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#### SUMMARY

Counts of breeding waders made by five teams of observers in the Southern Isles of the Outer Hebrides in 1983 were used to assess variations between observers in techniques of recording and estimating numbers of birds. Four species were examined: Oystercatcher, Ringed Plover, Dunlin and Redshank. Teams assessed numbers, in terms of "pairs", on the basis of observations of apparently paired individuals (pairs) and single individuals (singles). Each species tended to have a characteristic pair : single ratio. One team, however, consistently recorded a higher proportion of single birds, irrespective of species, than the other teams. This resulted in this team over-estimating numbers of waders relative to the other teams. The size of this over-estimate was small. Independent standard estimates made some correction for this, but generally the observers' estimates closely reflected the standard estimates.

#### REFERENCES

- Fuller, R.J. 1978. Breeding populations of Ringed Plovers and Dunlins in the Uists and Benbecula, Outer Hebrides. *Bird Study* 25: 97-102.
- Fuller, R.J. 1981. The breeding habitats of waders on North Uist machair. *Scot. Birds* 11: 142-152.
- Fuller, R.J., Green, G.H. and Pienkowski, M.W. 1983. Field observations on methods used to count waders breeding at high density in the Outer Hebrides, Scotland. *Wader Study Group Bull.* 39: 27-29.
- Galbraith, H. and Furness, R.W. 1983. Breeding waders on agricultural land. *Scot. Birds* 12: 148-153.
- Green, G.H. 1983. WSG/NCC survey of waders breeding on the Hebridean machair and adjacent land, 1983. *Wader Study Group Bull.* 39: 5-8.
- Jackson, D.B. and Percival, S.M. 1983. The breeding waders of the Hebridean machair: a validation check of the census method. *Wader Study Group Bull.* 39: 20-24.
- Reed, T.M. and Fuller, R.J. 1983. Methods used to assess populations of breeding waders on machair in the Outer Hebrides. *Wader Study Group Bull.* 39: 14-16.
- Smith, K.W. 1983. The status and distribution of waders breeding on wet lowland grasslands in England and Wales. *Bird Study* 30: 177-192.
- Webb, A., Reed, T.M. and Williams, T.D. 1983. The Hebridean wader survey: did the observers record in the same way? *Wader Study Group Bull.* 39: 24-26.
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## WSG PROJECT ON THE MOVEMENTS OF WADER POPULATIONS IN WESTERN EUROPE: NINTH PROGRESS REPORT

by M.W. Pienkowski and Ann Pienkowski

#### INTRODUCTION

This is the final progress report on this project. Funding to employ the coordinators of the project has now finished (although we continue with analysis for the project). The final request for data from ringers produced a very large response. Consequently we are now handling that material, with the help of our three data processing assistants (funds for whom continue for a few more weeks) and of the Durham University Computer Unit. Meanwhile, analysis continues, and there will be a period of relative quiet from us while we complete this! The analysis combines results from the data gathered from ringers, the ringing recoveries from national ringing schemes and Euring, the results of the visible marking projects and the results of the counting studies, such as the Birds of Estuaries Enquiry.

The major problem in making use of ringers' data was the enormous amount of historical information. As the project has been successful in transferring most of these to computer files, we shall try to keep up to date with new ringing. Ringers should therefore continue to submit "green" Wader Study Group forms for current ringing. There may, however, be some delays in our handling of these as analysis of the encoded data must take priority at present.

Most of this report is devoted to thanking the many people who have taken part in the project, as a list of acknowledgements has not appeared

since the end of the first year of the study. First, however, we need to outline what is happening with regard to visible marking studies now and in the future.

#### VISIBLE MARKING STUDIES: PRESENT AND FUTURE

##### This project

Marking for the present study has now finished. Completion of observer report forms for this project should stop at the end of March 1984 (observers will have been advised of this before the circulation of this Bulletin). Marking for several other projects in the same general areas continue. These projects, which are outlined below, would welcome reports of marked birds, with as much supporting detail as possible, as for the present project.

##### 1984 West Coast of Britain Spring Migration Project

A joint WSG/Birds of Estuaries Enquiry project will be marking birds in April and May 1984 (see *WSG Bull.* 39: 35-36). Many people have already registered as observers for this project, but any further sightings of marked birds will be welcome. Registered observers should send their records of dyed waders in the period April to June 1984, inclusive, to the organiser, Mike Moser (British Trust for Ornithology, Beech Grove, Station Road, Tring, Herts. HP23 5NR, UK). Anyone else should send reports of dyed waders in the western

Palaeartic to the WSG Register Co-ordinator: Dr D.J. Townshend, Department of Zoology, University of Durham, South Road, Durham DH1 3LE, U.K. He will forward sightings to this or other schemes as appropriate. Look out for coloured leg-flags on dyed birds.

