

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

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

This report summarises the results from the 1983/84 winter that have been so far received, and compares them with the results from the 1982/83 survey. The project will continue in the forthcoming winter, from 1 October 1984 to 31 March 1985: it is yielding valuable insights into the numbers and identity of waders dying during mild winters; we can compare these with the patterns in severe winters. Continuing the project in its present form also maintains a state of readiness for assessing the impact of any future severe spells of weather. All observers will be individually notified - there is no need to re-register for 1984/85. For anyone wishing to participate for the first time, a registration form is enclosed with this

*Bulletin.* New participants would be particularly welcome from areas not covered at the moment - sites covered in 1983/84 are shown in Figure 1.

Many participants have returned their completed forms for 1983/84. To these our thanks. There are, however, some report forms which have yet to be received (Figure 1). We would appreciate receiving these as soon as possible, since they will allow a full analysis of the results before the onset of next winter. This is important, since only then can we assess rapidly the impact of a future severe spell, by comparison with the situation at the same sites during mild winters.

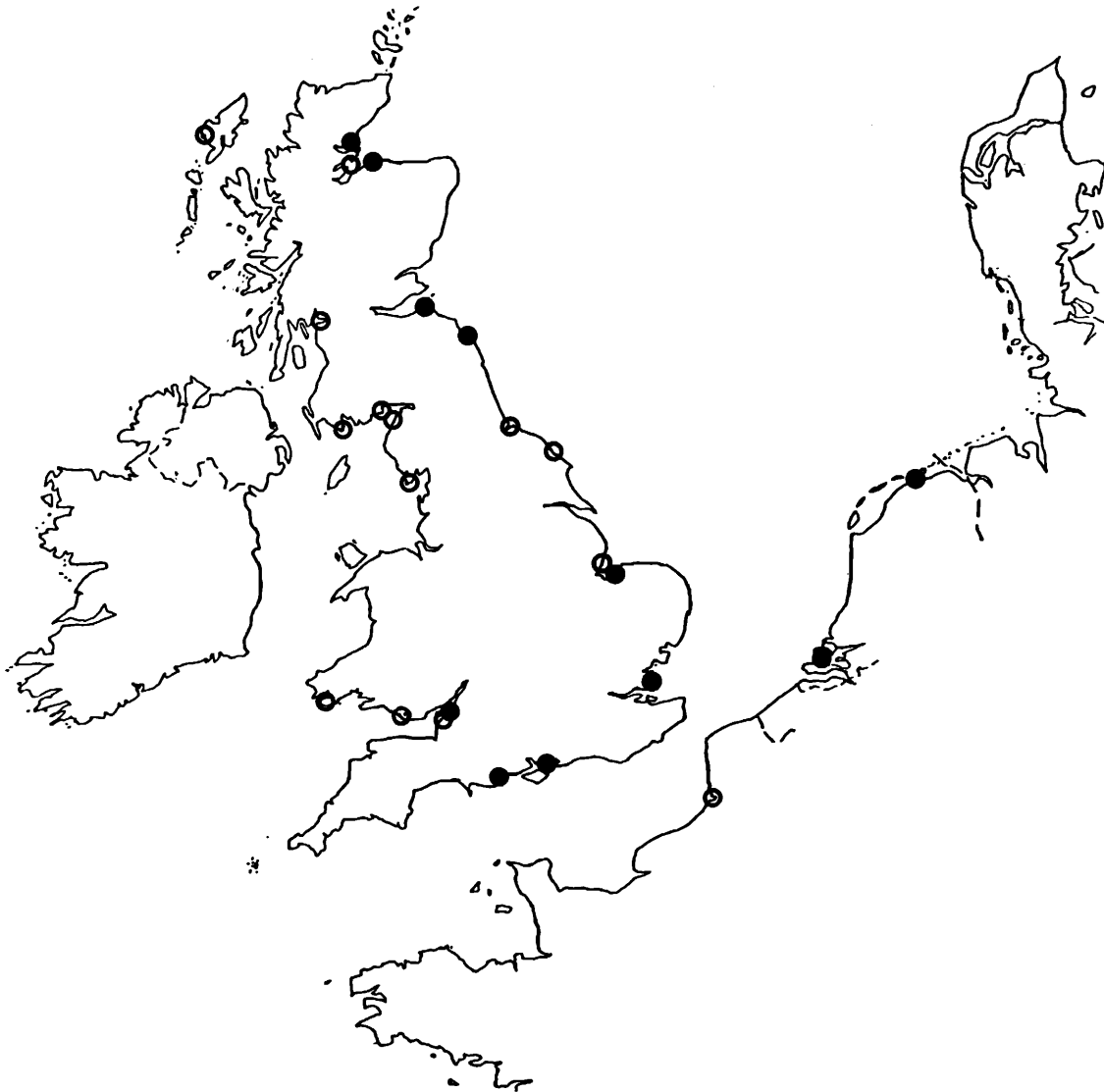


Figure 1. Locations of tideline searches made during 1983/84. o are sites for which completed report forms have been received; ● are sites for which report forms are awaited.

