

BREEDING WADERS AND OTHER WATERFOWL ON SUFFOLK ESTUARIES IN 1988

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This paper summarises the results of a survey of breeding waders, wildfowl, gulls and terns on grasslands, shingle and saltmarshes adjoining estuaries in Suffolk in 1988. A total of 3727 ha were surveyed and 1174 pairs of wildfowl, 1454 pairs of waders and 11,675 pairs of gulls and terns were found. The Suffolk coast is an important breeding area for waders. It supports 35% of British breeding Avocets, and over 1% each of Ringed Plovers, Redshanks and Oystercatchers.

INTRODUCTION

The drainage of lowland grassland and the claiming of saltmarsh for agriculture and industry are an all too familiar story in Britain. These changes in land use have been accompanied by a decline in their ornithological interest, particularly as a breeding habitat for wildfowl and waders.

In 1982 the British Trust for Ornithology (BTO) surveyed the distribution of waders breeding on lowland grassland in England and Wales (Smith 1983). This study revealed very low densities of breeding waders on most sites, with large areas of grassland holding no waders at all. Moreover a significant proportion of the breeding waders were concentrated on relatively few sites. Populations of Snipe, Redshank, Lapwing, and Oystercatcher were predominately in the south east of England, with the latter three species concentrated on the coastal marshes of East Anglia and North Kent. The survey also highlighted the contracting range of Redshank since the 1930s.

The BTO survey (Smith 1983) was primarily aimed at lowland grasslands and although no attempt was made to include areas of saltmarsh it was acknowledged that such areas may be of great importance for breeding waders. The significance of saltmarsh as a breeding habitat, particularly for Redshank, has since been established (Green *et al.* 1984). This study also demonstrated that the methodology employed in previous surveys may have significantly underestimated breeding populations of Redshank. In 1985 Allport, O'Brien & Cadbury (1986) assessed the breeding populations of redshank on 77 plots of saltmarsh throughout mainland Britain and the island of Mull. Particularly high densities were reported to breed on the Deben estuary, Suffolk.

These studies on selected sites of saltmarsh and grassland in Suffolk's coastal region have indicated that this area may be particularly important for breeding waders on a national scale (Smith 1983, Allport *et al.* 1986) but there has been no comprehensive picture for Suffolk. This paper summarizes the results of a survey designed to provide a detailed understanding of the distribution and densities of all species of breeding waders and wildfowl on saltmarsh and wet grassland bordering the Suffolk estuaries. The survey will also enable an assessment of the relative importance of this region in a national perspective.

METHODS

Survey

The survey covered all areas of saltmarsh within Suffolk and on the south side of the Stour (the south bank of the Stour is in Essex, but for the purpose of this survey the whole estuary is considered as one unit). Grassland adjacent to

the estuaries was also surveyed as well as areas of shingle (principally Orfordness) and reed. The location of these habitats was delineated on 1:10,000 maps for collecting field data. In total there were 76 plots ranging from 5.3 hectares to 219 hectares. Many of these areas were distinct from one another (see Figure 1). Those stretches of estuary between these plots were surveyed using 1:25 000 scale field maps. Recording was focused on waders and wildfowl, but surveyors were asked to include all species likely to attempt to breed within the outlined areas. The survey method employed was that devised by Green *et al.* (1984). Five visits were made during the breeding season, between April and early June. Each plot was sub-divided into areas of homogeneous habitat type and management and a route, which was repeated on each visit, was devised that approached every point to within 100 metres. Visits were not carried out in windy or rainy conditions. For each visit the number and location of every bird was recorded on the field maps, noting obvious pairs, singing birds, birds with young and flocks. At the end of each visit information from the maps was translated onto a summary table for analysis.

Analysis of field data

Redshank. The mean of the total Redshank recorded before the 1st of June, excluding those birds behaving as if with young or in flocks, was taken as the peak number of pairs with nests.

Snipe. The maximum number of drumming or chipping birds on any one count was taken as the number of breeding pairs, so long as birds were present throughout April and early May. Birds drumming or chipping on only one date, and not observed on following visits, were noted as possible breeders but not included in the final data.

