

THE WADER STUDY GROUP SURVEY OF HEBRIDEAN WADERS : WAS THE TIMING RIGHT ?

by T.M. Reed, T.D. Williams and A. Webb

When carrying out a short-term ornithological survey, such as the Wader Study Group (WSG) Uists survey (Green 1983), it is important to time the fieldwork so that it coincides with the period when each species is most conspicuous.

The Nature Conservancy Council (NCC) employed 2 observers (T.D. Williams and A. Webb) to survey breeding waders at 10 sites in the Uists between early April and the first week of July 1983. Thus, data were available for each species over the course of the season which permitted an assessment of whether the timing of the intensive WSG visit (4-18 June) was at the peak period of detectability for all species.

METHODS

Data were taken from a sample of 7 sites worked by the NCC field team using a transect technique (Reed and Fuller 1983). The breeding season was subdivided into a series of 18-day periods, approximately the time between successive visits to each site (Period 1 = up to 27 April; Period 2 = 27 April - 15 May; Period 3 = 16 May - 2 June; Period 4 = 3-20 June; Period 5 = 21 June - 7 July; Period 6 = 8 July onwards).

For each site, records were divided into a number of categories:

a) vocal; b) non-vocal; c) contact calls; d) alarm calls; e) adults performing distraction displays or alarm-calling as if young were nearby: "j-calls" (j being an abbreviation for juvenile). These formed the basis for assessing detectability changes within the season.

RESULTS

Dunlin *Calidris alpina*

Few birds were present on site in early April, numbers of records increasing rapidly through May, to a peak in the first 3 weeks of June (period 4) (Figure 1). Early in the season the majority of records within each time period were non-vocal. There was then a distinct change between periods 3 and 4 as the proportion of non-vocal registrations in each period dropped from 77% to 44% and vocal records increased from 23% to 56% (Figure 2).

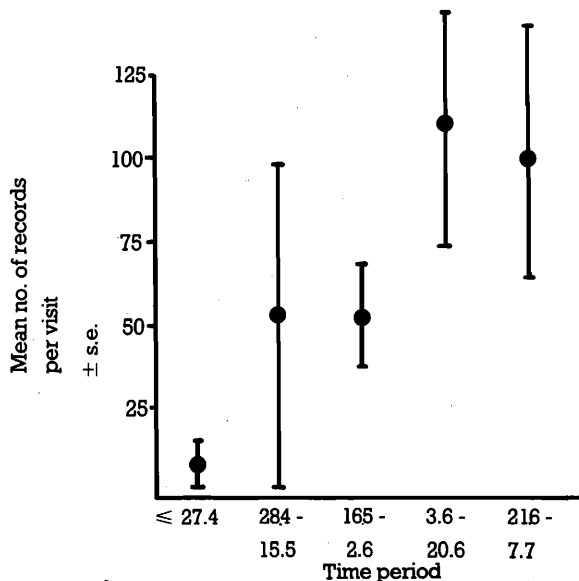


Figure 1. The mean number of Dunlins recorded on visits to sites in each time period

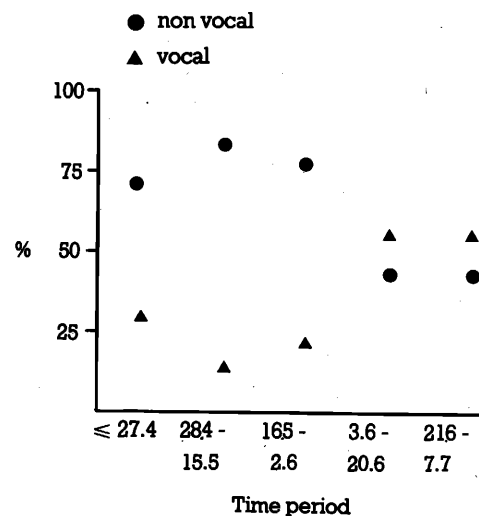


Figure 2. The proportion of all Dunlin registrations, divided between vocal and non-vocal records, in each time period

Ringed Plover *Charadrius hiaticula*

Recorded numbers of Ringed Plovers were low early in the season. Most records were in periods 3 and 4, possibly declining into period 5 as the first flocks began to form and leave the machair breeding grounds (Figure 3). Like Dunlins, Ringed Plovers were initially mainly non-vocal, but became more vocal as the season progressed so that vocal records formed 75% of registrations in period 4 and 78% of registrations in period 5 (Figure 4).

