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Waders and wildfowl on the Ythan Estuary 2001/2002

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WADERS AND WILDFOWL ON THE YTHAN ESTUARY 2001/2002

A REPORT TO SNH

I J Patterson and A.W. Thorpe

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SUMMARY

Counts of waders and wildfowl on the Ythan estuary were made from 9 July 2001 to 25 June 2002, continuing the monitoring which was started in 1989/90 and using the same method, a systematic survey from the estuary mouth to Logie Buchan bridge (Appendix 1). Fortnightly counts and the distribution of birds over the estuary are shown in detail for each species.

The highest monthly mean count of Eiders in spring increased from 3,038 in 2000/01 to 3,216 in 2001/02, while the peak monthly mean total of other species decreased slightly, from 10,347 to 10,121.

The overall mean total of birds other than Eiders over the whole autumn and winter (August to February) decreased from 6,159 in 2000/01 to 5,626 in 2001/02.

Six of the eight common wildfowl species and five of the 10 common wader species decreased their peak numbers from 2000/01 to 2001/02. Median winter counts suggested that more species had decreased than had increased. The increase in bird numbers that followed the low coverage of *Enteromorpha* in 1996 seems to have reached a peak in 2000 and to have continued to decline in the two following years.

A number of species less commonly seen on the Ythan were again recorded systematically in 2001/02; their occurrence and numbers are tabulated.

WADERS AND WILDFOWL ON THE

YTHAN ESTUARY 2001/2002

A REPORT TO SNH

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INTRODUCTION

The wader and wildfowl counts in this report are a direct continuation of the series started in 1989/90, with the same objective of monitoring the bird populations of the Ythan estuary by means of twice-monthly surveys of numbers and distribution. The counts were carried out from 9 July 2001 to 25 June 2002, using the same methods as in previous years (Patterson and Thorpe 2001; Appendix 1). Since the field surveys in 2001/02 were again carried out by a specialist ornithologist, it was possible to include counts of species which occur less commonly on the Ythan.

RESULTS

a) Individual species

As in previous reports, the data are presented in separate species accounts, arranged in taxonomic order. For each species, a table shows the number of birds found in each section of the estuary from the mouth upstream (ie, Mouth, Inches, Quay, Tarty, Sleek, Haddo, Snub, Machar, and Logie), as defined in Figure 1, and the total on the whole estuary on each count date. Information which is not obvious from the data tables is appended and peak numbers are compared with those in the previous year. Only the commoner species, which were included in previous reports, are dealt with in this section; the species recorded less commonly during the year are tabulated in section d).

CORMORANT Phalacrocorax carbo

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	1	0	0	2	6	0	0	0	9
25	7	2001	0	1	0	0	2	16	0	0	0	19
9	8	2001	0	0	2	0	4	54	0	0	0	60
24	8	2001	0	1	1	0	11	17	0	0	0	30
6	9	2001	9	1	0	0	14	0	23	0	0	47
29	9	2001	0	14	0	0	10	6	0	0	2	32
4	10	2001	3	5	7	0	6	0	0	0	0	21
31	10	2001	9	27	0	0	1	0	0	0	0	37
14	11	2001	2	13	5	0	9	6	0	3	0	38
23	11	2001	1	6	5	0	1	0	0	1	2	16
7	12	2001	1	1	1	1	14	0	1	0	0	19
19	12	2001	5	2	3	0	7	0	2	0	0	19
5	1	2002	0	4	1	0	3	3	0	2	0	13
22	1	2002	3	1	0	0	0	1	0	2	0	7
6	2	2002	0	0	1	0	1	1	1	0	0	4
14	2	2002	0	4	1	0	3	0	2	1	0	11
4	3	2002	0	2	0	0	4	0	1	0	0	7
28	3	2002	0	4	1	0	12	4	0	2	0	23
8	4	2002	0	1	0	0	14	1	0	0	0	16
26	4	2002	1	7	3	0	16	8	3	1	0	39
8	5	2002	7	5	1	0	5	5	0	0	0	23
27	5	2002	4	5	1	0	15	3	0	1	1	30
16	6	2002	0	1	1	0	24	0	3	1	0	30
25	6	2002	0	1	0	0	0	5	0	0	0	6

Peak; 60: (2000/2001 peak; 40)

HERON Ardea cinerea

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	1	7	1	5	11	0	1	0	0	26
25	7	2001	1	14	3	0	13	2	6	0	1	40
9	8	2001	0	0	2	3	17	0	2	0	0	24
24	8	2001	1	12	9	0	6	0	0	0	0	28
6	9	2001	0	6	0	5	5	0	2	1	0	19
29	9	2001	1	8	2	1	2	0	0	0	2	16
4	10	2001	0	12	1	2	8	0	0	1	0	24
31	10	2001	0	4	0	0	1	1	0	0	0	6
14	11	2001	3	5	0	1	1	1	1	1	0	13
23	11	2001	2	2	0	0	1	0	0	0	0	5
7	12	2001	0	2	0	1	0	0	0	0	0	3
19	12	2001	0	1	1	0	1	0	0	1	0	4
5	1	2002	0	4	1	0	2	3	0	0	0	10
6	2	2002	0	1	0	1	0	0	0	0	0	2
14	2	2002	0	2	0	0	0	0	0	0	0	2
4	3	2002	1	1	0	0	2	0	0	0	0	4
28	3	2002	0	1	0	0	3	0	0	0	0	4
8	4	2002	1	1	0	0	1	1	0	0	0	4
26	4	2002	0	1	0	0	3	0	0	0	0	4
8	5	2002	0	3	0	0	7	1	0	0	0	11
27	5	2002	1	9	1	1	2	1	0	1	1	17
16	6	2002	0	2	2	0	6	0	4	0	0	14
25	6	2002	2	10	14	3	20	0	7	0	1	57

Peak; 57: (2000/2001 peak; 52)

MUTE SWAN Cygnus olor

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	2	0	3	14	0	0	19
25	7	2001	0	0	0	0	4	6	0	0	2	12
9	8	2001	0	0	0	0	2	6	0	0	0	8
24	8	2001	0	0	0	0	1	0	0	0	0	1
6	9	2001	0	0	0	0	0	0	3	0	0	3
29	9	2001	0	0	11	2	4	3	0	0	0	20
4	10	2001	5	0	6	0	6	0	0	0	0	17
31	10	2001	1	0	0	2	24	3	2	0	0	32
14	11	2001	1	0	5	2	14	9	4	0	0	35
23	11	2001	1	0	2	0	24	0	3	0	0	30
7	12	2001	2	0	0	1	26	0	0	0	0	29
19	12	2001	3	0	0	2	19	0	0	0	0	24
5	1	2002	0	2	2	3	14	2	2	0	0	25
22	1	2002	0	3	0	1	6	1	0	0	0	11
6	2	2002	0	2	2	0	3	0	0	0	0	7
14	2	2002	3	0	0	0	5	1	0	0	0	9
4	3	2002	0	2	0	0	2	12	0	0	0	16
28	3	2002	0	2	0	0	1	2	0	0	0	5
8	4	2002	0	0	2	0	2	0	0	0	0	4
26	4	2002	0	2	0	0	2	2	0	0	0	6
8	5	2002	0	2	0	2	7	5	2	0	0	18
27	5	2002	0	2	0	0	0	14	0	3	0	19
16	6	2002	0	0	0	2	11	3	0	0	0	16
25	6	2002	0	1	0	0	7	1	2	0	0	11

