WSG PROJECT ON THE EFFECTS OF SEVERE WEATHER ON WADERS : SECOND PROGRESS REPORT

by N.C. Davidson and N.A. Clark

First, the good news. Following its successful first winter, the project will run again in the forthcoming winter (1984). As before, surveys should start on 1 October and continue until 31 March. All observers from last winter will have been individually notified - there is no need to re-register for winter 1984. For anyone who did not participate last winter, but now wishes to take part, a registration form is enclosed with this issue of the Bulletin.

Although many participants have already returned their completed forms for last winter, there are some sites for which returns have still to be received. We would appreciate receiving these outstanding forms as soon as possible, as without them we cannot make a full analysis of the results before the onset of next winter. As will be seen, a nil return for tideline searches is just as important as one reporting the finding of corpses. Below we give some preliminary analysis of the findings from last winter, based on returns so far received.

Figure 1 shows the distribution of survey sites, and the total number of waders found during tideline searches. A few corpses found at sites not covered regularly in the survey are also included on this figure. It is clear from Figure 1 that, with the exception of a few sites such as the Somme in France and the Firth of Forth in Scotland, very few waders were found dead during the survey. This is important information, since it shows for a number of areas that there was little noticeable mortality of waders during a mild winter. This provides valuable data for comparisons with severe weather mortality. At two sites on the Firth of Forth, large numbers of dead waders were found. These had apparently been killed by raptors specialising on waders for food. A further analysis of this mortality will be made by Nigel Clark and Philip Whitfield.



Figure 1. Numbers of wader carcasses found during tideline searches between October 1982 and March 1983. o shows sites for which returns have yet to be received.

Between 78 and 86 km of (predominantly estuarine) coastline were searched each month. The total distances covered were rather greater since many sites were checked more than once in each month. Excluding birds known to have been killed by predators, only 11 wader corpses were found in Britain during these regular tideline searches. However, even in this small sample, a seasonal pattern emerges with most corpses being found during January and February (Table 1).A similar seasonal pattern of wader mortality was found by the RSPB/BTO Beached Bird Survey (Stowe 1982). There was a very different pattern of mortality in the Somme estuary in northern France (Table 1). There mortality was highest in the autumn, although it did rise again in February. Mortality was much higher in the Somme estuary than in Britain. This was probably due to much greater shooting pressure in France than Britain, since many of the birds from the Somme were reported as shot. Since the number of corpses found will depend, in part on the distance searched, all values in Table 1 have been corrected for variations in the length of coastline searched in each month.

Another factor contributing to the number of corpses found is the size of the wader population at each site (i.e. the number of birds that could be found dead). This is one reason why we ask observers to make population counts at the sites they search for corpses. Table 1 also shows the results from the Somme corrected for seasonal variation in population size. In this instance the seasonal pattern of mortality remained the same. This would not be the case at a site where there was marked seasonal variation in population size.

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Table 1. Seasonal variation in the numbers of waders found dead during tideline searches in 1982/83.

	Oct.	Nov	Dec	Jan	Feb	March	Total
No./100 km coastline							
Britain *	0	0.	0	3.5	7.1	2.4	13.0
Somme, France	260	80	20	33	60	0	453
No./100 km/ 1000 birds							
Somme, France	26.5	8.7	1.3	3.1	5.8	0	45.4

* Excluding waders known to have been killed by predators.

Table 2 lists the number of each wader species reported so far during the survey. Note that small "inconspicuous" species such as Dunlin and Knot, as well as more noticeable species such as Oystercatcher, have been found. It is also interesting to note that most of the waders found dead in Britain, that had not been killed by predators, were Redshanks and Oystercatchers. These two species often suffer the heaviest mortality during severe weather (Clark 1982, Davidson and Evans 1982). It is interesting to speculate that Redshanks and Oystercatchers may also suffer higher mortality than other species during mild winters. This possibility can be tested once sample sizes have increased from surveys in future winters.

Table 2. Waders found during tideline searches.

	1	Somme, France	U,K	Total	
			Killed by predators	other causes of death	
Oystercatcher	Haematopus ostralegus	. 8		5	13
Ringed Plover	Charadrius hiaticula	1			1
Golden Plover	Pluvialis apricaria			1	1
Grey Plover	Pluvialis squatarola	5			5
Knot.	Calidris canutus	2	2		4
Dunlin	Calidris alpina	4	7		11
Bar-tailed God	wit Limosa lapponica	2			2
Curlew	Numenius arquata	1		1	2
Redshank	Tringa totanus		3.2	3	35
Turnstone	Arenaria interpres		10	1	11
Total		23	51	11	85

Full analysis of the body condition of corpses will be done once larger samples have accumulated. Whilst, as mentioned above, the small number of corpses found during mild winters is valuable information, it does present problems in collecting a large enough sample for statistical analyses. Continued effort during future mild winters is needed to collect this information.

One practical point has emerged from the first winter of the survey: it is very important to weigh any intact or <u>nearly intact</u> corpse as soon as possible after it has been found. Even if the corpse is missing some parts such as the head (seemingly a fairly common occurrence) or wings, a weight is valuable since we can correct for the missing bits during analysis. Note should be made on the carcass data form of the state of the corpse. Also, we would like to examine <u>all</u> wader material found during tideline searches, even if the corpse consists of, for example, a skeleton or wings. We can measure age and body size from a wing, and make various measures of body size from a skeleton.

The 1982/83 winter was generally very mild. No statutory ban on wildfowling was introduced, and the British Trust for Ornithology did not call a ban on catching birds. The exemptions from bans on wader catching, negotiated by WSG in consultation with the Nature Conservancy Council and the BTO, were for the 1982/83 winter only. WSG will renegotiate exemptions for future winters for groups studying waders and who are participating in the project on the effects of severe weather. WSG will be contacting directly the groups involved.

Finally, our thanks to all those who participated in the first winter of the project. We look forward to another successful winter in 1983/84.

References

Clark, N.A. 1982. The effects of the severe weather in December 1981 and January 1982 on waders in Britain.

Wader Study Group Bull. 34: 5-7. Davidson,N.C. and Evans,P.R. 1982. Mortality of Redshanks and Oystercatchers from starvation during severe weather. Bird Study 29: 183-188.

Stowe, T.J. 1982. Beached bird surveys and surveillance of cliff-nesting seabirds. Report to the Nature Conservancy Council and the Royal Society for the Protection of Birds.

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