Redshank *Tringa totanus*

Redshank showed a marked peak in period 4 for almost all types of behaviour as well as registration frequency (Figure 5). Vocal records were at their maximum period 4 (Figure 6) as non-vocal records fell to only 8% of all registrations.

One highly obvious component of Redshank behaviour (Reed 1983) is the "j-call", the intense alarm-call given by members of a pair before their young have fledged. 66% of all records in period 4 were "j-calls" (Figure 7), with a further 22% of registrations being alarm calls of a slightly lower insistency.

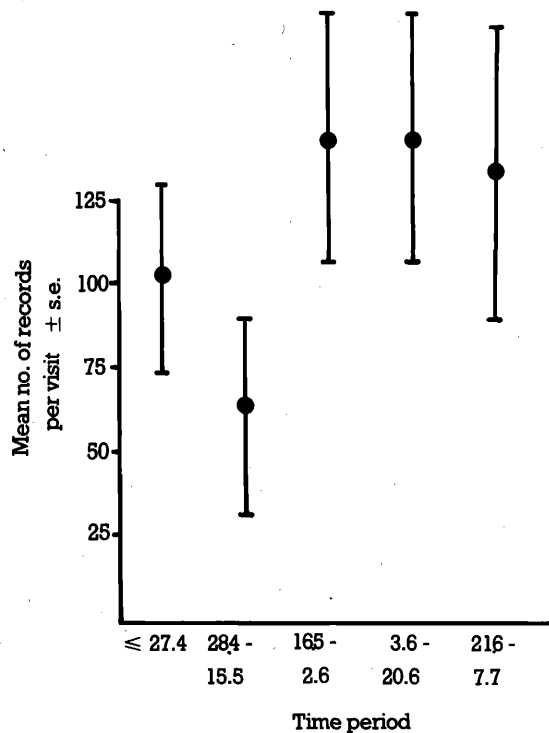


Figure 3. The mean number of Ringed Plovers recorded on visits to sites in each time period

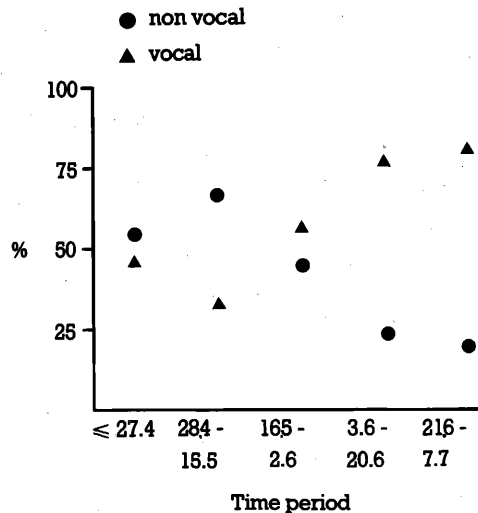


Figure 4. The proportion of all Ringed Plover registrations, divided between vocal and non vocal records, in each time period

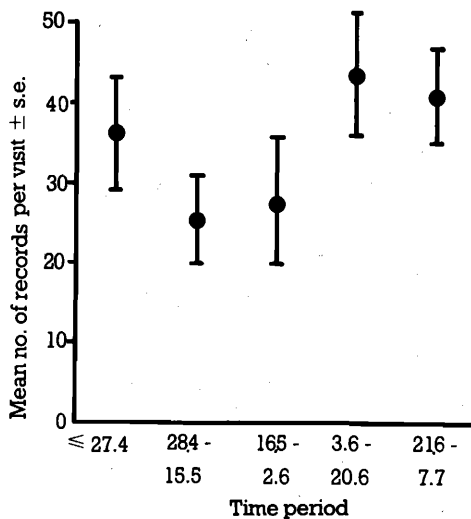


Figure 5. The mean number of Redshanks recorded on visits to sites in each time period.

