

## BTO/WSG WINTER SHOREBIRD COUNT 1984-1985

Members who attended the WSG meeting at Haamstede, the Netherlands, in November 1983 will have heard about the forthcoming survey of waders on the open coast of Britain. The plans for this project are now well under way, and fieldwork will be carried out in December 1984 and January 1985. A full description of the project and methods are given in the enclosed loose insert (an off-print from *BTO News* No. 134, September 1984). Help is required, particularly in remote areas. If you would like to take part (friends from outside Britain are also welcome), please contact the local organiser(s) (see insert) for the area in which you are interested. Some funds may be available

for expeditions to remote areas. Please contact Mike Moser, British Trust for Ornithology, Beech Grove, Tring, Herts. HP23 5NR, U.K.

*Stop Press.* Generous funding for the winter shorebird count has now been received from EARTHWATCH (The American Center for Field Research). This will allow us to make a survey of the entire coastline of Britain and Northern Ireland. 3 teams of 12 ornithologists each (half from America and half from Britain) will be organised to cover the coasts of western Scotland. Each team will spend 2 weeks on the coast. Anyone interested in participating should contact Mike Moser at the address above.

## THE VALUE OF SINGLE COUNTS OF WADERS ON ROCKY SHORES

by R.W. Summers, C.J. Corse, E.R. Meek, P. Moore and M. Nicoll

### INTRODUCTION

Ever since the first systematic counts were made on rocky shores in Scotland (Atkinson 1971, Summers *et al.* 1975), it was recognised that what was counted at low tide on one day on a stretch of coast need not be an accurate representation of the population wintering on that shore. Instead, the counts gave a broad indication of the winter situation, although for certain species like the Purple Sandpiper *Calidris maritima*, which shows site tenacity (Atkinson *et al.* 1981) and is restricted to rocky shores, a single count may be representative (Summers *et al.* 1975).

With the advent of the Winter Shorebird Count this winter (see elsewhere in this *Bulletin* and *BTO News* No. 134) it was felt that some assessment of the value of a single count in winter, and at low tide, on a stretch of rocky shore should be made. da Prato & da Prato (1979a, b) have already established that waders on rocky shores are best counted at low tide.

Several factors can affect the counts. The counts may be imprecise (poor repeatability) or inaccurate (not representative of what is there) due to the limitations of observers. Note that counts can be precise yet inaccurate. Furthermore, movements by birds during low tide within the rocky shore habitat, or between rocky shores and other habitats, may make it difficult to describe what is present on that day, and movements over a period of days or weeks may make it difficult to describe the overall winter situation. It is difficult to tease out the effects of each of these factors separately, but one can go some way to checking the value of doing repeat counts on a section of coastline.

### METHODS

Counts were carried out along two sections of rocky shore in Scotland. One was in Orkney (5 km from Point of Ayre to the castle Deerness) and one in Angus (3.5 km from Needle E'e to Arbroath bathing pool) at "low tide" (within three hours before and after low tide). Observers walked the length of each section, staying close to the water's edge where waders concentrated. Only those birds which were

walked past, or which flew behind or inland, were counted.

Precision, accuracy, and the effect of movements by birds during low tide were examined by having two observers surveying the same section of coast on the same day, either counting together, or from opposite ends of the section. The effect of day to day variations in numbers was examined by counting the birds on the same section one or two days after the first count.

### RESULTS

Counts A and B in Orkney (Table 1) show the totals from two observers counting together. Quite large differences (A-B) occurred for Redshanks *Tringa totanus* and Curlews *Numenius arquata*. The difference in the number of Redshanks can be attributed to a flock which flew out of an adjacent field and was seen by only one observer. Counts C and D (Table 1) were done simultaneously from opposite ends of the shore. Big differences (C-D) occurred with Ringed Plovers *Charadrius hiaticula* and Redshanks. Ringed Plovers occur at all shore levels and have a feeding technique which involves standing motionless for short periods. Thus it is easy to miss plovers when surveying from near the water's edge.

No counts were done by two observers together in Angus. A-B and C-D in Table 2 show the differences when the section was walked simultaneously from opposite ends on two consecutive days. Generally, there was good agreement within a pair of counts. Largest percentage differences occurred with those species where only small numbers were counted. There was a tendency for observers to flush birds along the shore, thus bunching them. Eventually, large groups of mixed species flew back, making counting difficult, and leading to imprecise and inaccurate results.

By counting the section from opposite ends, one half of each observer's section had already been disturbed by the other counter. Most species remained on the same section of shore but Golden Plovers *Pluvialis apricaria* tended to fly inland when flushed. Therefore for this