on the landing beach that we were obliged to haul the dory high above the beach lest she be wrecked by their activities. A large bull that had selected for his resting area the strip of beach across which we were hauling the dory, was so intent on returning that we felt it prudent to keep a loaded rifle within reach. All of which indicates a major change in the Sea Lion population on Buldir.

No evidence of terrestrial mammals was found.

Coats (1951, p. 2) states " It (Buldir) appears never to have been inhabited by Aleuts ". Murie (1959) presents evidence to the contrary, and we observed the bones and shells of an old village site, bared by the sea near the northwest end of the bight where landings are made. This is in the mouth of the single valley on the Island, and the alluvium of the valley-floor had covered the site. Most kitchen middens in the Aleutians are revealed by the luxurious vegetative cover that flourishes in the enriched soil of the site, but in this case alluvium had covered the organic mass and filled the holes left by decayed dwellings.

Mindful of the decisive influence of the sea upon our departure from Buldir, we did not tarry. The desired information had been secured and for the moment it was enough. When on the third day the *Winona* hove in view we launched the dory in light surf and re-embarked.

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Brent Goose population studies 1961-62

P. J. K. Burton

Summary

COUNTS of the proportion of young in wintering flocks of Brent Geese were made in the British Isles, Denmark, Holland and France and showed that a bad breeding season for Dark-bellied Brent had coincided with an even worse one for Greenland-bred Pale-bellied birds wintering in Ireland. The result must have been a reduction in the total population of Brent and limited evidence suggests that this might have been of the order of about 9% for a large part of the Dark-bellied population. Observations made on the island of Terschelling suggest a differential movement of birds with families and those without.

Introduction

Counts made during the winter of 1961-62 show clearly that the summer of 1961 was a poor one for both Dark-bellied Brent *Branta b. bernicla* breeding

in Siberia and for Pale-bellied Brent *B. b. hrota* breeding in Greenland. The response to the appeal for observers was again gratifying, though no special effort to obtain complete coverage was made, as in the preceding winter. Details of the observations made are given; all of them refer to the Dark-bellied race except for those from Ireland and Northumberland. Grateful thanks are offered to the observers named below and to all those who helped either by submitting negative reports or by collecting information from other people.

England

Hampshire and Sussex. Age-group counts made by B. W. Renyard in Langstone and Chichester Harbours during the winter amounted to 553 birds, of which 55 (10%) were first-winter. The numbers recorded in Langstone Harbour were the highest for ten years; the maximum for the two harbours combined was 1370 on 4th February, 1962.

Essex. Early season counts made at Foulness gave warning that there were few young in the flocks, and counts were limited to sufficient from other areas to confirm this. The total sample was 748, of which 24 (3%) were first-winter birds. Numbers in the county were again high, though not reaching the heights of the previous winter. The maximum was reached in mid-December, 1961 when 9065 were found along the entire Essex coast, 6600 at Foulness and Wakering (R. V. A. Marshall).

Norfolk. The maximum recorded from Scolt was 600 (R. Chestney). Of 369 birds examined, 48 (13%) were first-winter. A count made by M. Smart on 28th February, 1962 at Hunstanton included 3 young out of 72 (4%).

Wash. Numbers on the Wash were the highest since wildfowl counts have been made. The maximum, however, seems to have been reached comparatively early, suggesting dispersal to other areas later. At least 5000 appear to have been present in mid-November, 1961, and 3000 were present in the Benington area until at least 7th January, 1962 (A. E. Vine).

Northumberland. About 500 were present off Holy Island during the latter half of the winter (F. Stabler). The birds wintering in this area are principally Pale-bellied birds, believed to be from the Spitsbergen breeding population.

Denmark

Jørgen Fog, Game Biology Station, Kalø, reports that the largest count at Jordsand was 4300 on 29th September, 1961. On 4th October there were over 5000 Brent at Jordsand and in other parts of West Jutland south of Blavundshuk. 20 Dark-bellied Brent and one light-bellied (the only one seen) were caught and ringed in autumn 1961.

Holland

On Terschelling, the maximum number recorded was 1800 in December, 1961. Large proportions of young were seen early in the winter, falling later. In November, 1961 53% young were counted with 1200 birds present: by January this had fallen to 29% with 1650 birds present (J. Tanis). Counts made in the Westerchelde and Zandkreek estuaries by T. Lebret totalled 512, of which 22 (4%) were young birds.

France

Detailed counts were made throughout the winter in Morbihan by the Abbé R. Bozec. The total count was 1243, of which only 55 were birds of the year (4.5%).

Ireland

The Pale-bellied Brent wintering in Ireland are considered to represent most, if not all, of the Greenland-breeding part of the population. Counts made by Major R. F. Ruttledge in Co. Dublin and Co. Wexford totalled 770, but only one of these was a first-year bird. D. B. Cabot and H. Boyd found 12 first-winter birds in 200 in Tralee Bay on 18th December, 1961, but none in 400 in Barrow Harbour (Co. Kerry) on the same day, nor any among 600 in Wexford Harbour on 21st December. This is evidence of a more serious breeding failure even than that of the Dark-bellied birds. A census of the Irish population on 25th-26th November, 1961 found just over 12,000 birds, almost the same as in November, 1960 (*Ninth Irish Bird Report*, 1961, p. 9).

Discussion

Although the considerable breeding success of 1960 must have increased the proportion of sexually-immature birds in adult plumage in the winter of 1961-62, the 1961 season must still be regarded as a very poor one and have resulted in a decrease in the numbers of Dark-bellied Brent. Some idea of the size of the decrease can be obtained by comparing counts in the various areas for which good figures are available for the winters of both 1960-61 and 1961-62. The total of Brent wintering in Essex, the Wash, Hampshire, Sussex, Norfolk, Zeeland and Terschelling shows a reduction on the previous winter of about 9%. This is consistent with the belief that the annual mortality of Brent averages about 17%, allowing for a proportion of first-winter birds which appears to have been about 7-8% in the wintering population of these areas considered as a whole.

Table I shows the first-winter percentages for Essex alone since the start of sampling in 1954.

Table I: Proportion of first-winter birds in sample counts of Dark-bellied Brent in Essex, 1954-55 to 1961-62.

Season	sample	No. of first-winter birds	Percentage first-winter
1954-55	776	314	40
1955-56	2020	522	26
1956-57	1484	97	7
1957-58	1810	955	53
1958-59	Hardly any young observed		
1959-60	1664	379	23
1960-61	3742	1683	45
1961-62	748	24	3

The observations made by J. Tanis on Terschelling during 1961-62 are of particular interest. The proportion of young seen was very much higher than elsewhere, especially early in the season. This strongly suggests a differential movement of adults with families and those without. It will be interesting to see whether this phenomenon will be repeated.

The Greenland-bred population wintering in Ireland has shown a similar pattern to the Dark-bellied birds in the last two winters, though it is not suggested that this is more than coincidence. However, data from Ireland will make possible a more thorough re-examination of the relationship of breeding ground meteorology to breeding success.