

REPORT ON THE PILOT SURVEY



BTO/RSPB  
BIRDS OF ESTUARIES ENQUIRY

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B.T.O./R.S.P.B. BIRDS OF ESTUARIES ENQUIRY

REPORT ON THE PILOT SURVEY

The main aims of the survey of British and Irish estuaries carried out during the period August, 1969, to April, 1970, were to obtain preliminary data on numbers and species of birds present, to test the counting and recording methods, and to familiarise counters with the local distribution and habits of estuarine bird species. It has worked admirably in achieving all three aims thanks to the energies of the joint national organisers, Dr. Philip Burton and David Glue, the network of local organisers and last (but most important of all) the individual counters.

We have now entered the second year knowing that recording methods work and with the expectation that most of the few gaps in coverage will be filled.

It is only by the perseverance of each counter that this enquiry can produce the results that are much needed. It is the comparative data obtained, both on a monthly and yearly basis, that forms the essence of the survey. Unless we know the range in fluctuations in population level and how these vary between species, we will be unable to gauge the effect of increasing human pressure on any particular area. It is important to realise that each bird species may use different estuaries for different roles in their life histories. It is already apparent that some estuaries are of importance in autumn when they act as moulting grounds, others act as relatively ice-free feeding grounds during the winter and still more are important feeding grounds for birds stopping during migration - where they can lay down large fat deposits before flying to their Siberian or Greenland breeding grounds. It is the existence of this chain of estuaries which is of major importance.

Apart from the most obvious aim of providing a quantitative assessment of the birds inhabiting estuaries and providing a scale of relative importance for each estuary, the "Birds of Estuaries Enquiry" is attempting to discern some of the multitude of reasons why birds choose one area rather than another. We need to know the answers to such questions as, what is the preferred roosting habitat? Does this preference change with season? What effect does human disturbance have on roosts and feeding grounds? Where do the waders feed? Is it on mud, sand, mussel beds etc.?

When the enquiry was started, observers were asked to send in maps of their counting areas showing roost sites, feeding grounds and habitat types where possible. To date we have received 39 maps, some recording information on the distribution of birds and others giving an immense amount of information on habitat as well as birds. Whilst the quality of response has been excellent, it soon became clear, when we started to analyse those received, that we would have to introduce some standard recording method. We have therefore been designing a very simple habitat card. This card is nearing completion and it is hoped that final testing can be completed during this winter so that the card should be available for general use by autumn 1971. This card will not, and can never, replace maps. It is to be used in conjunction with maps to enable us to catalogue the importance of British and Irish estuaries taking into account substrata, invertebrates, plants and birds present on them. This will be undertaken in close co-operation with the Coastal Ecology Research Station of the Nature Conservancy.

In this report I will not describe in detail the total British and Irish populations of ducks, geese or gulls. However, I will summarise where the main concentration of most species occur and also provide some figures for the populations of the only two truly estuarine species, the Shelduck and the Brent Goose. Obviously most other wildfowl and gulls occur in very large numbers both inland and along non-estuarine coastal areas and would therefore not be included in this survey.

The main part of this report considers the numbers and distribution of waders in the country. This group of birds is characteristic of estuaries and, until now, remarkably little was known about their status. During the winter almost all species are found in the intertidal zone with only Lapwing, Golden Plover and Snipe occurring inland in large numbers. For the purpose of detailed analysis I have divided the country into seven geographical divisions which are Ireland, Scotland, Wales, eastern England (Tweed to Kent), southern England (Sussex to Dorset), southwest England (Devon to Gloucestershire) and north Irish Sea (Cumberland to Flintshire). For each area I am including two tables; one showing the autumn (September), winter (January) and peak count of each wader species. The other table lists the most important estuaries, obtained from the summation of the peak counts of all wader species (regardless of which month the peak occurred); this represents the minimum number of

individuals which passed through the area during the pilot survey. The real figure may be very much higher but at the moment it would be based on pure guesswork.

#### DUCKS

Only a single species, the Shelduck, can be regarded as truly estuarine; the others are either primarily freshwater ducks (Mallard, Teal, etc.) or sea ducks (Scoter, Eider etc.) and only a percentage of their population occurs in estuaries. All the freshwater ducks occur in estuaries in some numbers, particularly in the autumn. The peak count of Mallard received was 4872 (Humber:Yorks./Lincs.); of Teal 2150 (Bridgwater Bay:Somerset) and 1834 (Morecambe Bay:Lancs.) and of Pintail 1220 (Morecambe Bay) and 1177 (Burry Inlet:Glam/Carm.). Wildfowl figures for some of the most important estuaries, such as the Dee (Cheshire/Flints.) and Mersey (Lancs/Cheshire), were lacking; large concentrations of both Teal and Pintail occur in these and were therefore missed. Only small numbers of Shoveler, Pochard and Tufted Duck were counted. Wigeon occur in considerable numbers on very many estuaries; flocks exceeding 3000 are presented in Table I but again it should be remembered that some areas such as the Cromarty Firth (Ross & Cromarty) and the Lindisfarne (Northumberland) where considerable flocks regularly winter, were not included in the counts.