All other species. The maximum number of birds recorded on any one date, excluding those in flocks, was divided by 2 to give the maximum number of pairs likely to be breeding. This method does not differentiate between non-breeding and breeding pairs (for example Shelduck), both of which are included in the total breeding pairs recorded (Table 2). If a single bird or pair of birds was observed in suitable breeding habitat on only one occasion it was recorded as a possible breeder but not included in the summary presented in this paper.

RESULTS AND DISCUSSION

In total 3727 ha were surveyed. This comprised 1141 ha of saltmarsh, 2183 ha of grassland, 346 ha of shingle and 57 ha of reed (see Table 1).

The number and location of each species recorded as breeding within the survey area is given in Table 2. Six species of wader, seven of

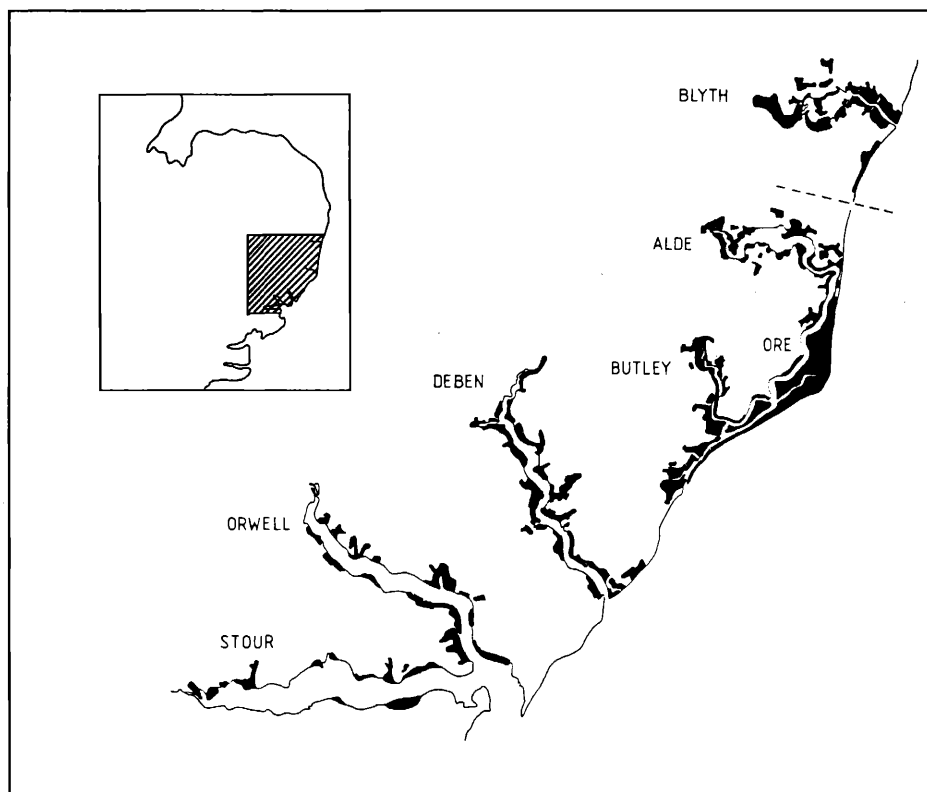


Figure 1. Location of survey plots.

Table 1. Distribution of habitats surveyed in 1988 for each of the Suffolk estuaries.

Estuary	% of total area of habitat type				Total area surveyed (ha)
	Saltmarsh	Grassland	Shingle	Reed	
Blyth	9.1	25.4	6.0	15.0	688
Alde/Ore/Butley	42.4	47.0	78.0	60.0	1806
Deben	29.7	14.6	0.5	25.0	667
Orwell	8.2	9.3	1.5	0.0	294
Stour	11.7	4.3	14.0	0.0	273
Total area surveyed (ha)	1141	2183	346	57	3727

National Perspective

Smith (1983) identified the coastal marshes of East Anglia and north Kent as being particularly important for breeding Redshank, Lapwing and Oystercatcher. The present survey has shown the study area to hold 1.4% of the Redshank and 1.4% of the Oystercatcher estimated to breed in Great Britain (based on population estimates reported by Piersma 1986). Whilst these species breed in other areas of Suffolk it is probable that the majority are within the coastal region included in the study area. By contrast Lapwings are widespread throughout the county and those found within the study area therefore represent only a fraction of the county's breeding population. Nonetheless the 241 pairs recorded represent 0.1% of the lapwing estimated to breed in Great Britain and 12% of the Suffolk population (based on figures reported by Wright 1988). For Ringed Plover 1.0% of the British, and 0.7% of the European temperate population is represented in the

study area (based on figures reported by Piersma 1986).