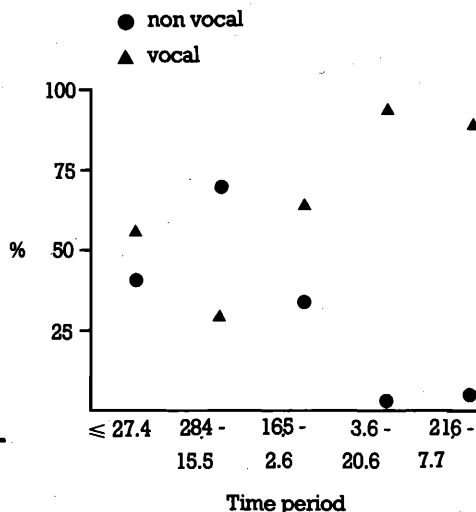


Figure 6. The proportion of Redshank registrations, divided between vocal and non-vocal records, in each time period.

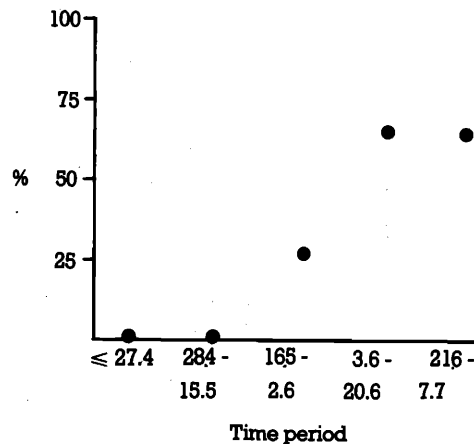


Figure 7. The number of "j-calls" (alarm calls by adults with young) as a percentage of all Redshank records in each time period.

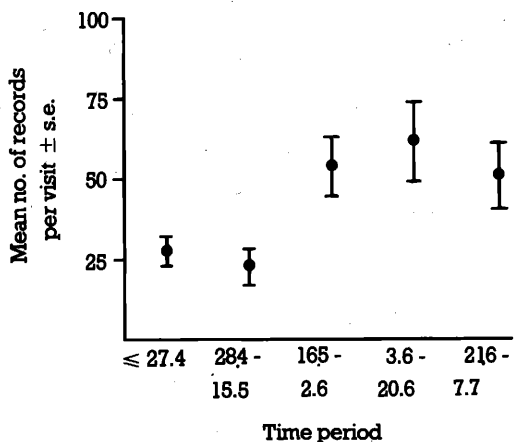


Figure 8. The mean number of Oystercatchers recorded on visits to sites in each time period

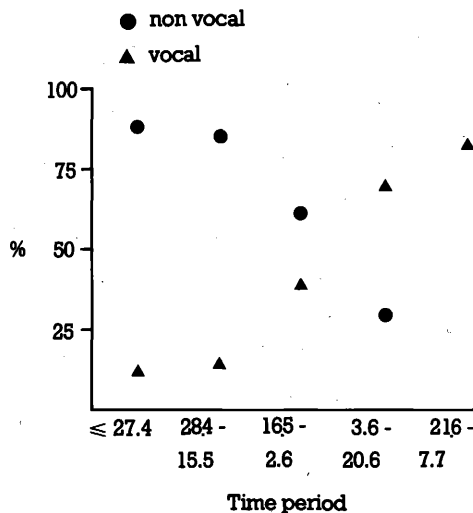


Figure 9. The proportion of all Oystercatcher registrations, divided between vocal and non vocal records, in each time period

Oystercatcher *Haematopus ostralegus*

Wintering, resident Oystercatchers (Buxton 1982), like Redshanks, Ringed Plovers and Dunlins, were joined by newly-arriving birds early in the season. Also like these species, more Oystercatchers were found in period 4 than in any other period (Figure 8). As the season progressed, so the proportion of vocal registrations increased to 70% of records in period 4 and 82% in period 5 as numbers started to decline (Figure 9).

Lapwing *Vanellus vanellus*

Of the 5 main species recorded the Lapwing was the only species found more frequently before than during the WSG survey (Figure 10). The average number of registrations reached a peak in period 3, rather than in period 4, when vocal records reached their zenith (Figure 11).