Peak; 35: (2000/2001 peak; 78)

SHELDUCK Tadorna tadorna

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	1	0	0	13	28	8	3	0	53
25	7	2001	0	0	0	18	52	10	4	0	1	85
9	8	2001	0	0	0	0	35	3	6	1	0	45
24	8	2001	0	0	0	2	10	4	0	0	0	16
6	9	2001	0	0	0	0	3	6	0	0	0	9
29	9	2001	0	0	0	0	1	1	0	0	0	2
4	10	2001	0	0	0	0	0	1	0	0	0	1
31	10	2001	0	0	0	0	3	0	0	0	0	3
14	11	2001	0	0	0	0	3	0	0	0	0	3
23	11	2001	0	0	0	0	4	0	0	0	0	4
7	12	2001	0	0	0	0	21	0	0	0	0	21
19	12	2001	0	0	0	3	32	0	0	0	0	35
5	1	2002	0	0	0	0	57	0	0	0	0	57
22	1	2002	3	0	0	7	59	0	3	0	0	72
6	2	2002	1	3	3	0	49	0	2	7	0	65
14	2	2002	0	2	9	2	79	20	0	0	0	112
4	3	2002	2	11	4	7	67	20	4	2	0	117
28	3	2002	2	11	6	2	45	51	8	0	0	125
8	4	2002	0	2	0	8	8	16	24	1	0	59
26	4	2002	2	3	3	7	28	39	0	0	2	84
8	5	2002	0	10	7	9	45	63	10	1	1	146
27	5	2002	2	7	5	10	42	35	8	2	1	112
16	6	2002	0	0	4	6	45	73	16	2	0	146
25	6	2002	0	6	3	3	32	83	10	0	0	137

Peak; 146: (2000/2001 peak; 155)

WIGEON Anas penelope

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	0	0	5	0	0	2	7
6	9	2001	0	0	0	0	0	0	51	2	0	53
29	9	2001	31	206	0	0	50	0	0	0	0	287
4	10	2001	6	83	30	0	197	0	0	0	0	316
31	10	2001	53	92	100	0	78	0	0	0	0	323
14	11	2001	85	61	186	0	196	0	0	0	0	528
23	11	2001	261	149	90	0	60	0	0	0	0	560
7	12	2001	155	94	130	0	330	0	0	0	0	709
19	12	2001	116	77	225	0	285	0	0	0	0	703
5	1	2002	75	162	132	0	70	0	0	0	0	439
22	1	2002	67	104	229	0	188	0	0	0	0	588
6	2	2002	43	45	14	0	180	0	0	0	0	282
14	2	2002	35	62	89	0	78	0	0	0	0	264
4	3	2002	14	71	72	0	71	0	0	0	0	228
28	3	2002	0	4	0	0	77	0	1	0	0	82
8	4	2002	0	8	8	0	8	6	0	0	0	30
26	4	2002	0	0	0	0	1	0	0	0	0	1
8	5	2002	0	4	2	0	0	0	0	0	0	6
27	5	2002	0	0	0	0	0	1	0	0	0	1
16	6	2002	0	0	0	0	0	3	0	0	0	3
25	6	2002	0	0	0	0	6	3	0	0	0	9

Peak; 709: (2000/2001 peak; 1,247)

TEAL Anas crecca

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	0	0	0	2	0	0	0	2
6	9	2001	0	0	0	0	0	0	0	3	0	3
29	9	2001	3	0	0	0	0	0	0	0	0	3
14	11	2001	0	0	0	0	0	0	0	0	2	2
5	1	2002	0	0	0	0	0	0	7	0	0	7
6	2	2002	0	0	0	0	0	0	0	0	2	2
14	2	2002	0	0	0	0	0	0	0	13	0	13
4	3	2002	0	0	0	0	0	0	0	29	0	29
28	3	2002	0	0	0	0	0	2	2	0	2	6
8	4	2002	0	0	0	0	0	0	1	1	0	2
26	4	2002	0	0	0	0	0	0	0	0	2	2

Peak; 29: (2000/2001 peak; 18)

MALLARD Anas platyrhynchos

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	0	0	5	2	2	6	15
25	7	2001	0	0	0	0	0	4	0	0	9	13
9	8	2001	0	5	0	0	4	2	0	0	0	11
24	8	2001	0	0	0	0	0	4	5	0	0	9
6	9	2001	0	0	0	0	0	6	0	0	3	9
29	9	2001	0	0	0	0	8	0	0	0	0	8
4	10	2001	0	0	0	0	5	0	0	0	0	5
14	11	2001	0	0	0	0	12	0	0	0	0	12
23	11	2001	0	0	9	0	2	0	0	0	0	11
7	12	2001	0	0	4	0	0	0	0	0	0	4
5	1	2002	0	12	2	0	1	0	0	2	0	17
22	1	2002	0	13	0	0	0	0	0	3	0	16
6	2	2002	0	0	0	0	0	0	0	4	4	8
14	2	2002	0	13	7	0	0	3	0	0	0	23
4	3	2002	2	0	0	0	2	0	0	0	0	4
28	3	2002	0	4	1	0	8	2	3	0	0	18
8	4	2002	1	4	0	0	6	3	2	0	0	16
26	4	2002	0	1	0	0	2	4	2	0	0	9
8	5	2002	0	2	0	0	5	2	6	0	0	15
27	5	2002	0	0	0	0	0	15	0	0	0	15
16	6	2002	0	6	0	0	0	19	0	0	0	25
25	6	2002	0	9	0	0	0	30	0	0	0	39

Peak; 39: (2000/2001 peak; 87)