In Britain breeding Avocets are restricted to East Anglia with strongholds predominantly on nature reserves. Approximately 35% of the British population were recorded in the study area (A.J.Prater, pers.comm.).

Trends in Breeding Populations

Nine of the plots surveyed in 1988 were visited during the 1981/82 Breeding Waders of Wet Meadows survey (Smith 1983). During this period these plots have experienced an overall decrease in the populations of Redshank (- 38%), and Oystercatcher (- 12%), and an increase in breeding Lapwing (+ 30%) (O'Brien 1989). It is too early to assess whether these trends are due to natural fluctuations in breeding populations, changes in management, or part of a general decline.

Table 2. Total breeding pairs of waders, wildfowl, gulls and terns for each of the Suffolk estuaries in 1988.

Species	Blyth	Alde/Ore/ Butley	Deben	Orwell	Stour	Total
Canada Goose <i>Branta canadensis</i>	11	55	38	11	10	125
Shelduck <i>Tadorna tadorna</i>	72	202	126	114	17	531
Gadwall <i>Anas strepera</i>	15	15	4	1	0	35
Teal <i>Anas crecca</i>	10	2	2	0	0	14
Mallard <i>Anas platyrhynchos</i>	103	115	66	21	17	322
Shoveler <i>Anas clypeata</i>	21	27	0	3	0	51
Tufted Duck <i>Aythya fuligula</i>	6	64	9	17	0	96
Oystercatcher <i>Haematopus ostralegus</i>	30	223	103	50	65	471
Avocet <i>Recurvirostra avocetta</i>	*	*	*	*	*	152
Ringed Plover <i>Charadrius hiaticula</i>	22	24	6	32	16	100
Lapwing <i>Vanellus vanellus</i>	101	89	24	18	9	241
Snipe <i>Gallinago gallinago</i>	25	0	3	1	0	29
Redshank <i>Tringa totanus</i>	148	120	115	64	14	461
Black-headed Gull <i>Larus ridibundus</i>	600	592	179	0	0	1371
Common Gull <i>Larus canus</i>	0	30	0	0	0	30
Lesser Black-backed Gull <i>Larus fuscus</i>	0	7500	0	0	0	7500
Herring Gull <i>Larus argentatus</i>	0	2500	0	0	0	2500
Sandwich Tern <i>Sterna sandvicensis</i>	0	63	0	0	0	63
Common Tern <i>Sterna hirundo</i>	1	112	0	0	0	113
Little Tern <i>Sterna albifrons</i>	*	*	*	*	*	98

* Rare British breeding species listed in schedule 1 of the Wildlife and Countryside Act 1981: locational details withheld.

Table 3. Distribution of breeding waders on the Suffolk estuaries in 1988. Figures are given as the percentage of total pairs for each species, from Table 2.

	Redshank	Lapwing	Oystercatcher	Snipe	Ringed Plover
Blyth	32%	42%	6%	86%	22%
Alde/Ore/ Butley	26%	37%	47%	0%	24%
Deben	25%	10%	22%	10%	6%
Orwell	14%	8%	11%	4%	32%
Stour	3%	4%	14%	0%	16%

Ringed Plovers were surveyed in Suffolk in 1979 and 1985 (Piotrowski 1980, Waters 1985). Over this five year period Waters (1985) reported a decrease of 20% in the overall county population. Orfordness held the largest discrete population with 53 pairs in 1979 and 34 in 1985. The present survey reported only 13 pairs to be breeding on Orfordness, a total decline of 75% in nine years. This decline has been attributed to increased human disturbance and the expansion of the Orfordness gull colony (Waters 1985, 1988). In contrast the Orwell population has increased from 17 pairs in 1985 (Waters 1985) to 32 pairs in 1988, half of which were on newly created areas of shingle at Fagbury. These are, however, soon to be lost to the Felixstowe Dock development (see Beardall, Dryden & Holzer 1988).