TABLE I

#### The Main Concentrations of Wigeon Recorded in 1969/70

	<u>Peak Count</u>	<u>Month</u>
The Fleet (Dorset)	6603	Dec.
Bridgwater Bay (Somerset)	5500	Jan.
Morecambe Bay (Lancashire)	4590	Jan.
Stour (Essex)	4000	Nov.
Exe (Devon)	3700	Dec.
Wash (Norfolk/Lincs.)	3586	Jan.
Medway/Swale (Kent)	3113	Jan
Breydon Water (Suffolk/Norfolk)	3000	March

The main concentrations of seaduck reported in estuaries during the winter occurred in Scotland, notably the Firth of Forth, Firth of Clyde, and Dornoch Firth (Sutherland/Ross and Cromarty). Goldeneye usually occur in small numbers. Only two counts exceeded 200 individuals; these were 1000+ on the Firth of Forth off Seafield and 280 on the Tweed (Northumberland). The highest concentrations in southern England were 155 on the Stour (Essex) and 152 in Langstone Harbour (Hants.). Scaup also had a similar distribution with 10000 in the Firth of Forth being much the largest concentration. Elsewhere 566 on the south Solway (Cumberland) and 340 at Loch Ryan (Wigtownshire) were the only counts of more than 300.

The largest flocks of both Common Scoter (3000) and Long-tailed Duck (125) were found on the north Dornoch Firth. These species only occurred elsewhere in small numbers although a flock of 1300 Scoter were present in Luce Bay (Wigtownshire) and 71 Long-tailed Duck were on the Ythan (Aberdeen). The largest concentration of Common Scoter outside Scotland was 460 on the Swale/Medway (Kent) in August whilst very low numbers (one-three) Long-tailed Duck were found on many estuaries in England and Wales. In addition to the Goldeneye and Scaup, the Firth of Forth also had the largest concentration of Eider with a peak of 1900. Only the Ayr shore, with 1100, approached this figure, with 864 on the Ythan being the most important flock.

Of the sawbilled ducks Goosander was infrequently recorded, with the principal numbers in east Scotland. The Red-breasted Merganser occurred more widely. The largest concentration recorded was 270 on Loch Linnhe (Argyll/Inverness) and other flocks which exceeded 250 were recorded on the Dornoch Firth, Lavan Sands (Caernarvon) and the Firth of Forth. These last two locations also had the largest numbers of Great-crested Grebes with the former having 147 in autumn and the latter 400 in midwinter. The only other species of Grebe which was noted in considerable numbers was the Black-necked Grebe, a flock of 41 of which wintered in Langstone Harbour (Hants.).

A more detailed comment can be made about the numbers and distribution of the Shelduck. Although many gaps are present in the records, the coverage is similar in all months and the annual picture of population fluctuations shown in Table II may well represent the true state.

TABLE II

The Numbers of Shelduck in Britain as Counted in 1969/70

August	3628
September	5459
October	6001
November	10374
December	14416
January	30522
February	24610
March	19250
April	9473

This shows a low autumn level when the vast majority are on the moulting ground of Heligoland. At this time of year most of those present in Britain are juveniles or form the flock which moults in Bridgwater Bay (Somerset). This flock was estimated to be 1000 strong in September and had dropped to 250 by November.

The distribution of Shelduck shows that it occurs mainly on the estuaries of south and east England, where six of the eight largest flocks were reported, Table III; the only other estuaries which supported sizeable populations were in the north Irish Sea.

TABLE III

Main Concentrations of Shelduck in Britain 1969/70

	<u>Peak Count</u>	<u>Month</u>
Teesmouth (Yorks./Durham)	4443	January
Langstone Harbour (Hants.)	3550	February
Chichester Harbour (Sussex)	3303	February
Morecambe Bay (Lancs.)	3051+	November
Poole Harbour (Dorset)	2870	January
Wash (Norfolk/Lincs.)	2678	March
Dee (Cheshire/Flints.)	2500	October
Stour (Essex)	2100	January

The importance of the south and east for this species was emphasised by the fact that of the peak count (in January) when 30,500 were counted 67% of the British population occurred in these areas. Although the population figures for Shelduck are probably the most complete for any duck, it is thought that substantial numbers were missed and the British total will probably exceed 40,000 when all areas are covered adequately.

#### GEESE

For most species of geese the numbers recorded do not represent the true numbers using the estuaries. As a general rule this is because they feed inland and only use the estuary as a roost site or a relatively undisturbed refuge. Sizeable flocks of Barnacle, Greylag, Pinkfooted and Whitefronted Geese were recorded from their well-known areas, while four sites were able to record the bonus of up to eight Bean Geese.

The only truly estuarine species of goose is the Brent Goose; all those counted were of the dark-bellied race. The principal sites for this species, as recorded by this pilot survey, are presented in Table IV. A small number of regular haunts were not counted and thus the totals recorded are underestimates of the total population; for details of the regular Brent Goose counts the reports of the Wildfowl Trust should be consulted. It is clearly restricted in its distribution with only four of the areas counted supporting a population in excess of a thousand.

TABLE IV

#### Main Concentrations of Brent Geese in Britain 1969/70

	<u>Peak Count</u>	<u>Month</u>
Foulness* (Essex)	7402	December
Langstone Harbour (Hants.)	2760	February
Medway/Swale (Kent)	1765	February
Chichester Harbour (Sussex)	1300	March
Colne (Essex)	850	January
Blackwater (Essex)	674	December
Wash (Norfolk/Lincs.)	542	December
Exe (Devon)	300	December
Stour (Essex)	305	March

\* Foulness includes the area from Foulness Island to Canvey Island.