EIDER Somateria mollissima

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	2209	175	63	0	2	0	0	0	0	2449
25	7	2001	1473	3	26	0	12	0	0	0	0	1514
9	8	2001	1474	0	20	0	0	0	0	0	0	1494
28	8	2001	600	48	0	0	0	0	0	0	0	648
7	9	2001	1726	0	13	0	0	0	0	0	0	1739
28	9	2001	3225	3	60	0	7	0	0	0	0	3295
19	10	2001	629	648	147	0	11	0	0	0	0	1435
10	11	2001	14	514	353	0	0	0	0	0	0	881
27	11	2001	12	915	0	0	0	0	0	0	0	927
14	12	2001	0	113	603	0	0	0	0	0	0	716
29	12	2001	0	0	889	0	56	0	0	0	0	945
9	1	2002	0	111	552	0	6	0	0	0	0	669
25	1	2002	13	210	382	0	6	0	0	0	0	611
6	2	2002	50	453	42	13	0	0	0	0	0	558
24	2	2002	15	30	385	0	18	0	0	0	0	448
9	3	2002	345	116	209	0	28	0	0	0	0	698
27	3	2002	219	0	239	0	79	0	0	0	0	537
9	4	2002	345	116	209	0	28	0	0	0	0	698
25	4	2002	1220	416	10	3	13	0	0	0	0	1662
2	5	2002	1271	1782	214	8	78	12	0	0	0	3365
9	5	2002	1035	1461	165	8	73	0	0	0	0	2742
16	5	2002	1068	2089	193	54	9	0	0	0	0	3413
22	5	2002	1418	1763	161	44	0	0	0	0	0	3386
29	5	2002	1311	1647	172	43	2	0	0	0	0	3175
5	6	2002	1623	473	42	0	14	0	0	0	0	2152
12	6	2002	1052	352	87	15	0	0	0	0	0	1506
26	6	2002	1098	324	23	8	0	2	0	0	0	1455

Peak; 3,413: (2000/2001 peak; 3,585)

GOLDENEYE Bucephala clangula

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	2	0	0	0	0	0	0	0	2
24	8	2001	0	0	2	0	0	0	0	0	0	2
6	9	2001	0	0	0	0	0	0	0	0	4	4
4	10	2001	0	0	0	0	7	0	0	0	0	7
31	10	2001	0	0	1	0	0	0	0	0	0	1
14	11	2001	4	0	6	0	7	0	0	1	0	18
23	11	2001	0	2	9	0	0	0	0	2	3	16
7	12	2001	9	2	0	0	1	0	3	0	2	17
19	12	2001	1	4	4	0	4	0	2	0	0	15
5	1	2002	1	4	12	0	1	1	0	1	0	20
22	1	2002	3	1	3	0	0	1	0	0	0	8
6	2	2002	3	3	1	0	0	0	0	0	0	7
14	2	2002	4	7	7	0	5	0	0	1	1	25
4	3	2002	3	3	2	0	6	0	2	2	1	19
28	3	2002	0	0	1	0	3	5	0	0	1	10
8	4	2002	0	0	11	0	3	2	0	0	0	16
26	4	2002	1	0	0	0	0	0	0	0	0	1
8	5	2002	0	0	1	0	2	0	0	0	0	3

Peak; 25: (2000/2001 peak; 63)

RED-BREASTED MERGANSER Mergus serrator

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
29	9	2001	3	4	2	0	0	0	0	0	0	9
4	10	2001	3	1	12	0	0	0	0	0	0	16
31	10	2001	5	5	1	0	3	0	0	0	0	14
14	11	2001	3	13	3	0	4	0	0	0	0	23
23	11	2001	11	15	4	0	0	0	0	0	0	30
7	12	2001	7	9	3	0	0	0	0	0	0	19
19	12	2001	12	7	6	0	6	0	0	0	0	31
5	1	2002	0	11	6	0	1	0	0	0	0	18
22	1	2002	7	8	5	0	0	0	0	0	0	20
6	2	2002	5	8	3	0	0	0	0	0	0	16
14	2	2002	7	9	6	0	0	0	0	0	0	22
4	3	2002	0	6	5	0	3	1	0	0	0	15
28	3	2002	2	2	1	0	3	0	0	0	0	8
8	4	2002	6	0	7	0	0	0	0	0	0	13
26	4	2002	1	2	0	0	0	0	0	0	0	3
16	6	2002	1	0	0	0	0	0	0	0	0	1

Peak; 31: (2000/2001 peak; 35)

OYSTERCATCHER Haematopus ostralegus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	51	136	16	2	40	19	3	3	0	270
25	7	2001	98	134	11	2	30	9	0	0	0	284
9	8	2001	205	159	20	10	21	2	0	0	0	417
24	8	2001	285	183	32	1	17	0	0	0	0	518
6	9	2001	343	117	28	0	14	5	0	0	0	507
29	9	2001	292	169	19	0	14	2	0	0	0	496
4	10	2001	154	117	16	2	5	2	0	0	0	296
31	10	2001	181	122	14	0	22	2	0	0	0	341
14	11	2001	216	132	28	0	17	3	0	0	0	396
23	11	2001	190	151	27	0	19	5	0	1	0	393
7	12	2001	172	155	42	4	14	0	2	0	0	389
19	12	2001	192	95	18	0	4	2	0	11	0	322
5	1	2002	90	93	43	1	23	0	3	0	0	253
22	1	2002	176	136	27	0	17	7	0	3	0	366
6	2	2002	124	125	10	0	10	0	0	0	0	269
14	2	2002	167	97	26	2	22	2	2	0	0	318
4	3	2002	69	45	21	2	34	29	18	26	0	244
28	3	2002	60	45	4	1	26	0	61	4	0	201
8	4	2002	22	59	8	1	23	2	3	0	0	118
26	4	2002	46	42	9	3	21	7	0	0	0	128
8	5	2002	38	49	7	2	11	2	3	0	0	112
27	5	2002	41	45	6	1	16	2	5	0	0	116
16	6	2002	29	71	2	13	11	9	0	0	0	135
25	6	2002	77	68	12	3	35	6	1	10	0	212

Peak; 518: (2000/2001 peak; 577)

RINGED PLOVER Charadrius hiaticula

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	1	0	0	0	0	0	0	0	1
25	7	2001	0	24	0	0	0	0	0	0	0	24
9	8	2001	30	18	0	0	0	0	0	0	0	48
24	8	2001	0	31	6	0	37	0	0	0	0	74
6	9	2001	0	14	0	0	0	0	0	0	0	14
29	9	2001	4	0	0	0	0	0	0	0	0	4
4	10	2001	11	15	7	0	0	0	0	0	0	33
31	10	2001	0	2	0	14	0	0	0	0	0	16
14	11	2001	0	0	0	12	0	0	0	0	0	12
23	11	2001	0	0	0	0	3	0	0	0	0	3
7	12	2001	0	0	0	7	0	0	0	0	0	7
19	12	2001	0	0	0	1	0	0	0	0	0	1
5	1	2002	0	0	0	4	0	0	0	0	0	4
22	1	2002	2	0	0	0	0	0	0	0	0	2
6	2	2002	0	0	0	3	5	0	0	0	0	8
4	3	2002	0	0	0	0	0	4	0	0	0	4
28	3	2002	0	0	0	0	6	0	0	0	0	6
8	4	2002	0	11	0	0	9	0	0	0	0	20
26	4	2002	0	22	14	0	0	0	0	0	0	36
8	5	2002	0	10	10	0	0	0	0	0	0	20
27	5	2002	0	53	12	0	0	3	0	0	0	68
25	6	2002	0	3	0	0	0	0	0	0	0	3

