as at Alemoor.

There have been few published accounts of wader numbers on passage in southern Scotland. Two studies available concern sites nearer the Forth. Smith (1977) studied wader migration at the much larger Gladhouse Reservoir - an inland, upland site at the northern edge of the Moorfoot Hills with the Forth Estuary 20 km to the north. Migration at Gladhouse could thus involve both east-west movements between Forth and Clyde and north-south movements from Forth to Solway. There appear to be differences between the two sites in the following species: Oystercatcher Haematopus ostralegus (up to 100 regularly at Gladhouse), Sanderling Calidris alba, Curlew Sandpiper and Spotted Redshank Tringa erythropus (all regular at Gladhouse, but only occasional at Alemoor); otherwise the two sites have similar patterns in species common to both.

Taylor (1978) studied wader migration at coastal pools near Grangemouth on the south side of the Forth. Eight species were common to this site and Alemoor. Differences between species at the two sites were most notable for Ringed Plover, Curlew Sandpiper, Ruff and Greenshank, mainly due to the timing of migration being much more extensive at Grangemouth for the latter three species, birds being present into mid-October and even early November. With Ringed Plover, however, migration at Grangemouth commenced in early July and peaked in the second half of August with few birds seen in September; while at Alemoor, migration of this species did not start until late July, peaked in late August and early September, and continued into October. This could suggest that a different population (especially with regard to the later birds) was moving through the Alemoor area.

Evans' (1968) radar studies revealed six types of movements, three of which affected inland southern Scotland, originating from the Forth estuary around Aberlady Bay: easterly route: about 150° (between SSE and SE by S) to the east of the Cheviots and Pennines; central route: about 190° (between S and SSW) towards the Solway and possibly on to Morecambe Bay - this movement crosses the Alemoor area; westerly route: about 235° (between SW and WSW) leading to the Ayrshire coast - this is the movement in which some of Taylor's (1978) birds leaving Grangemouth were involved.

The central route was used prominently in late July and August which coincided with the peak passage period at Alemoor. Evans suggested that this period also coincided with the timing of the overland movements of Oystercatchers (Andrew 1959) but few of these were recorded at Alemoor (Table 1). However, most departures observed by radar occurred in the evening and this means that if they did pass over Alemoor it would be at night, and so they would not be recorded at the site. This highlights perhaps the major problem of studying migration in this way. Observations are mainly limited to the daylight hours. In addition, the absence of a species does not necessarily mean it does not pass overhead; also the presence of small numbers of birds at a site does not necessarily mean that only small numbers migrate over the area - it could just be that only a small proportion land.

Apart from Oystercatcher, Evans (1968) suggested that Ringed Plover, Dunlin, Whimbrel Numenius phaeopus and Curlew used central routes especially in late September, which again was found at Alemoor, notably with regard to Dunlin which had its highest numbers at this time.

Acknowledgements

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References

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TOTAL SPECIES AND BIRD-VISITORS RECORDED, IN 10-DAY PERIODS (1974-76)

Month	JULY			AUGUST			SEPTEMBER			OCTOBER			3 Seasons' Total
	Period No.	Date	Hours	Period No.	Date	Hours	Period No.	Date	Hours	Period No.	Date	Hours	
Oystercatcher													
Ringed Plover													
Golden Plover													
Lapwing													
Knot													
Sanderling													
Little Stint													
Curlew Sandpiper													
Dunlin													
Ruff													
Shipe													
Curlew													
Spotted Redshank													
Redshank													
Greenbank													
Wood Sandpiper													
Common Sandpiper													
Turnstone													
Numbers total	119	302	584+	2136	1681	1156	257	164	98+	6497			
Cumulative Nos.	119	421	1005	3141	4822	5978	6235	6399	6497				
Species Total	5	9	10	15	12	11	7	7	3	19			
Cumulative Species Total	5	9	11	16	18	19	19	19	19	19			