TABLE V

Seasonal Variation of Numbers of Dark-bellied Brent Geese  
in England and Wales 1969/70

October	799
November	6303
December	11747
January	8716
February	9123
March	6352
April	350

The seasonal changes in numbers present in British estuaries are shown in Table V. The peak occurs in December although figures remain high through January and February. There is a difference in the pattern of numbers between the south and east coasts of England. On the east the peak numbers (9087) occurred in December whilst on the south coast it did not occur until February (3155) and March (3190). In the latter area there was only a single bird left in April whilst 349 were still on the east coast in that month.

WADERS

General

The figures obtained for waders during the pilot study form a much more complete picture than those for any other group of estuary birds even though a considerable percentage of the total population in England, Scotland and Wales was probably not recorded. The figures returned for Ireland, where there are few birdwatchers and very many estuarine localities, are too incomplete to attempt to estimate the total population of waders involved.

The accuracy of the counts obtained varies with the species. Knot, for example, usually occur in very large numbers and estimates have to be made of the flock (in areas where checks have been carried out, most people tend to underestimate by 10-25%). Distinctive species, such as Ringed Plover and Oystercatchers, can frequently be accurately counted.

The population figure given for each species is not necessarily a total figure of all British individuals as the counts were carried out solely in the estuarine habitat. Relatively few of the total number of Turnstone or Purple Sandpiper will be counted as many live on rocky coasts, a habitat which the "Birds of Estuaries Enquiry" does not cover. Similarly a considerable proportion of Ringed Plover and Sanderling occur on beaches rather than estuaries and will therefore not be included. For much of the year most other species are found on estuaries, although the habit of inland feeding shown by Oystercatcher, Curlew and Redshank may mean that their total numbers will be underestimated.

This means that the estuary counts, in addition to providing an accurate assessment of the relative importance of each estuary, probably provide an indication of total population figures for the Bar-tailed Godwit, Knot and Dunlin occurring in Britain. Also it gives reasonably accurate figures for the rest except Purple Sandpiper and Turnstone which are almost certainly grossly underestimated. The species totals for England, Scotland and Wales for each month are presented in Table VI. Although there are many interesting trends apparent, I am not going to discuss them for the reason that figures are not yet complete enough in some areas to permit a meaningful analysis. The main point to note is the high autumn number of species such as Ringed Plover, Curlew, Black-tailed Godwit, Redshank and Sanderling, which drop rapidly by November and are then maintained at less than half of the autumn numbers throughout the winter. Some species, especially Ringed Plover and Sanderling show another peak in late April or May as the birds return to their northern breeding grounds.

The principal estuaries for waders, as judged solely by the 1969/70 counting season, are presented in Table VII. It is very difficult to decide what factors enable an estuary to be classified as internationally or nationally important. For waders it is considered that total numbers do present a fairly good guide to the general status of the area. Almost all of the main British estuaries support sizeable Dunlin flocks, but perhaps the most important factor in attempting to identify estuaries of international importance is the abundance of Knot. This species, although abundant, has a restricted distribution and almost always occurs on estuaries with extensive intertidal flats. The loss of any of these areas could have an extremely serious effect on the world Knot population. The top five British estuaries, and only these, each support a population of Knot exceeding 20,000. The figure may rise very much above this; on the Dee 90,000 were present in autumn, whilst in Morecambe Bay over 80,000 occurred during the spring peak.

TABLE VI

Total Number of Waders Counted in England.

Scotland and Wales in 1969/70

Species	August	September	October	November	December	January	February	March	April
Oystercatcher	95,774	110,318	112,166	91,522	91,060	95,077	104,593	79,617	32,567
Lapwing	17,850	17,614	24,275	23,598	25,853	26,814	18,376	6,222	1,843
Ringed Plover	9,416	10,935	7,719	4,095	3,520	3,850	2,272	2,315	3,598
Grey Plover	934	3,316	1,868	1,914	4,550	2,108	1,498	1,600	1,314
Golden Plover	7,331	10,874	15,575	8,129	11,340	8,035	10,895	3,839	4,247
Turnstone	4,824	5,308	5,011	4,702	5,559	4,477	4,429	3,675	4,350
Common Snipe	354	695	1,181	1,441	1,503	486	406	409	180
Jack Snipe	1	2	22	17	25	30	19	6	2
Curlew	46,249	46,532	42,853	24,224	20,333	18,876	22,979	19,388	13,890
Whimbrel	1,136	251	22	1	4	-	-	4	72
Black-tailed Godwit	3,942	2,072	2,746	1,477	2,107	1,387	834	1,117	437
Bar-tailed Godwit	12,583	15,120	14,230	14,121	19,540	20,746	21,571	10,331	2,346
Green Sandpiper	92	48	24	22	6	12	4	3	12
Wood Sandpiper	25	6	1	-	-	-	-	-	-
Common Sandpiper	655	218	31	22	8	10	6	1	14
Redshank	35,979	45,645	55,399	25,845	24,135	18,361	24,361	22,502	15,905
Spotted Redshank	139	289	135	21	15	18	14	11	17
Greenshank	385	658	472	89	84	44	36	28	45
Knot	23,469	144,047	170,128	128,009	144,629	156,365	184,407	177,285	133,615
Dunlin	67,673	55,365	99,219	126,065	186,035	200,399	184,713	110,632	60,520
Sanderling	9,239	7,887	6,625	3,919	3,538	3,418	2,693	4,276	4,339
Ruff	71	227	60	141	23	121	8	131	53
Little Stint	4	172	7	7	-	-	-	-	1
Curlew Sandpiper	443	635	65	3	-	-	-	2	-
Purple Sandpiper	5	25	23	253	206	90	259	179	57
Avocet	49	154	45	10	58	89	63	28	42
TOTAL:	338,622	478,413	559,902	459,647	544,131	560,813	584,435	443,601	279,466