Peak; 74: (2000/2001 peak; 62)

GOLDEN PLOVER Pluvialis apricaria

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	10	13	0	0	0	0	0	0	23
25	7	2001	0	0	0	0	54	0	50	0	0	104
9	8	2001	0	2	0	0	0	0	0	0	0	2
24	8	2001	0	383	0	0	790	210	0	0	0	1383
6	9	2001	0	63	183	800	0	0	140	0	0	1186
29	9	2001	0	0	0	0	2500	0	0	0	0	2500
4	10	2001	-	-	-	-	-	-	-	-	-	4000
31	10	2001	0	4	1000	0	0	0	0	0	0	1004
14	11	2001	0	122	60	0	0	0	1050	0	0	1232
23	11	2001	0	750	0	0	0	0	0	0	0	750
7	12	2001	0	880	0	0	0	500	0	0	0	1380
19	12	2001	0	40	0	0	0	10	0	0	0	50
5	1	2002	0	115	0	0	0	0	0	0	0	115
22	1	2002	0	214	0	0	0	0	0	0	0	214
6	2	2002	0	50	0	0	0	0	0	0	0	50
14	2	2002	0	355	0	0	0	0	0	0	0	355
28	3	2002	0	0	0	0	0	0	64	0	0	64
8	4	2002	0	0	0	0	0	0	6	0	0	6

Peak; 4,000: (2000/2001 peak; 6,036)

On 4 October, the birds were continually disturbed by a Peregrine and only an estimate of the total number on the whole estuary could be made.

LAPWING Vanellus vanellus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	14	72	0	31	251	96	19	9	492
25	7	2001	0	8	5	16	142	404	205	18	2	800
9	8	2001	0	8	19	2	75	180	140	15	1	440
24	8	2001	0	114	419	600	0	1830	300	20	39	3322
6	9	2001	0	0	0	2000	2000	2000	0	0	0	6000
29	9	2001	0	730	1073	10	2537	760	27	200	0	5337
4	10	2001	-	-	-	-	-	-	-	-	-	3000
31	10	2001	0	145	380	0	220	0	0	0	0	745
14	11	2001	0	260	400	100	230	1150	400	60	0	2600
23	11	2001	0	786	430	0	0	700	200	0	0	2116
7	12	2001	0	300	600	0	100	900	0	0	0	1900
19	12	2001	0	100	150	0	0	0	0	0	0	250
5	1	2002	0	15	20	0	3	61	0	0	0	99
22	1	2002	0	132	90	40	240	800	250	0	0	1552
6	2	2002	0	45	6	0	17	210	0	0	0	278
14	2	2002	0	0	12	6	76	440	10	0	0	544
4	3	2002	0	2	2	3	106	170	210	0	0	493
28	3	2002	0	0	2	0	6	21	22	0	0	51
8	4	2002	0	0	0	0	0	0	2	0	0	2
26	4	2002	0	0	0	0	0	0	0	2	0	2
8	5	2002	0	0	0	0	3	4	12	0	0	19
16	6	2002	0	0	0	0	6	7	4	2	4	23
25	6	2002	0	2	15	0	74	124	36	32	35	318

Peak; 6,000: (2000/2001 peak; 6,130)

On 4 October, the birds were continually disturbed by a Peregrine and only an estimate of the total number on the whole estuary could be made.

KNOT Calidris canutus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	7	0	0	125	0	0	0	0	132
9	8	2001	0	2	0	0	0	100	0	0	0	102
24	8	2001	14	0	0	0	17	0	0	0	0	31
6	9	2001	67	0	5	0	0	0	0	0	0	72
29	9	2001	0	0	0	0	65	0	0	0	0	65
4	10	2001	0	0	0	0	59	0	0	0	0	59
31	10	2001	15	76	0	0	0	0	0	0	0	91
14	11	2001	0	137	0	0	0	0	0	0	0	137
23	11	2001	0	70	21	0	0	0	0	0	0	91
7	12	2001	20	20	70	0	0	0	0	0	0	110
19	12	2001	0	0	80	0	0	0	0	0	0	80
5	1	2002	45	80	0	0	0	0	0	0	0	125
22	1	2002	0	30	0	0	0	0	0	0	0	30
6	2	2002	0	87	0	3	0	0	0	0	0	90
14	2	2002	0	77	0	0	0	0	0	0	0	77
4	3	2002	0	0	0	0	76	0	0	0	0	76
8	4	2002	0	0	0	0	0	6	35	0	0	41
26	4	2002	0	31	0	0	0	0	0	0	0	31
8	5	2002	0	5	0	0	0	0	0	0	0	5
27	5	2002	0	0	0	1	0	1	0	0	0	2

Peak; 137: (2000/2001 peak; 211)

DUNLIN Calidris alpina

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	4	0	0	9	25	40	40	9	127
9	8	2001	0	2	0	0	0	40	3	24	23	92
24	8	2001	0	0	0	0	96	86	0	0	0	182
6	9	2001	1	0	0	0	0	100	0	76	18	195
29	9	2001	0	0	0	0	2	0	150	0	0	152
4	10	2001	6	4	2	0	0	12	56	450	0	530
31	10	2001	0	99	10	0	0	235	0	20	0	364
14	11	2001	1	0	0	0	0	300	280	0	0	581
23	11	2001	0	0	53	0	15	270	0	0	0	338
7	12	2001	0	20	60	2	0	120	0	0	0	202
19	12	2001	0	20	0	51	225	50	0	0	0	346
5	1	2002	0	29	12	2	3	0	670	0	0	716
22	1	2002	220	20	280	0	0	0	110	0	0	630
6	2	2002	0	24	370	45	0	0	0	0	0	439
14	2	2002	0	191	0	0	108	0	0	0	0	299
4	3	2002	0	0	0	0	0	0	270	0	0	270
28	3	2002	0	0	0	0	66	0	45	0	0	111
8	4	2002	0	5	0	0	0	12	19	0	0	36
26	4	2002	0	19	0	0	0	0	6	0	0	25
8	5	2002	0	13	3	0	0	0	0	0	0	16
27	5	2002	0	3	2	0	0	0	0	0	0	5
16	6	2002	0	2	0	0	0	0	0	0	0	2

Peak; 716: (2000/2001 peak; 437)