The preliminary results given below are mostly in 'raw' form, and are presented to illustrate some of the scope of the information collected by the project. In more complete analyses later, data will be standardised for variations in search frequency and distance, and population sizes.

As in the previous winter (Davidson & Clark 1983), at many sites there were very few, if any, wader corpses found in 1983/84. This was surprising, since there was a prolonged severe weather spell, particularly in Scotland, in January 1984. For example, temperature on the Moray Firth in northern Scotland remained below  $-2^{\circ}\text{C}$  for several days, and dropped at times to  $-15^{\circ}\text{C}$  (F.L.Symonds pers. comm.). Weather conditions improved only 24 hours before a statutory wildfowling ban would have been introduced by the Secretary of State for the Environment. Despite this severe spell, few waders were found dead on the Moray Firth, or at most other sites in Britain that were covered in the survey. There are, however, some indications of rather higher mortality than in the previous mild winter: for example, on the Solway Firth in 1982/83 the density of corpses found on the tideline was 0.6/km, whereas in

1983/84 a similar search frequency on the same shore yielded 2.9/km.

The seasonal distribution of corpses found during tideline searches is shown in Figure 2. In Britain, almost all corpses were found between December and March, with the largest proportion being found during February in both 1982/83 and 1983/84. The seasonal pattern was similar in both years, and was similar also to the pattern for waders reported by Stowe (1982) from Beached Bird Surveys. The seasonal pattern from the Baie de la Somme, in northern France, is markedly different (Figure 2). There the largest proportion of corpses was found in early winter (October/November). This undoubtedly reflects the intense shooting pressure on many estuaries in France during this early winter period, and many of these corpses were reported as having been shot. After November, the pattern was similar to that in Britain, with the largest proportion of corpses during this mid and late winter period being found in February. As was found in Britain, the pattern from the Baie de la Somme was similar (with similar search effort) in 1982/83 and 1983/84.

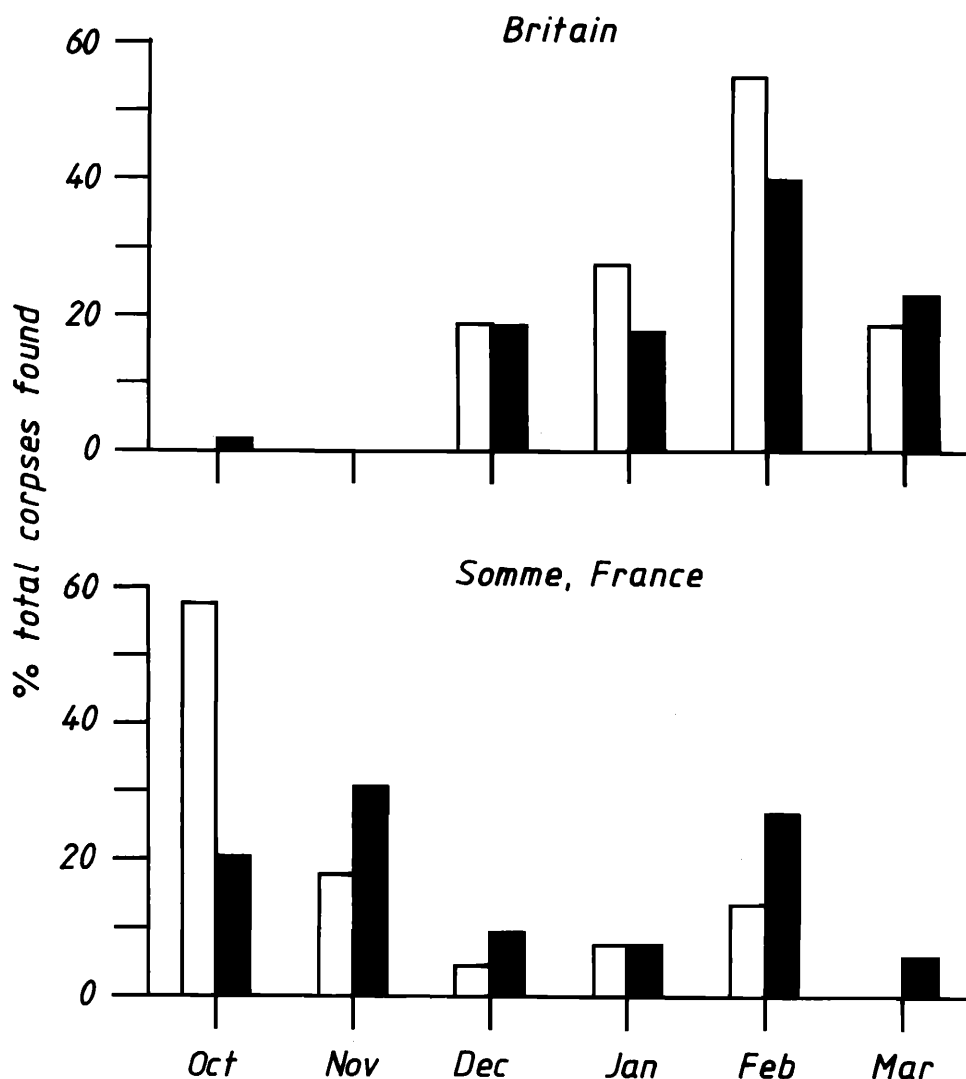


Figure 2. Seasonal distribution of corpses found in Britain and France (Baie de Somme) during tideline searches in 1982/83 (open boxes) and 1983/84 (solid boxes).

