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Black-tailed Godwits on the Ribble Estuary in autumn

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The Ribble Estuary, with its complex of wader habitats ranging from freshwater marshes, salt marches and mosslands to wet oozy mudflats and sandy beaches, attra a good variety of waders in large numbers as all participants in the B.T.O. Estua Enquiry and W.S.G. will know. One of the most important of these is the Black-tailed Godwit Limosa limosa which frequents one corner of the estuary during autu passage. This short account summarizes personal records for the past ten years and published records since 1948.

Largest numbers occur in autumn on the north estuary off Lytham-Fairhaven. First immigrants arrive in late June to early July, numbers increasing rapidly during late July and early August to peak in late August to early October. Table 1 shows two autumns data collected before the Estuaries Enquiry was fully under Numbers decrease during late September and October leaving the wintering birds.

Table 1. Fortnightly counts of Black-tailed Godwits on the Ribble Estuary, 1967 and 1968.

	2 June	1 July	2 July	1 Aug	2 Aug	1 Sept	2 Sept	1 Oct	2 Oct
1967	19	47	520	620	1100	890	240	89	15
1968	1	2	40	200	430	1500	320	150	5

Autumn peak counts are available for 21 out of the past 24 years and these a given in Table 2. Most counts up to 1963 were made on the feeding areas as well roosts whilst from 1963 all have been made of the birds as they left the roosts. The peak counts show a marked increase in the number of Black-tailed Godwits pass through the Ribble from the late 1940s to late 1960s since when numbers appear to have declined from the counts. This decline, shown in 1970-71,,is probably a fal one due to not enough counts. In 1970 I made only two autumn counts, in 1971 onl three whilst in 1972 I counted the roost six times and this year obtained a peak closer to those found in the 1960s. However, it does seem from these peak counts that about 1500 is the maximum number which the present Ribble feeding areas can hold, and a study now in progress on feeding ecology suggests that this is possibl the case.

Table 2. Peak counts of Black-tailed Godwits in autumn on the Ribble Estuary.

1948	145	1958	400	1966	1150
1952	240	1959	415	1967	1100
1953	180	1960	500	1968	1500
1954	290	1961	350	1969	1500
1955	193	1963	640	1970	362
1956	330	1964	570	1971	703
1957	260	1965	1050	1972	1240

The distribution of Black-tailed Godwits on the estuary is very much limited to the wettest mud and their main roost is on the marsh closest to these areas (see figure 1). The bulk and best of the feeding areas occur very close to the low tide mark and are exposed for only 4-6 hours each tide. Black-tails thus tend to roost for much longer than Bar-tailed Godwits L. lapponica on the Ribble which feed on higher sandier substrates and mostly roost away from the Black-tails (see figure 1). The latter begin 'roosting' - sleeping on or near the feeding area from about 3 hours after low tide and move into the saltmarsh roost two to three hours before high tide, on average a good hour before the Bar-tails. Usually the birds sleep in Spartina through the four hours over high tide, leaving for the marsh edge a good two hours after the tide. Here they may continue roosting until they finally leave for the main feeding areas three to four hours after the tide. Such a pattern prevails on the higher tides, 25 feet or more on the Preston Dock Gauge.

On lower (neap) tides, less of the lowest Black-tailed Godwit feeding area is exposed as these tides do not fall as low as spring tides. However, that which is exposed remains exposed for much longer and the godwits spend more time on this restricted feeding area. Thus they spend correspondingly less time at roost (whether on mudflat or saltmarsh). Study now in progress suggests that the godwits need the extra time on the restricted neap tide feeding areas collecting the same amount of food which they obtain in less time but over a slightly larger feeding area on spring tides. This aspect of Black-tailed Godwit feeding ecology is reminiscent of that of Oystercatchers Haematopus ostralegus when feeding on mussels Mytilus. On spring tides they wait until the lowest mussels are exposed and quickly gorge themselves on these during the two hours over low tide. On neap tides, when only the poorer higher mussels are exposed, it takes them over twice as long to collect the same biomass of food (personal data, confirmed in litt. Dr P.J. Dare).

It would be extremely worthwhile catching and ringing some of these godwits but the position of the roost on a creek-ridden marsh and the flight-lines over the river channel and wettest mudflats makes netting almost impossible. The five specimens I have examined from the area have all been the Icelandic race islandica. There is relatively little data available from ringing on the movements and wintering areas of these migrants. Also work in progress suggests that the bulk of these passage migrants consists of adults which arrive in full to almost full summer plumage and these remain in the area until they have assumed winter plumage. Many birds would have to be processed in order that this moult be properly described.