BAR-TAILED GODWIT Limosa lapponica

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	7	1	0	0	0	0	0	0	8
25	7	2001	0	0	0	0	11	0	0	0	0	11
9	8	2001	0	0	2	0	1	0	0	0	0	3
24	8	2001	0	3	7	0	3	0	0	0	0	13
6	9	2001	9	2	25	1	2	0	1	0	0	40
29	9	2001	4	22	7	0	0	1	0	0	0	34
4	10	2001	4	23	28	0	4	0	1	0	0	60
31	10	2001	0	28	7	0	2	0	0	0	0	37
14	11	2001	2	13	16	0	4	0	0	0	0	35
23	11	2001	3	27	21	0	0	0	0	0	0	51
7	12	2001	2	44	21	1	0	0	0	0	0	68
19	12	2001	0	22	15	0	0	0	0	0	0	37
5	1	2002	2	29	38	0	0	0	0	0	0	69
22	1	2002	2	87	0	0	0	0	0	0	0	89
6	2	2002	1	28	5	0	0	0	0	0	0	34
14	2	2002	0	22	16	0	7	0	0	0	0	45
4	3	2002	0	9	17	0	17	0	0	0	0	43
28	3	2002	0	1	14	0	45	0	0	0	0	60
8	4	2002	0	1	2	0	28	0	0	0	0	31
26	4	2002	0	0	0	0	42	0	0	0	0	42
8	5	2002	0	0	3	0	0	1	0	0	0	4
27	5	2002	0	0	0	0	22	3	0	0	0	25
16	6	2002	0	0	0	0	24	0	0	0	0	24
25	6	2002	0	1	8	0	0	0	0	0	0	9

Peak; 89: (2000/2001 peak; 64)

CURLEW Numenius arquata

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	1	77	6	4	205	83	15	1	1	393
25	7	2001	0	101	6	13	656	123	29	1	2	931
9	8	2001	0	161	7	46	599	82	15	5	1	916
24	8	2001	1	172	7	9	512	130	30	1	1	863
6	9	2001	2	132	7	5	211	86	20	1	1	465
29	9	2001	12	69	1	40	37	9	2	2	2	174
4	10	2001	6	202	13	3	731	32	5	3	1	996
31	10	2001	48	184	8	18	6	0	44	0	1	309
14	11	2001	2	36	19	0	5	0	0	1	0	63
23	11	2001	2	32	7	0	2	3	0	1	0	47
7	12	2001	2	67	14	8	70	9	4	1	1	176
19	12	2001	2	43	2	0	5	0	0	0	0	52
5	1	2002	2	56	2	4	26	16	22	1	0	129
22	1	2002	4	56	19	1	29	13	2	1	1	126
6	2	2002	3	386	37	4	31	15	5	0	0	481
14	2	2002	4	67	13	3	181	9	4	1	1	283
4	3	2002	0	41	133	5	473	88	25	90	1	856
28	3	2002	3	32	21	1	101	82	17	260	1	518
8	4	2002	2	22	10	0	9	2	0	0	1	46
26	4	2002	0	2	0	0	8	2	3	0	0	15
8	5	2002	0	32	4	0	10	9	0	0	0	55
27	5	2002	0	3	0	0	1	0	0	0	0	4
16	6	2002	0	3	12	0	31	71	3	0	0	120
25	6	2002	1	30	5	2	85	36	6	0	1	166

Peak; 996: (2000/2001 peak; 1,468)

REDSHANK Tringa totanus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	19	29	0	41	32	32	7	9	169
25	7	2001	0	31	95	19	180	347	100	14	6	792
9	8	2001	3	163	223	14	106	330	50	65	3	957
24	8	2001	30	135	132	10	384	470	100	10	6	1277
6	9	2001	66	133	170	10	228	358	200	65	0	1230
29	9	2001	4	99	30	8	380	350	226	0	8	1105
4	10	2001	20	177	120	35	151	370	216	70	1	1160
31	10	2001	10	114	40	40	259	104	15	3	1	586
14	11	2001	9	83	0	28	228	188	53	6	2	597
23	11	2001	9	55	18	0	175	172	34	2	3	468
7	12	2001	6	76	15	123	302	93	75	6	2	698
19	12	2001	12	26	4	35	268	27	5	0	0	377
5	1	2002	1	66	9	43	310	135	88	0	0	652
22	1	2002	9	124	35	8	325	147	57	1	2	708
6	2	2002	6	91	25	130	167	108	8	1	0	536
14	2	2002	11	142	5	44	101	436	4	3	1	747
4	3	2002	5	86	13	67	244	321	131	4	2	873
28	3	2002	5	59	61	69	179	526	254	6	0	1159
8	4	2002	5	48	55	15	207	275	278	14	1	898
26	4	2002	2	16	41	51	84	84	64	1	1	344
8	5	2002	0	0	0	5	5	3	7	0	1	21
27	5	2002	0	0	0	9	0	0	2	0	1	12
16	6	2002	0	0	0	0	0	0	6	4	8	18
25	6	2002	0	0	0	0	0	2	0	14	32	48

Peak; 1,277: (2000/2001 peak; 918)

TURNSTONE Arenaria interpres

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	2	0	0	0	0	0	0	0	2
9	8	2001	0	20	0	0	0	0	0	0	0	20
24	8	2001	2	0	1	0	0	0	0	0	0	3
6	9	2001	0	0	1	0	1	0	0	0	0	2
29	9	2001	0	19	0	0	0	0	0	0	0	19
4	10	2001	6	10	0	0	0	0	0	0	0	16
31	10	2001	4	18	0	0	0	0	0	0	0	22
14	11	2001	7	4	4	0	22	0	0	0	0	37
23	11	2001	5	17	5	0	1	0	0	0	0	28
7	12	2001	6	44	0	0	0	0	0	0	0	50
19	12	2001	0	8	0	0	2	0	0	0	0	10
5	1	2002	4	23	2	0	2	0	0	0	0	31
22	1	2002	3	14	5	0	0	0	0	0	0	22
6	2	2002	0	28	0	1	0	0	0	0	0	29
14	2	2002	2	7	3	0	5	0	0	0	0	17
4	3	2002	5	10	7	0	3	0	0	0	0	25
28	3	2002	0	2	0	0	25	0	0	0	0	27
8	4	2002	11	2	0	0	0	0	0	0	0	13
26	4	2002	10	11	7	0	2	0	0	0	0	30
19	12	2001	0	1	0	0	0	0	0	0	0	1

Peak; 50: (2000/2001 peak; 46)

b) Total number of birds on the estuary

The total number of birds of all species was calculated for each count date and the mean taken for each month. Since Eiders were so numerous, they were considered separately.