TABLE VII

The Principal Estuaries\* for Waders in Britain 1969/70

Morecambe Bay (Lancs.)	224,527
Dee (Cheshire/Flints.)	147,944
Solway (Cumberland/Scotland)	75,833
Ribble (Lancs.)	72,708
Wash (Norfolk/Lincs.)	65,539
Burry Inlet (Glam.)	44,210
Humber (Yorks./Lincs.)	35,365
Severn (Glos./Somerset)	35,338
Firth of Forth	31,574
Strangford Lough (N. Ireland)	28,853
Medway/Swale (Kent)	26,653
Exe (Devon)	25,638
Langstone Harbour (Hants.)	23,698
Firth of Clyde	23,325
Chichester Harbour (Sussex)	22,967
Teesmouth (Yorks./Durham)	21,307
Ayr/Wigtown Shore	20,519
Conway Bay (Anglesey/Caerns.)	19,011
Duddon (Lancs./Cumb.)	17,942
Foulness (Essex)	14,938
Bridgwater Bay (Somerset)	14,938

\* Figures for each estuary in this and subsequent tables are obtained by adding together the peak counts of each species regardless in which month the peak occurred.

Some large concentrations of rarer species were noted, the most spectacular of which were 148 Whimbrel at Teesmouth, with a further 135 in Pagham Harbour (Sussex) in August. In Chichester Harbour there were 104 Greenshank and 60 Spotted Redshank during September, when 53 more of this latter species were present on the Medway/Swale (Kent). Finally, a large flock of 121 Purple Sandpiper was found on the Deveron (Banff) during December and 4 Dotterel were present on the Dyfi (Cards./Merioneth) in mid-May.

The importance of estuaries to passage birds is immediately apparent if one considers the fact that in spring, for example, many have flown from west Africa to west Europe and then have to depart to breeding grounds in Iceland and Greenland. The use made of each estuary varies; some, perhaps because of disturbance, are not used during this period but elsewhere very large numbers of some species occur. The most spectacular example is seen in Sanderling. During the period November to March the figure is steady at just under 4,000, in April it rises somewhat but in mid-May there is a sudden, very sharp rise in numbers with 25,000 being a conservative estimate of the numbers present. A similar trend occurs in Ringed Plover and Dunlin though smaller numbers are involved. The importance of May has been commented on by several observers who continued counting in that month. A typical comment comes from Peter Davis who counted the Dyfi: "If I had ceased counting in April, I should have missed the spring peak in May; we had our biggest ever Dunlin score last week" (i.e. on the 15th). What he did not add was that there were 1,000 Ringed Plover and 60 Sanderling there as well!

Although we have not requested counts in May, so as not to clash with breeding season studies, I would like to encourage and welcome counts made during that month. If it is possible to make a count in mid-May it is probable that the species mentioned above (which winter in low numbers) will be found to be relatively abundant.

a) Scotland

A total of 26 estuarine and intertidal areas were counted by 62 observers. Most were counted by single individuals, some of whom even tackled areas the size and complexity of the Cromarty Firth and north Dornoch Firth, whilst there were only two counters on the Moray Firth. The two largest complexes, the Firth of Forth and the Firth of Clyde had large teams comprising 12 and 13 observers respectively. One individual covered three separate important areas in Wigtownshire.

The peak counts for the most important estuaries are presented in Table VIII. Obviously these numbers do not represent the true picture for all estuaries, especially the Cromarty, Dornoch and Moray Firths where observer numbers are limited.

The following five estuaries were not counted: Findhorn Bay, Montrose Basin, Firth of Tay, Eden Estuary and the north Solway. These will undoubtedly hold a large number of waders which were not counted but it is expected that increased coverage in these areas during the 1970/71 winter will provide a much more complete picture of the wader population of Scotland.

The September (autumn), January (winter) and peak counts are presented in Table IX. The peak number of most species occurs in autumn although Bar-tailed Godwit, Knot, Dunlin and Purple Sandpiper are most abundant in mid-winter.

Habitat and/or bird maps were received for the following eleven sites: Torreyburn and Kinghorn (Firth of Forth/Fife), Dee (Aberdeen/Kincardine), Don (Aberdeen), Longman Bay and Munlochy Bay (Inner Moray Firth), north Dornoch Firth (Sutherland), Deveron (Banff), Loch Linnhe (Argyll), Ayr shore and Doonmouth (Ayr).