Distribution of Breeding Waders

The distribution of breeding waders was to a large extent dictated by the availability of suitable habitat. For example the Stour held 8% of the total wader population in 7% of the study area and the Blyth held 24% of the waders in 19% of the study area (Tables 1 & 2).

One third of all Redshank were found on the Blyth estuary, predominantly on grassland (Table 3). Over the entire study area, however, 48% were found on saltmarsh and 48% on grazing marsh, despite there being twice the area of grassland available (Table 4). Although ungrazed salting was only 27% of the study area, 44% of the redshanks were found to use this habitat with a peak density of 81 pairs/km². This compares favourably with a peak density of 78 pairs/km² reported in 1985 (Allport et al. 1986). On cattle grazed grassland a peak density of 50 pairs/km² was recorded. In comparison with Redshank, Lapwing only reached a maximum density of 34 pairs/km², with the majority of birds found on cattle grazed grassland.

One would expect to see the area of shingle on the Alde/Ore/Butley (accounting for 78% of all shingle in the study area) to be reflected in the breeding numbers of Oystercatcher and Ringed Plover. Whilst 47% of the Oystercatchers were recorded on this estuary, only 18% nested on shingle compared with 47% on saltmarsh and 34% on grassland. Similarly the number of Ringed Plover on each estuary did not

Table 4. Distribution of breeding Redshank on different habitats and management types.

	% of area surveyed	% of total prs Redshank
<u>Salting</u>		
Cattle grazed	1	1
Sheep grazed	2	2
Cattle and sheep grazed	1	1
Ungrazed	27	44
Total	31	48
<u>Grazing Marsh</u>		
Cattle grazed	28	29
Sheep grazed	6	2
Cattle and sheep grazed	2	4
Ungrazed	21	9
Mown	3	4
Total	60	48
<u>Other Habitats</u>		
	10	5

reflect the distribution of shingle. For example the Orwell, which only accounted for 2% of the shingle in the study area, held 32% of the total population.

Only very small numbers of Snipe were recorded (Table 2), probably because the soft penetrable ground required by this species was generally unavailable over much of the study area. The Blyth estuary held 86% of the total pairs recorded but only 25% of the grassland in the study area. During the survey it was noted that these areas were exceptionally wet which may account for the relative importance of this estuary.

Avocets were found to be breeding not only on saltmarsh and brackish lagoons, but also on freshwater grazing marshes.

Distribution of Gulls and Terns

The large number of gulls found on the Alde/Ore/Butley illustrates the importance of Orfordness as a breeding site. This colony of Lesser Black-Backed and Herring Gulls, with some Common Gulls, is one of the largest in south-east England and accounts for 15% of the North Sea population of Lesser Black-Backed Gulls (Tasker et al. 1987). The main Black-Headed Gull colonies were found on areas of saltmarsh on the Deben, Blyth and Butley.

Most of the Common Terns and all of the Sandwich Terns were recorded on Havergate Island, an area owned and managed by the Royal Society for the Protection of Birds.

Conservation

The present survey was undertaken primarily to provide a detailed understanding of the distribution and abundance of breeding waders and wildfowl on and adjacent to the Suffolk estuaries. During the spring of 1989 all remaining areas of coastal grazing marsh will be surveyed, providing a complete picture of breeding waders and wildfowl in the coastal region.

The information collected during the present survey provides a comprehensive baseline from which future comparable surveys can gauge changes in breeding populations as well as in land use and management. The data forms an essential conservation tool, allowing informed arguments to be presented against insensitive development proposals which may degrade the

value of these important areas. It will also assist in formulating advice presented to land owners and managers (e.g. farmers, local government and water management bodies), providing the potential to improve the value of many sites for breeding birds. This information is particularly relevant in the light of the designation in 1988 by the British Government of the Suffolk river valleys as an Environmentally Sensitive Area (ESA), in which farmers receive subsidies in return for using management practices that are sympathetic to wildlife. The grasslands adjacent to both the Alde/Ore/Butley and the Blyth lie within this ESA. The effectiveness of this designation in promoting and maintaining the wildlife value of these areas will be revealed by repeating this study in future years.

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