Month	Eiders	Other species	Total
2001			
July	1982	2468	4450
August	1071	5510	6581
September	2517	10121	12638
October	1435	7307	8742
November	904	5742	6646
December	831	4106	4937
2002			
January	640	3669	4309
February	503	2929	3432
March	618	2928	3546
April	1180	2100	3280
May	3216	478	3694
June	1704	792	2496

The total number of birds of all species on the estuary was strikingly higher in September than in any other month, due mainly to large numbers of Golden Plovers and Lapwings. Numbers in winter (November to February) were similar to those in July and August. There was a decrease in the total number of birds present in April to June, in spite of the increase in numbers of Eiders.

c) Comparison between 2000/01 and 2001/02

(i) Total number of birds

There was little consistent difference between 2000/01 and 2001/02 in the monthly mean numbers of birds of all species (including Eiders); numbers were higher in 2001/02 in five of the 11 months for which data were available in 2000/01. The peak of 12,638 in September 2001 was almost exactly the same that in September 2000 (12,632), but numbers in November 2001 (8,742) were lower than in the previous year (10,543).

The comparison between years for Eiders gave similar results, with higher monthly mean values in 2001/02 in five of the 12 months. However, in species other than Eiders, numbers were higher in 2001/02 in only four of the 11 months for which data were available in 2000/01. However, as was emphasised in previous reports, such peak monthly values may be affected by year-to-year differences in the timing and extent of migratory movements and so may not be meaningful in making comparisons between years.

A less variable measure, the mean monthly total of species other than Eiders over the whole autumn and winter (August to February), showed an decrease from 6,159 in 2000/01 to 5,626 in 2001/02.

(ii)Individual species

For each of the commonly-recorded species, the mean of the three highest counts in 2001/02 was compared with the same measure for the previous year (Patterson and Thorpe 2001).

Species	2000/01	2001/02	Change
Cormorant	33	49	+
Heron	35	42	+
Mute Swan	70	31	-
Shelduck	151	143	-
Eider	3353	3388	+
Wigeon	776	667	-
Teal	14	16	+
Mallard	52	29	-
Goldeneye	36	21	-
Red-breasted Merganser	35	28	-
Oystercatcher	516	507	-
Ringed Plover	57	63	+
Golden Plover	3738	2628	-
Lapwing	4833	4886	+
Knot	209	131	-
Dunlin	430	642	+
Bar-tailed Godwit	60	75	+
Curlew	1342	948	-
Redshank	826	1222	+
Turnstone	40	39	-

Of the eight wildfowl species, two showed increases and six showed decreases. Of the 10 wader species, five showed increases and five decreased. The data are of course subject to the difficulty that some species (eg Golden Plover and Lapwing) occurred in unusually large numbers in only a few counts out of the whole year, so that peak counts can be misleading.

An alternative measure, the median of the winter counts (1 September to 31 March) is not subject to this problem (Patterson and Cosgrove , 1998).

Species	Median 2000/01	2001/02	Change
Cormorant	16	19	+
Heron	9	5	-
Mute Swan	45	19	-
Wigeon	450	320	-
Teal	0	2	+
Mallard	4	9	+
Goldeneye	14	13	-
Merganser	24	17	-
Wildfowl total	563	404	-
Oystercatcher	327	332	+
Ringed Plover	8	5	-
Golden Plover	1060	553	-
Lapwing	1398	1149	-
Knot	175	79	-
Dunlin	92	342	+
Bar-tailed Godwit	37	44	+
Curlew	789	230	-
Redshank	584	703	+
Turnstone	24	24	=
Wader total	4494	3461	-
Overall total	5057	3865	-

Of the six species of wildfowl which normally have their highest numbers in winter (ie excluding Eider and Shelduck), two showed an increase in their median counts, while four decreased. Of the 10 wader species, four increased, five decreased and one (Turnstone) remained unchanged. The totals of the median values decreased for both wildfowl and waders, with a considerable decrease overall.

d) Species which occur less commonly on the Ythan, seen during the surveys

The various species recorded during the year are tabulated below. Comments are added where appropriate.

LITTLE GREBE Podiceps ruficollis

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5	1	2002	0	0	1	0	0	0	0	0	0	1
6	2	2002	0	1	0	0	0	0	0	0	0	1
14	2	2002	0	1	0	0	0	0	0	0	0	1

Unusually, there were none at Logie this year

SLAVONIAN GREBE Podiceps auritus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
7	12	2001	0	1	0	0	0	0	0	0	0	1
19	12	2001	0	1	0	0	0	0	0	0	0	1

LITTLE EGRET Egretta garzetta

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
16	6	2002	0	0	0	1	0	0	0	0	0	1
25	6	2002	0	0	0	0	1	0	0	0	0	1

This species is being seen more regularly in north-east Scotland.

SPOONBILL Platalea leucorodia

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	0	0	0	2	0	0	2
25	7	2001	0	0	0	0	2	0	0	0	0	2
24	8	2001	0	0	0	0	2	0	0	0	0	2
27	5	2002	0	0	0	0	1	0	0	0	0	1

Sightings of Spoonbills are becoming an annual occurrence on the Ythan.

WHOOPER SWAN Cygnus cygnus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	0	0	0	1	0	0	0	1
9	8	2001	0	0	0	0	0	1	0	0	0	1
31	10	2001	0	0	0	0	0	28	0	0	0	28
23	11	2001	0	0	0	0	0	34	0	0	0	34
27	5	2002	0	0	0	0	0	1	0	0	0	1

PINK-FOOTED GOOSE Anser brachyrhychus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
29	9	2001	0	0	0	0	0	0	26	0	0	26
4	10	2001	0	1	0	0	0	0	0	0	0	1
31	10	2001	0	0	1	0	0	0	0	0	0	1
5	1	2002	0	0	0	0	1	0	0	0	0	1
28	3	2002	0	0	0	0	0	0	3	0	0	3
26	4	2002	0	0	0	0	0	2000	0	0	0	2000

GREYLAG GOOSE Anser anser

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	0	0	2	0	0	0	0	2
9	8	2001	0	0	0	0	0	35	0	0	0	35
24	8	2001	0	0	0	0	0	30	0	0	0	30
29	9	2001	0	0	0	0	36	0	0	0	0	36
4	10	2001	0	2	0	0	0	0	0	0	0	2
5	1	2002	0	0	0	0	1	0	0	13	0	14

CANADA GOOSE Branta canadensis

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	0	0	1	0	0	0	0	1
9	8	2001	0	0	0	0	0	14	0	0	0	14
29	9	2001	0	0	0	0	22	0	0	0	0	22
16	6	2002	0	0	0	0	0	0	2	0	0	2
25	6	2002	0	0	8	0	0	0	0	0	0	8

BARNACLE GOOSE Branta leucopsis

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	8	2001	0	0	0	0	0	2	0	0	0	2

BRENT GOOSE Branta bernicla

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5	1	2002	0	1	0	0	0	0	0	0	0	1

GADWALL Anas strepera

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
28	3	2002	0	0	0	0	2	0	0	0	0	2

An unusual sighting on the estuary.