TABLE VIII

The Principal Scottish Estuaries for Waders 1969/70

	<u>Peak Count</u>
Firth of Forth	31,574
Firth of Clyde	23,325
Wigtown Merse	8,359
Cromarty Firth	5,855
Ayr Shore	4,927
Moray Firth	4,510
Luce and Piltanton	3,998
Ythan	3,326
Loch Ryan	3,235
Dornoch Firth	2,434

TABLE IX.

Autumn, Winter and Peak Counts of Waders in Scotland 1969/70

	<u>September</u>	<u>January</u>	<u>Peak Count</u>	<u>Month of Peak</u>
Oystercatcher	11,459	10,128	11,459	September
Lapwing	1,107	1,282	7,496	October
Ringed Plover	1,483	287	1,483	September
Grey Plover	11	12	66	December
Golden Plover	2,285	1,448	3,640	October
Turnstone	699	601	1,051	November
Common Snipe	103	5	103	September
Jack Snipe	-	-	2	October
Curlew	5,547	1,329	5,547	September
Whimbrel	10	-	21	August
Black-tailed Godwit	6	1	30	December
Bar-tailed Godwit	542	407	1,039	December
Green Sandpiper	-	-	1	December
Common Sandpiper	12	-	12	September
Redshank	7,712	1,850	15,838	October
Spotted Redshank	12	-	21	October
Greenshank	20	6	28	August
Knot	2,572	6,124	8,571	December
Dunlin	3,495	11,669	11,669	January
Sanderling	78	35	78	September
Ruff	30	-	30	September
Little Stint	24	-	24	September
Curlew Sandpiper	56	-	56	September
Purple Sandpiper	20	31	164	February
TOTAL:	<u>37,293</u>	<u>35,215</u>	<u>68,439</u>	

b) Wales

Counts were made in 26 estuarine areas by 39 observers. Nearly all areas were small enough to be counted by one or two observers. However, teams of six counted the southern part of the Burry Inlet (Glam./Carm.) and five counted in Conway Bay (Caerns./Anglesey) whilst no fewer than 11 helped with the Taf/Towy/Gwendraeth complex in Carmarthenshire.

It was interesting to find that the peak counts of many wader species in Wales did not occur until mid or late winter, Table X. These species even included Oystercatcher which reached its peak in February, elsewhere the peak of this species almost invariably occurs in autumn. The existence of winter peaks indicates the potential importance of western parts of Britain (and perhaps especially of Ireland) as refuges for waders displaced by severe weather in the North Sea area.

The ten estuaries which were most important for waders in 1969/70 are presented in Table XI. Only two Welsh estuaries, the Burry Inlet and Conway Bay, supported a population of waders which exceeded 10,000. By far the largest concentration of waders, totalling over 60,000, occurs in Carmarthen Bay, where the Burry Inlet and the estuaries of the Taf, Towy and Gwendraeth form an estuarine complex.

Maps of habitat and/or bird distribution were received from the following seven areas: Swansea Bay and south Burry Inlet (Glam.), Sandyhaven Pill, Carew/Cresswell River and Angle Bay (Milford Haven, Pembs.) and Portmadoc Cob and Glaslyn/Dwyryd (Merioneth/Caerns.).

TABLE X  
Autumn, Winter and Peak Counts of Waders in Wales 1969/70

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Oystercatcher	16,456	29,656	34,429	February
Lapwing	4,219	6,367	6,367	January
Ringed Plover	1,057	1,099	2,488	August
Grey Plover	109	241	249	March
Golden Plover	242	765	850	October
Turnstone	1,014	555	1,014	September
Snipe	63	58	79	December
Jack Snipe	-	1	1	January
Curlew	6,560	3,047	8,179	August
Whimbrel	3	-	41	April
Black-tailed Godwit	264	2	459	August
Bar-tailed Godwit	540	1,118	1,118	January



TABLE X continued

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Green Sandpiper	1	-	4	November
Common Sandpiper	18	1	71	August
Redshank	5,254	1,943	5,254	September
Spotted Redshank	35	1	35	September
Greenshank	95	17	95	September
Knot	339	4,425	12,317	February
Dunlin	4,019	13,428	21,144	February
Sanderling	360	264	479	October
Ruff	4	-	4	September
Little Stint	7	-	7	September
Curlew Sandpiper	42	-	42	September
Purple Sandpiper	-	2	2	January
TOTAL:	<u>40,701</u>	<u>62,990</u>	<u>94,728</u>	

TABLE XI

The Principal Welsh Estuaries for Waders 1969/70

	<u>Peak Count</u>
Burry Inlet (Glam.)	44,210
Conway Bay (Caerns./Anglesey)	19,011
Milford Haven (Pembs.)	8,314
Towy (Carm.)	6,633
Taf (Carm.)	5,829
Swansea Bay (Glam.)	4,870
Taff (Glam.)	3,871
Afon Ceint (Anglesey)	2,398
Dyfi (Cards./Merioneth)	7,776

c) East England

A total of 26 estuarine and intertidal areas were counted by 119 observers. Although a large number of counters took part, there were still many gaps in Lincolnshire, Norfolk, Suffolk and Essex. It is expected that coverage in these areas will be greater in the 1970/71 counts. Most of the estuaries on the east coast of England are large and have very difficult access; they therefore need large well organised teams to count them. Luckily such teams were formed to count the Medway/Swale complex (Kent), the Humber (Yorks./Lincs.), and Teesmouth (Yorks./Durham). Smaller teams tackled Foulness (Essex), River Ore (Suffolk) and the Wash (Norfolk/Lincs.). This last area was far from adequately covered, with only two observers on the coast between Kings Lynn and Gibraltar Point. I am pleased to be able to report that in this current season a much larger team has been put into the field and has already obtained two complete counts, with further ones planned.