#### Winter marking 1984-85 and subsequent winters

Several projects will continue to use plumage dyes and temporary leg-flags for the coming winters. We would welcome any sightings of these birds (to be sent to the Durham address above). We are not asking that the full report forms used in the present project be completed (although we would be pleased to supply these on request if observers find them convenient to use). This is because the level of marking is likely to be less than previously. However, sightings will still be extremely valuable. To illustrate this, we outline briefly below two new projects from the people who brought you "Movements of Wader Populations in Western Europe."

#### The effects of loss of intertidal habitat on shorebirds.

One of the most difficult questions facing ornithologists, for instance at a planning enquiry concerned with possible loss of estuarine habitat, is "what will happen to the birds displaced?" Many aspects of our present studies are intended to help towards answering this question. It is possible that, at some unknown time in the not-too-distant future, further reclamation will take place at Teesmouth, NE England. Clearly, such reclamation of a site still important for shorebirds would be viewed with horror by conservationists. However, if their efforts to prevent any such changes prove unsuccessful, there is no doubt that most would agree that as much benefit as possible should be salvaged from the loss. One very useful piece of information would be to find out what happens to birds using the site. One element of such studies would involve dye-marking to investigate to where displaced wintering birds move. To interpret sensibly any such movements, we need to know if and where birds move from Teesmouth in undisturbed winters. Therefore, marking is required in several winters before any reclamation. Unfortunately, the history of planning procedures at Teesmouth means that reclamation could take place at short notice, leaving no time for such essential "before" studies. Even if we hope that reclamation does not go ahead, it would be irresponsible to miss the chance of obtaining information important to conservation issues elsewhere for any loss of habitat. Therefore, we shall be marking waders at Teesmouth in the next few winters, and would welcome sightings of these birds.

#### Selection of wintering sites by individual waders

As well as studying what actually happens when an area is lost, another complementary approach to these important conservation-related questions (as well as to basic biology) is to investigate processes concerned with where individual birds "decide" to stay. Colour-ringing of waders in several estuaries has shown that individuals of several species are faithful to the site or sites that they visit during the non-breeding season, returning to them each year. The "decision" as to which sites to use is made early in life, and the processes by which birds "decide" are now the

subject of a study at Durham University. Sanderlings *Calidris alba* (and also possibly Turnstones *Arenaria interpres* and Grey Plovers *Pluvialis squatarola*) will be colour-ringed and dye-marked from spring 1984 to spring 1986. Any sightings should be sent to Dr D.J. Townshend at the address above. For observers who visit sites regularly (particularly sites in north-east England) report forms can be supplied on request.

#### Other projects

Several other projects will continue to use visible marking for local studies. As previously, sightings of marked birds elsewhere will continue to be valuable. Therefore, we shall continue to operate in conjunction with the WSG Register of Visible Marking Schemes, a forwarding service for sightings of visibly marked birds. Any such sightings, with as much detail as possible, should therefore be sent to Dave Townshend at the Durham address given above.

#### ACKNOWLEDGEMENTS

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Colleagues in the Wader Study Group around Europe have given us much help throughout the duration of the project, and many are named below, but we must mention here the invaluable support and encouragement of Chairman Harry Green.

A major problem in visible marking studies is finding dyes suitable for use on birds, which insist on plunging frequently into salt-water. We are grateful for the advice and materials provided by Ciba Geigy Plastics and Additives Company Pigments Division (particularly G.A.

Fielding and D.F. Grimmer) and Synthetic Resins Ltd., Liverpool; (particularly Peter Richards and Henry White), despite the belief of the telephone receptionist at one company that she was the victim of an elaborate practical joke when the purpose for which dyes were required was described!

While the project could not have been undertaken without a coordinating team, there would never have been any possibility of attempting to tackle a project on the scale necessary to answer the questions concerned if the real cost of the work involved had to be met by research funds. Therefore, the cooperation of a tremendous number of ringers, bird-watchers, counters, suppliers of information and helpers in other ways was the very basis of the study. We have tried to keep an up-to-date list of everyone. Here it is.

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We have undoubtedly missed some helpers off this list. In some cases, this is because they send their records through co-ordinators and we do not know all their names. We are nonetheless grateful to all. Thank you everyone.

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