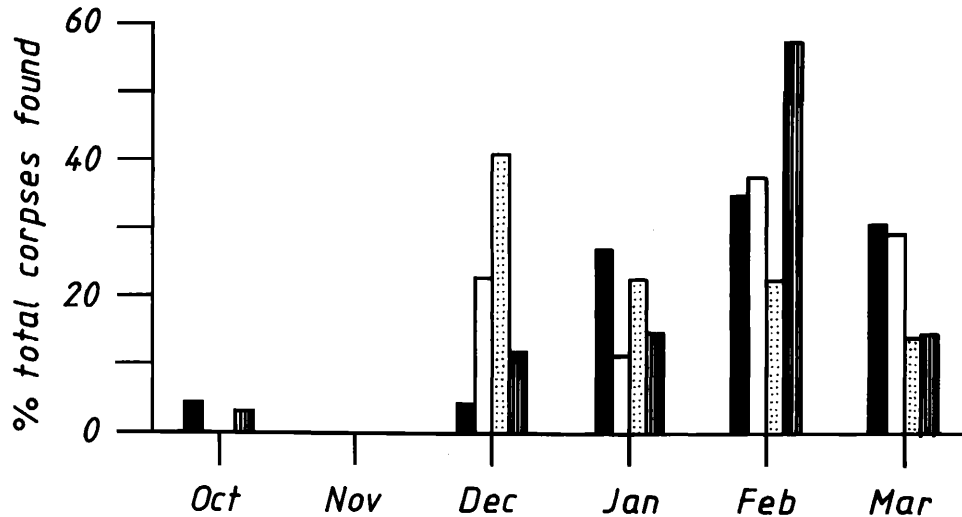


Figure 3. Seasonal distribution of corpses found during tideline searches in Britain in 1983/84. Shading is: Oystercatcher solid boxes, n = 26; Redshank open boxes, n = 45; Dunlin stippled boxes, n = 22; other species vertical hatching, n = 35.

A total of 128 corpses have been reported so far from tideline searches in 1983/84. This larger number compared to 1982/83 (due at least in part to the inclusion of searches of additional areas such as some parts of the Wash) allows the seasonal pattern of some species to be examined separately. 73% of all corpses found in 1983/84 were Redshanks *Tringa totanus* (35%), Oystercatchers *Haematopus ostralegus* (21%) and Dunlins *Calidris alpina* (17%). This adds some confirmation to our speculation in our previous progress report (Davidson and Clark 1983) that Redshanks and Oystercatchers might suffer higher mortality than other waders during mild winters, as they do during spells of severe weather (Clark 1982, Davidson and Evans 1982). A further reason for the predominance of these species may be that Oystercatchers, and perhaps Redshanks, are conspicuous on tidelines; so a higher proportion of those dying may be found, compared to small inconspicuous species such as Dunlins. Whatever the reasons, Figure 3 shows that the seasonal patterns for corpses of these three species on tidelines are broadly similar, and are similar to the combined pattern for all the less-frequently found species. However, there are indications that increased numbers of Oystercatcher corpses began to appear only later in the winter (in January) than those of Redshanks and Dunlins (in December), although the difference is barely statistically significant (on original numbers,  $X^2 = 13.1$   $P = 0.05$ ). Further confirmation (or otherwise) of this difference will be sought in future winters.

The results above are intended to show some of the ways in which the information from this project can be used to examine the effects of mild and severe weather on waders. They are not a comprehensive analysis of all aspects of the project. For example, in the next few months we shall be examining in detail the corpses sent to us during the project. This will yield information on the age, body size, sex and body condition (where corpses are sufficiently intact and un-decomposed!) of the birds dying in mild winters. We are most grateful to all who have sent us corpses. However we still need more corpses, so that a large enough sample of each species for statistical analyses can be

accumulated. For example, only about 20% of the corpses found are sufficiently intact for complete body condition analysis. Most corpses found on the tideline in good condition arrive with us in good condition. This is particularly so now that we have convinced the porters at Durham University that it really is wisest to deliver to us quickly parcels labelled 'Pathological Specimens - Urgent'!

Exemptions from bans on wader catching during severe weather in 1983/84 were negotiated by WSG, in consultation with the Nature Conservancy Council and the British Trust for Ornithology (although, as it turned out, these were not needed). WSG will, as before, negotiate exemptions for future winters, and will be contacting directly the groups involved.

Our thanks to all those who participated in the project during 1983/84. We look forward to another successful winter of tideline searching, catching and counting in 1984/85.

#### REFERENCES

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