The peak count for the most important estuaries in eastern England are presented in Table XII. The comments about under-recording made above must be taken into account when assessing the importance of the individual figures. Further work will show (and in fact has shown) that there are more birds present than the counts of the pilot survey have shown. The only estuary not counted at all was Hamford Water (Essex).

The September, January and peak counts for each wader species are presented in Table XIII. Although the peak monthly total of all waders occurs in January, only Grey Plover, Bar-tailed Godwit and Dunlin have peak counts in mid-winter. As has been found in most other areas, the majority of wader species occur in maximum numbers during the autumn. The peak count of Knot was made in March with the numbers dropping sharply in April.

Habitat and/or bird maps were received from the following 12 areas: River Tweed, Washington Ponds and Whitburn coast (Northumberland), Teesmouth (Durham/Yorks.), Donna Nook and Goxhill Haven (Humber/Lincs.), east Wash (Norfolk), Breydon Water (Norfolk/Suffolk), Orford Haven and River Deben (Suffolk), River Stour (Suffolk/Essex), River Blackwater (Essex). In addition, a detailed account of the birds and habitat at Foulness (Essex) was published in 'British Birds'.

TABLE XII

The Principal Estuaries for Waders in Eastern England 1969/70

	<u>Peak Count</u>
Wash	65,539
Humber	35,365
Medway/Swale	26,653
Teesmouth	21,308
Foulness	14,938
Stour (Essex/Suffolk)	7,318
Thames, inner	7,003
Colne	6,206
Blackwater	6,081
Stour (Kent)	5,333
Breydon Water	4,327
Lindisfarne	3,682

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TABLE XIV (Page 19 refers)

The Principal Estuaries for Waders in Southern England 1969/70

	<u>Peak Count</u>
Langstone Harbour	23,698
Chichester Harbour	22,607
Poole Harbour	9,188
Pagham Harbour	6,957
Southampton Water	5,902
Sussex Coast	4,339
Beaulieu River	2,074
Newtown River	1,580
Christchurch Harbour	1,165

TABLE XIII

Autumn, Winter and Peak Counts of Waders in Eastern England 1969/70

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Oystercatcher	8,084	7,989	16,608	August
Lapwing	2,946	2,030	4,522	December
Ringed Plover	1,256	691	1,419	August
Grey Plover	1,068	783	2,882	December
Golden Plover	3,132	1,450	3,132	September
Turnstone	836	1,083	1,988	December
Common Snipe	404	252	686	October
Jack Snipe	2	19	19	January
Curlew	10,030	6,958	10,030	September
Whimbrel	165	-	599	August
Black-tailed Godwit	99	5	637	August
Bar-tailed Godwit	3,190	10,983	10,983	January
Green Sandpiper	34	-	66	August
Wood Sandpiper	5	-	16	August
Common Sandpiper	101	-	258	August
Redshank	7,315	7,064	9,698	October
Spotted Redshank	104	7	104	September
Greenshank	128	5	128	September
Knot	19,876	38,473	50,168	March
Dunlin	21,059	53,748	53,748	January
Sanderling	1,358	767	3,317	August
Ruff	133	-	133	September
Little Stint	66	-	66	September
Curlew Sandpiper	162	-	397	August
Purple Sandpiper	4	5	60	November
Avocet	154	3	154	September
TOTAL:	<u>81,711</u>	<u>132,315</u>	<u>171,818</u>	

d) South England

Counts were made on 13 estuarine areas by a total of 76 observers. Most of the estuaries in this area are complex and needed well co-ordinated teams to obtain useful results. Such teams were able to count Chichester, Langstone, Pagham and Poole Harbours and Southampton Water. The main problem encountered was the large number of islands on which considerable numbers of waders roosted at times. However, the coverage was so efficient that only a small percentage of birds was considered to be missed. Almost all suitable habitat on this part of the coast was covered and in addition a coastline count was carried out in Sussex during November. This revealed a considerable number of waders, especially Sanderling, which would have been missed if all the emphasis had been placed in estuaries. It can be seen from Table XIV (see page 17) that this count revealed the sixth highest figure of waders in southern England.

The autumn, winter and peak counts are presented in Table XV. The figures show that considerable populations of Grey Plover and Black-tailed Godwit are present in autumn and that Dunlin form over 60% of the wader population in the winter. Knot are quite scarce; in no month does the total exceed 1,000.

Maps were received for the Test (Southampton Water, Hants.) and Langstone Harbour (Hants.). Further studies are being carried out on Southampton Water and will be available soon.