PINTAIL Anas acuta

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
26	4	2002	0	0	0	0	0	2	0	0	0	2

SHOVELER Anas clypeata

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
14	2	2002	0	0	0	0	3	0	0	0	0	3

TUFTED DUCK Aythya fuligula

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
23	11	2001	0	1	0	0	0	0	0	0	0	1
7	12	2001	1	0	0	0	0	0	0	0	0	1
5	1	2002	1	0	0	0	0	0	0	0	0	1
6	2	2002	0	3	0	0	0	0	0	0	0	3
4	3	2002	0	0	2	0	0	0	0	0	0	2

As in previous years, mostly associated with the Scaup flock.

SCAUP Aythya marila

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
14	11	2001	7	0	0	0	0	0	0	0	0	7
23	11	2001	3	0	0	0	0	0	0	0	0	3
7	12	2001	7	0	0	0	0	0	0	0	0	7
19	12	2001	6	0	0	0	0	0	0	0	0	6
5	1	2002	13	0	0	0	0	0	0	0	0	13
22	1	2002	0	9	0	0	0	0	0	0	0	9
6	2	2002	11	0	0	0	0	0	0	0	0	11
14	2	2002	16	0	0	0	0	0	0	0	0	16
4	3	2002	0	9	0	0	0	0	0	0	0	9
28	3	2002	21	0	0	0	0	0	0	0	0	21
8	4	2002	8	0	0	0	0	0	0	0	0	8
26	4	2002	1	1	0	0	0	0	0	0	0	2
8	5	2002	0	0	1	0	0	0	0	0	0	1

LONG-TAILED DUCK Clangula hyemalis

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
14	11	2001	1	0	0	0	1	0	0	0	0	2
19	12	2001	0	0	0	0	0	0	0	1	0	1
26	4	2002	1	0	0	0	0	0	0	0	0	1

Another relatively poor year for this species.

GOOSANDER Mergus merganser

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5	1	2002	4	0	0	0	0	0	0	0	0	4
8	5	2002	0	0	0	0	0	0	0	51	0	51

OSPREY Pandion haliaetus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	8	2001	0	0	0	0	1	0	0	0	0	1
24	8	2001	0	0	0	0	1	0	2	0	0	3
6	9	2001	0	0	0	0	1	0	0	0	0	1

Ospreys are now present throughout August and early September on a regular basis.

GREY PLOVER Pluvialis squatarola

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	0	0	1	0	0	0	1
4	10	2001	0	7	0	0	0	0	0	0	0	7
31	10	2001	0	7	3	0	0	0	0	0	0	10
14	11	2001	1	9	0	0	0	0	0	0	0	10
23	11	2001	1	5	1	0	0	0	0	0	0	7
7	12	2001	0	5	0	0	0	0	0	0	0	5
19	12	2001	0	3	0	0	0	0	0	0	0	3
5	1	2002	0	10	0	2	0	0	0	0	0	12
22	1	2002	1	5	0	0	0	0	0	0	0	6
6	2	2002	0	6	0	0	0	0	0	0	0	6
14	2	2002	0	4	0	0	0	0	0	0	0	4
4	3	2002	0	8	0	0	0	0	0	0	0	8
28	3	2002	0	4	0	0	0	0	0	0	0	4
8	4	2002	1	0	0	0	0	0	0	0	0	1
8	5	2002	0	1	0	0	0	0	0	0	0	1

SANDERLING Calidris alba

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
24	8	2001	0	1	0	0	0	0	0	0	0	1
14	11	2001	4	0	0	0	0	0	0	0	0	4
14	2	2002	3	0	0	0	0	0	0	0	0	3

CURLEW SANDPIPER Calidris ferruginea

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	0	0	0	0	0	3	0	3
29	9	2001	0	1	0	0	0	0	0	0	0	1
4	10	2001	0	0	0	0	0	1	0	0	0	1

A poor autumn for this species.

RUFF Philomachus pugnax

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
24	8	2001	0	0	0	0	0	0	0	2	0	2
4	10	2001	0	0	0	1	7	1	1	0	0	10
26	4	2002	0	0	0	0	2	0	0	0	0	2

SNIPE Gallinago gallinago

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
6	9	2001	1	0	0	0	0	0	0	0	0	1
31	10	2001	0	11	0	0	0	0	0	0	0	11
14	11	2001	0	9	0	0	0	0	0	0	50	59
23	11	2001	0	1	0	0	0	0	0	0	0	1
7	12	2001	0	4	0	0	0	0	0	0	0	4
19	12	2001	0	1	0	0	0	0	0	0	0	1
6	2	2002	0	3	0	0	0	0	0	0	0	3
14	2	2002	0	4	0	0	0	0	0	2	0	6

BLACK-TAILED GODWIT Limosa limosa

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	0	0	1	0	17	0	20	0	0	38
24	8	2001	0	20	0	0	0	0	0	0	0	20
6	9	2001	0	15	0	0	0	0	0	0	0	15
29	9	2001	0	11	0	0	0	0	0	0	0	11
4	10	2001	0	24	9	0	0	0	0	0	0	33
31	10	2001	0	13	0	0	0	0	0	0	0	13
14	11	2001	0	16	0	0	0	0	0	0	0	16
23	11	2001	0	20	0	0	0	0	0	0	0	20
7	12	2001	0	18	0	0	0	0	0	0	0	18
19	12	2001	0	0	0	0	5	0	0	0	0	5
5	1	2002	0	1	2	0	8	0	0	0	0	11
22	1	2002	0	5	0	0	0	0	0	0	0	5
6	2	2002	0	10	0	3	0	0	0	0	0	13
14	2	2002	0	9	1	0	5	0	0	0	0	15
4	3	2002	0	0	0	0	2	0	0	0	0	2
28	3	2002	0	0	0	0	5	0	0	0	0	5
8	4	2002	0	0	0	0	3	0	0	0	0	3
26	4	2002	0	0	0	0	7	0	0	0	0	7

Another good year for this species, especially at Inches.

WHIMBREL Numenius phaeopus

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
25	7	2001	1	0	0	1	1	2	0	0	0	5
24	8	2001	0	2	0	0	0	0	0	0	0	2

GREENSHANK

Date			Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9	7	2001	0	0	0	0	0	2	0	1	0	3
25	7	2001	0	0	0	0	4	0	0	0	0	4
9	8	2001	0	2	0	1	1	0	0	0	0	4
24	8	2001	0	2	0	0	2	0	0	1	0	5
6	9	2001	0	0	0	1	3	0	0	1	1	6
29	9	2001	0	0	0	2	0	0	0	0	0	2
4	10	2001	0	0	0	2	3	0	2	0	0	7
31	10	2001	0	0	0	1	0	0	0	0	0	1
26	4	2002	0	0	0	0	1	0	0	0	0	1
27	5	2002	0	0	0	0	0	1	0	0	0	1

DISCUSSION

As in previous years, the large month-to-month fluctuations in the numbers of some of the most abundant species on the estuary makes it difficult to compare overall bird numbers between 2000/01 and 2001/02, especially since many of the fluctuations may have been the result of large-scale movements, eg cold-weather effects or post-breeding dispersal, not related to conditions on the Ythan itself. Year-to-year comparisons must therefore be interpreted cautiously.