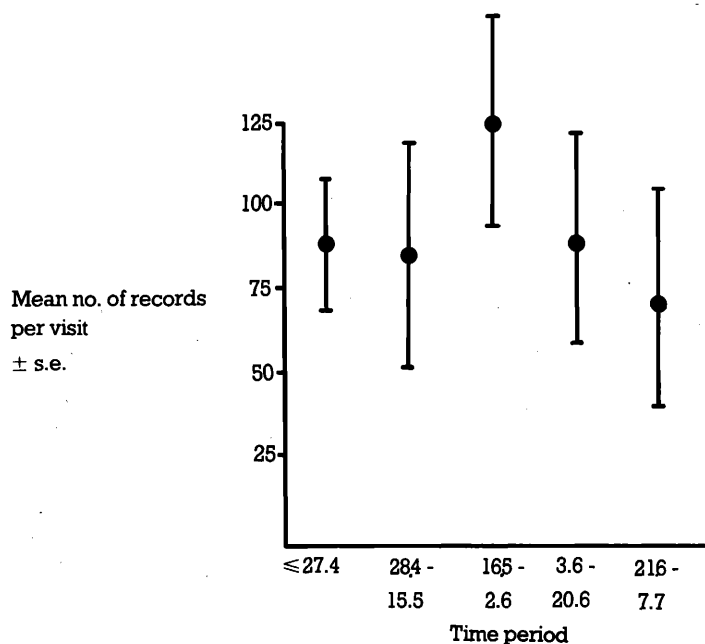


Figure 10. The mean number of Lapwings recorded on visits to sites in each time period

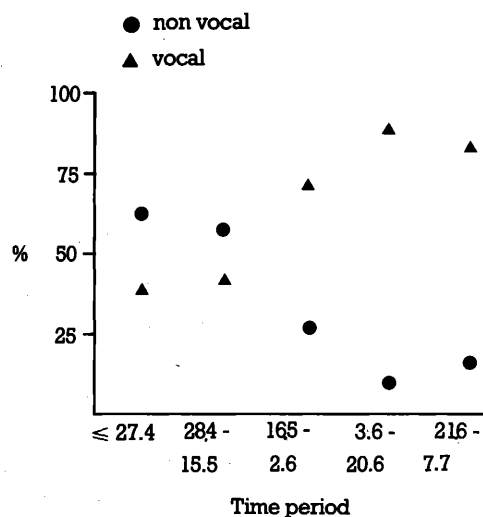


Figure 11. The proportion of all Lapwing registrations, divided between vocal and non vocal records, in each time period

Unlike the other species, contact calls were a minor component (0.6%-12%) of records. Alarm calls rose during the season, forming 50% of registrations in periods 3 and 4, with "j-calls" most abundant in period 5 - surprisingly so, given that the first young were seen at the end of the second week of May and were common in early June.

DISCUSSION

For the season as a whole, the WSG survey visit coincided with the peak in the number of birds detected in 4 out of 5 species; i.e. the most birds were present on each survey site. Additionally, during this period vocal records were the dominant registration type, implying that the likelihood of individuals being missed was at its lowest. Only for Lapwing was there any obvious problem, results of Lapwing being 30% more abundant in period 3 than period 4. However, 39% of the area surveyed by WSG in early June was also surveyed by NCC over a larger time period, so that underestimates by WSG of Lapwings were confined to a small survey area.

The timing of the WSG survey was undoubtedly right in 1983 but is this likely to be the case in future years? Reed (1983), and Reed and Langslow (1984), indicated that, in typical years, the detectability of breeding upland waders peaks in early June in Britain. However, in years with exceptionally wet or cold springs (Langslow and Reed 1984), this peak may be delayed by several weeks into early July. It should be noted that the spring of 1983 was exceptionally dry, but June was still the best time to survey the waders - there being no evidence that dry springs will lead to earlier nesting in waders (Morgan in prep.). Any repeat survey that aims for a good assessment of breeding populations, for even part of the island group, should be carried out in early - mid June when birds are still with young and at their most detectable.

ACKNOWLEDGEMENTS

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