TABLE XV

Autumn, Winter and Peak Counts of Waders in Southern England 1969/70

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Oystercatcher	2,426	1,243	2,426	September
Lapwing	1,206	2,791	4,353	November
Ringed Plover	1,238	370	1,329	November
Grey Plover	1,861	810	1,861	September
Golden Plover	60	541	541	January
Turnstone	547	320	575	November
Common Snipe	52	202	530	November
Jack Snipe	-	2	7	December
Curlew	3,305	871	3,305	September
Whimbrel	52	-	283	August
Black-tailed Godwit	1,095	129	1,575	October
Bar-tailed Godwit	1,134	218	1,134	September
Green Sandpiper	6	4	15	August
Wood Sandpiper	1	-	8	August
Common Sandpiper	40	-	126	August
Redshank	7,303	1,001	7,303	September
Spotted Redshank	92	7	92	September
Greenshank	211	3	211	September
Knot	114	597	840	February
Dunlin	3,515	16,220	29,687	December
Sanderling	112	5	745	November
Ruff	6	75	93	November
Little Stint	8	-	8	September
Curlew Sandpiper	85	-	85	September
Purple Sandpiper	-	-	46	November
Avocet	-	13	13	January
TOTAL:	<u>24,469</u>	<u>25,422</u>	<u>57,201</u>	

e) Southwest England

In the southwest of England 49 observers counted a total of 17 estuarine areas. On most of the estuaries there were only one, two or three counters, although on the Somerset/Gloucestershire side of the Severn no fewer than 26 observers took part in the counts.

Devon and Cornwall have a complicated series of drowned river valleys which, while providing some excellent estuarine habitat, makes access to all parts of the estuary very difficult. For this reason, not because of lack of observers, the coverage has been only moderate. It is known that regular haunts of Black-tailed Godwit for example, were not visited and figures given here, Tables XVI and XVII are considerable underestimates of the numbers present.

Five habitat/bird maps were received from the following areas: Clevedon and Sharpness (Severn), Hayle (Cornwall), Tamar (Devon/Cornwall) and Plym (Devon).

TABLE XVI

The Principal Estuaries for Waders in Southwest England 1969/70

	<u>Peak Count</u>
Severn (Somerset/Glouc.)	35,338
Exe (Devon)	25,638
Bridgwater Bay (Somerset)	14,938
Camel (Cornwall)	7,809
Hayle (Cornwall)	7,454
Plym (Devon)	5,471
Tow/Torridge (Devon)	3,219
Tamar (Devon/Cornwall)	2,274
Teign (Devon)	1,343
Axe (Devon)	1,099

TABLE XVII

Autumn, Winter and Peak Counts of Waders in Southwest England 1969/70

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Oystercatcher	2,934	2,580	2,934	September
Lapwing	745	14,239	14,239	January
Ringed Plover	932	603	953	August
Grey Plover	48	282	282	January
Golden Plover	46	2,523	7,202	February
Turnstone	620	610	1,046	August
Snipe	10	121	199	December
Jack Snipe	-	11	11	January
Curlew	3,368	2,315	4,261	August
Whimbrel	5	-	173	August
Black-tailed Godwit	388	834	1,066	August
Bar-tailed Godwit	223	878	892	February
Green Sandpiper	5	7	8	November
Wood Sandpiper	-	-	1	August
Common Sandpiper	17	8	69	August
Redshank	1,648	1,892	1,974	November
Spotted Redshank	24	3	24	September
Greenshank	141	14	141	September
Knot	128	1,855	1,855	January
Dunlin	3,361	38,279	38,279	January
Sanderling	35	84	298	November
Ruff	6	46	56	March
Little Stint	25	-	25	September
Curlew Sandpiper	152	-	152	September
Purple Sandpiper	-	2	5	February
Avocet	-	73	73	January
TOTAL:	14,861	67,259	76,218	



f) North Irish Sea

All the 8 estuaries in this area were counted, most to a high standard. The four large complex areas of Morecambe Bay, Dee, Solway and the Ribble were counted by well co-ordinated teams of 10, 14, 15 and 8 respectively. A total of 67 observers helped in this area.

The peak count of each estuary is given in Table XVIII. The numbers present are very large. Those present in September and January and the peak numbers of each wader species are presented in Table XIX.

Most wader species occur in very large numbers and reach their peak numbers in autumn although Bar-tailed Godwit and Dunlin show a mid-winter peak. Grey Plover, Turnstone and Sanderling show a peak in April or May.

Habitat and/or bird maps were received for only the Solway, the Ribble and Point of Air (Dee). In addition, a detailed Water Resources Board/Nature Conservancy study has been made of Morecambe Bay.

Although the counting was generally of high standard, few data were collected for the Mersey and the numbers presented in Table XVIII probably do not represent the numbers present in that area.

TABLE XVIII

Wader Counts on the Estuaries of North Irish Sea 1969/70

	<u>Peak Count</u>
Morecambe Bay (Lancs.)	224,527
Dee (Cheshire/Flints.)	147,944
Solway (Cumberland)	75,833
Ribble (Lancs.)	72,708
Duddon (Lancs./Cumb.)	17,942
Esk (Cumberland)	9,531
Alt (Lancs.)	7,064
Mersey (Lancs./Cheshire)	1,465