However, it seems reasonable to conclude that there had been some decrease in bird numbers between the two years. The increase in bird numbers which followed the lower coverage of *Enteromorpha* in 1996 (continuing to some extent in 1997; Raffaelli *et al.* 1999), and which reached a peak in 2000, has apparently continued to decline.

REFERENCES

Patterson, I.J. and Cosgrove, P.J. 1998. Waders and waterfowl on the Ythan estuary, 1997/98. A report to SNH.

Patterson, I.J. and Thorpe A.W. 2001. Waders and waterfowl on the Ythan estuary, 2000/01. A report to SNH.

Raffaelli, D., Balls, P., Way, S., Patterson, I., Hohmann, S. and Corp, N. 1999. Eutrophication-related trends in the ecology of the Ythan estuary, Aberdeenshire, Scotland. Aquatic Conservation: Marine and Freshwater Ecosystems 9: 219 – 236.

APPENDIX 1. Survey methods

Eiders were counted at high tide, when they were roosting on the shore or in sheltered bays, so that errors due to movement and diving would be minimised. All of the other species were counted at low tide, when they were feeding and so were dispersed over the intertidal area; roost counts at high tide were not practicable because roost sites were dispersed (some of them not known) and because some waders were known to feed in fields at high tide in mid-winter.

All surveys started at the estuary mouth and proceeded upstream, so as to minimise the risk of the count being curtailed by the incoming tide. Counts were made from standard observation points (Figure 1) and the counts were subdivided into eight areas of the estuary (Figure 1), so that the distribution of each species could be described. The observer moved quickly by car from one observation point to the next, so as to minimise errors due to birds moving between sections during the survey. Any such movements seen while driving were noted and allowed for in the counts.

The count data were recorded on a pro-forma recording sheet and later stored on computer in a dBase database. At the end of the survey year (after 30 June) the data were checked, sorted and analysed, using dBase functions and specially-written dBase programs.

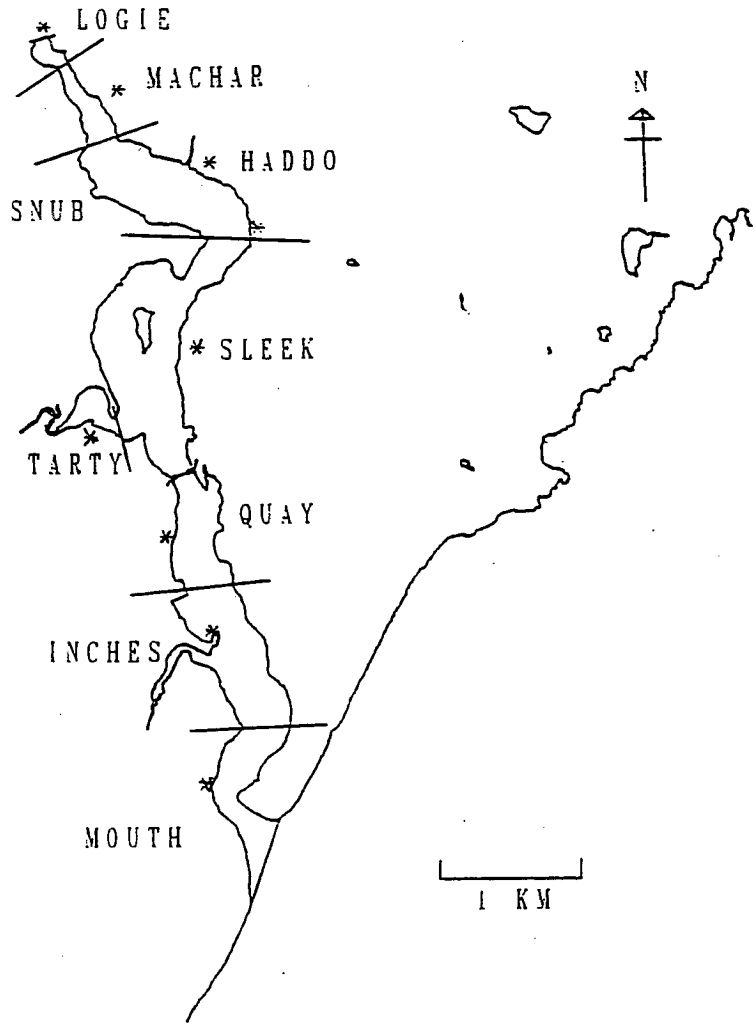

Figure 1. The Ythan estuary, showing the counting sections and count points (asterisks). The division between the Snub and Haddo areas is the centre of the low-tide river channel.

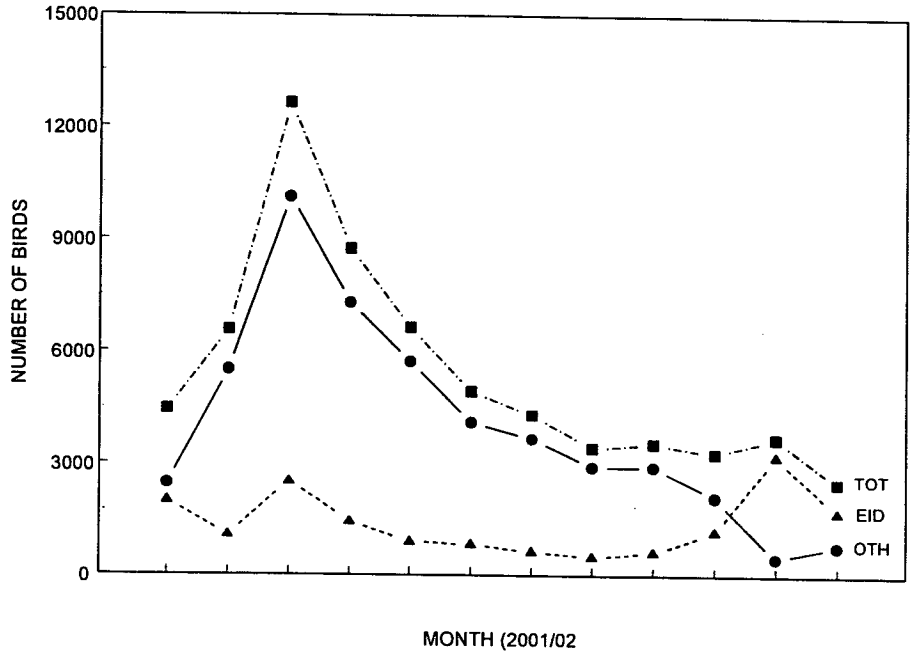

Figure 2. The mean number of Eiders (triangles), birds of other species (circles) and the total of birds of all species (squares) on the Ythan estuary in 2001/02.

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