What to do with breeding waders and their pulli

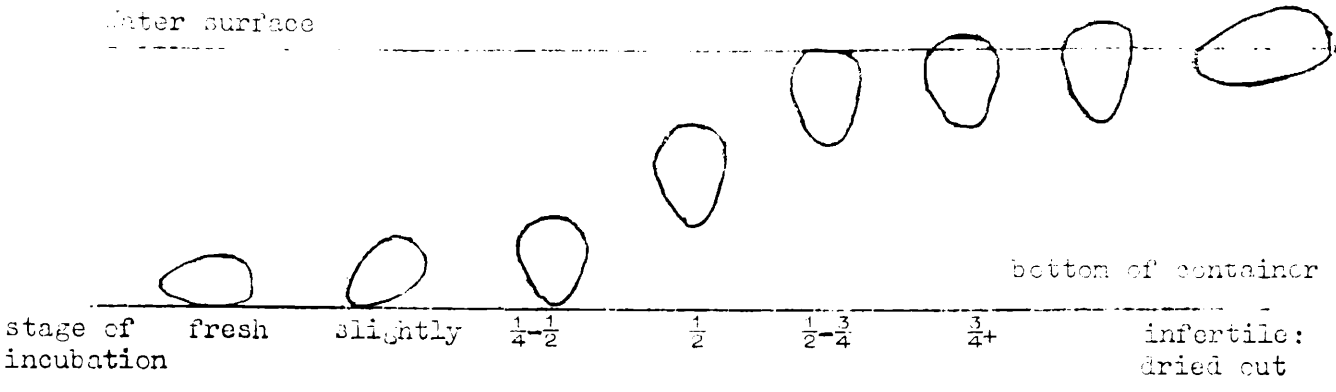
Tony Prater

Now that we are obtaining a great deal of information on the biometrics etc. of migrating and wintering waders, there has clearly appeared to be an enormous gap in our knowledge. In Britain we know next to nothing about our endemic waders, unlike many countries on the continent where several detailed studies have been made of their breeding waders. What do we really know about British Ringed Plover, Golden Plover, Redshank, Curlew and Dunlin? Very little. We still do not know too much about even such common species as Lapwing and Oystercatcher! It really is time that this was rectified.

I know that several individuals are considering looking at breeding wader in some detail both in Britain and elsewhere, so I thought it would be a good idea to write a short piece based on the lessons learnt from analysing British and Icelandic breeding data. All ringers can help but please keep disturbance to a minimum.

1) Breeding adults: these are relatively easy to trap on nest by using a fairly large drop or similar trap. Snipe are so tame that often, once the nest is discovered, you can drop a mist net over the sitting bird. Biometrics of known breeding adults (and first years if they can be still aged) is vital to enable biometric analyses of mixed populations to be made.

2) Eggs: obviously the number of eggs in each nest should be recorded. Most lay eggs on approximately every other day, sometimes the gap between eggs may be as long as six days, this means that clutch size must be determined by visits at least 3 days apart - preferably by two visits in one week. The earlier in the laying cycle that the nest is found the better the information. Once there is a full clutch you can still check on the 'age' of the eggs. Newly laid eggs are full of albumen and yolk. They are heavier than water so sink if placed in a small container of water. As incubation proceeds more air is found in the egg and it becomes lighter until it floats on the surface of the water. The diagram below helps to determine the stage of incubation. Weighing the eggs gives similar information.



The hatching date is important to discover and with waders it usually occurs 22-30 days after the clutch is complete. The egg start to be chipped by the pullus inside about 2 days before the pullus emerges - so please record if the eggs (and how many of them) are chipped. Also check to see if any eggs are infertile and are left in the nest - this is needed for hatching success.

Once the pulli emerge they spend a few hours drying out in the nest but after that they start to wander. For the first few days the young can usually be found around the nest but after that the parents may lead them away to a better feeding area. Ringers can gain much information from pulli by applying normal biometric studies.

(a) the weight: wader pulli have a reasonably predictable growth curve so knowing the hatching weight, the fledging weight and time taken from hatching to fledging we can predict to within 2 or 3 days the age of the pull Most of these parameters are 'known' but more information on all of them is needed. So weigh the pulli - the nearest gram or half gram is usually sufficient. Retraps of pulli are very useful to check the rate of growth and pulli ages.

(b) wing, bill. These grow at a more or less constant rate through the fledging period. The latter only need be measured once the primaries have emerged from their sheaths. What we need to know is the difference between the measurements of a newly fledged bird and a fully grown juvenile. All the evidence is that it takes 2-3 weeks after fledging before the bird is fully grown, this is important for biometrical studies of migrating waders.