TABLE XIX

Autumn, Winter and Peak Counts of Waders in North Irish Sea 1969/70

	<u>September</u>	<u>January</u>	<u>Peak</u>	<u>Month of Peak</u>
Oystercatcher	68,959	47,277	68,959	September
Lapwing	7,391	925	7,391	September
Ringed Plover	5,169	1,036	5,169	September
Grey Plover	219	247	508	April
Golden Plover	5,109	1,701	7,468	October
Turnstone	1,822	1,785	2,356	April
Common Snipe	63	15	145	October
Curlew	17,722	7,054	21,367	October
Whimbrel	16	-	29	August
Black-tailed Godwit	219	412	812	December
Bar-tailed Godwit	9,691	14,786	15,785	February
Green Sandpiper	2	1	2	September
Redshank	16,913	5,563	17,870	October
Spotted Redshank	22	-	22	September
Greenshank	63	-	209	October
Knot	121,018	108,142	145,756	October
Dunlin	19,916	72,660	74,290	February
Sanderling	5,944	2,355	(20,000)	May
Ruff	48	-	48	September
Little Stint	42	-	42	September
Curlew Sandpiper	138	-	138	September
Purple Sandpiper	1	50	83	February
 TOTAL:	 280,487	 264,009	 388,449	

g) Ireland

Fourteen observers helped to count nine estuarine areas; six counters tackled four estuaries in the Republic, whilst eight counted five in Northern Ireland. In addition figures were received from Strangford Lough, by courtesy of the National Trust, and these were submitted by no fewer than 25 helpers.

In the Republic of Ireland we are co-operating with the Irish Wildbird Conservancy and are attempting to increase the coverage. However, even a conservative estimate indicates that there must be of the order of ten estuaries or bays to every one birdwatcher. Most of these areas are many miles from any field ornithologist able to help and can not therefore be counted. However, counts are being made at some of the more important areas such as the Dublin estuaries, Wexford Harbour and Cork Harbour. It is hoped that, although detailed total figures may never be obtained, a reasonably accurate picture will be built up in the next few years through a reasonable coverage of the more important areas together with estimates of the many other sites.

A summary of the estuaries of Northern Ireland is at the moment being produced by the local ornithologists. This report will be dealing with the relative importance of each of the main sites and will give details for the counts undertaken. I will not therefore include here any of the data received but will be able to compare it with this important report when it is finished.

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GULLS AND TERNS

Estuaries form an important habitat for gulls, being used as feeding grounds and especially as roosting areas. They roost on the mud or sand banks at low water or on the water itself at high tide. With the very large numbers coming in during the hour or so before dusk, it becomes very difficult to count accurately and, at times, specify them. To overcome this problem it was decided that an estimate could be made on a scale A-F, see Table XX for the definition of this scale which allowed for the degree of uncertainty which occurs in many areas.

TABLE XX

The Scale of Abundance used to Estimate Gull Numbers

A	1	-	10
B	10	-	100
C	100	-	1000
D	1000	-	10000
E	10000	-	100000
F	100000	+	

The introduction of categories of abundance unfortunately meant that, especially with the higher numbers, it became impossible to summate two or more estimates. An example makes this clear; if from two sites within the same estuary the categories D and E were recorded, the numerical total could lie anywhere from 12,000 to 107,000 individuals which is a difference of almost 900%! For this reason, I could not obtain population levels although it was still easy to discover some of the more important concentrations of gulls. I will therefore only briefly summarise these concentrations.

The Black-headed Gull was generally reported as the most numerous species with concentrations of over 10,000 being reported from Beaulieu River (Hants; breeding colony), Breydon Water (Norfolk/Suffolk), Camel (Cornwall), Colne (Essex), Foulness, Humber, Langstone Harbour, Lindisfarne (Northumberland), Morecambe Bay, Teesmouth and the Wash. The Common Gull, unlike the previous species which has a wide geographical spread of abundance, was primarily recorded from the coast of eastern England, with Foulness (F), Humber (7,500), Lindisfarne (E), Teesmouth (4,000) and the Tweed (D) reporting high figures. Elsewhere only Morecambe Bay (E) and Langstone Harbour (D) recorded peaks in this range.

Somewhat surprisingly, relatively few Herring Gulls were found, although several estuaries recorded this species in category D, only Bridgwater Bay (E) and Morecambe Bay (F) had high concentrations. The figures for the latter are influenced by a very large breeding colony in the vicinity. By the same token Lesser Black-backed Gulls reached 100,000+ in Morecambe Bay during the autumn. Elsewhere very few of this species were recorded between November and February and only small numbers of passage migrants at other times.

Six estuaries recorded more than 1,000 Great Black-backed Gulls, with 3201 being counted both in the Wash and at Teesmouth, 2500 in the Humber and 1000+ in the Firth of Forth, Morecambe Bay and the Stour (Kent). Small numbers of the rarer gulls were also found. Peaks of 13 Little Gulls were counted in Swansea Bay (Glam.), 3 Glaucous Gulls at Teesmouth and single Iceland Gulls at Washington Ponds (Northumberland) and at Teesmouth.

Relatively small numbers of terns were recorded, the two largest concentrations being 2554 Sandwich Tern on the Wash and 1000 Common/Arctic Tern on the Dee (Cheshire/Flints.) in September. Of the other tern species, peaks of 17 Roseate Tern were found on Irvine Flats (Ayr), 76 Little Tern on the Wash and 22 Black Tern on the Burry Inlet. The only rare tern, a White-winged Black Ter, was seen on Washington Ponds which are freshwater ponds close to the coast.

Anthony J. Prater

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