Scottish Natural Heritage
Archive Report No. 015

Waders and wildfowl on the Ythan Estuary 2005/2006

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ARCHIVE REPORT

Archive Report No. 015

Waders and wildfowl on the Ythan Estuary 2005/2006

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ARCHIVE REPORT

Summary

Waders and wildfowl on the Ythan Estuary 2005/2006

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Background

Counts of waders and wildfowl on the Ythan estuary were made from 11 July 2005 to 25 June 2006, using similar methods to those used in the past, to enable the data to be comparable; 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.

Main findings

- The highest monthly mean count of Eiders in spring decreased slightly from 3,254 in May 2005 to 3,168 in May 2006, while the peak monthly mean total of other species increased considerably, from 9,492 (November 2004) to 11,581 (September 2005).
- The overall mean total of birds other than Eiders over the whole autumn and winter (August to February) increased from 5,051 in 2004/05 to 6,516 in 2005/06.
- There was a decrease in the peak counts of most individual wildfowl species between 2004/05 and 2005/06 but no overall change in their winter median numbers. Most wader species showed increases in their peak counts but no overall change in their winter median counts.
- A number of species less commonly seen on the Ythan were again recorded systematically in 2005/06; their occurrence and numbers are tabulated.

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1. INTRODUCTION

The wader and wildfowl counts in this report can be compared with data collected since 1989/90, and had 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 11 July 2005 to 25 June 2006, using the same methods as in previous years (Appendix 1). Since the field surveys in 2005/06 were again carried out by a specialist ornithologist, it was possible to include counts of species which occur less commonly on the Ythan.

2. RESULTS

2.1 Individual species which occur commonly on the Ythan

As in the previous report to the Ythan Project, 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 2.4.

CORMORANT *Phalacrocorax carbo*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	1	0	9	4	0	0	0	14
24 7 2005	1	5	7	0	2	3	5	2	0	25
10 8 2005	5	2	2	0	8	23	1	0	1	42
27 8 2005	0	0	0	0	16	8	1	0	0	25
7 9 2005	4	2	1	0	25	15	3	0	0	50
21 9 2005	5	0	11	0	14	8	9	0	2	49
5 10 2005	2	1	1	0	11	0	2	0	6	23
22 10 2005	0	7	9	0	9	0	0	0	6	31
9 11 2005	2	2	4	0	0	4	3	0	0	15
23 11 2005	0	0	1	0	1	0	0	1	0	3
10 12 2005	2	0	0	0	3	0	0	0	0	5
23 12 2005	1	0	0	0	0	3	0	0	0	4
8 1 2006	1	0	0	0	1	0	0	0	0	2
22 1 2006	2	0	1	0	4	0	0	1	0	8
5 2 2006	1	4	0	0	1	0	0	2	0	8
19 2 2006	0	2	0	0	0	0	0	5	0	7
8 3 2006	0	0	1	0	1	0	0	6	0	8
18 3 2006	0	1	0	0	1	0	0	0	0	2
15 4 2006	0	4	1	0	4	0	0	0	2	11
29 4 2006	0	0	3	0	1	0	1	3	4	12
17 5 2006	1	1	1	0	1	2	0	3	0	9
28 5 2006	0	0	0	0	5	0	3	24	0	32
6 6 2006	0	3	0	0	2	0	0	0	0	5
25 6 2006	0	0	0	0	2	0	2	0	0	4

Peak; 50: (2004/05 peak; 83)

HERON *Ardea cinerea*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	1	3	11	1	8	1	0	0	0	25
24 7 2005	5	8	2	7	7	0	2	1	1	33
10 8 2005	5	6	3	0	7	3	2	0	0	26
27 8 2005	3	3	1	0	17	1	5	1	1	32
7 9 2005	5	11	4	1	10	0	4	0	0	35
21 9 2005	2	2	4	7	6	0	10	0	0	31
5 10 2005	6	8	6	0	3	0	1	0	0	24
22 10 2005	1	3	5	1	1	0	0	0	0	11
9 11 2005	1	5	5	0	3	1	0	0	0	15
23 11 2005	0	2	2	0	4	0	0	0	0	8
10 12 2005	0	3	2	0	2	0	0	0	0	7
23 12 2005	1	2	0	0	0	0	1	0	0	4
8 1 2006	0	3	5	0	1	1	1	0	1	12
22 1 2006	1	2	0	0	0	0	2	1	0	6
5 2 2006	1	3	1	0	0	0	0	0	0	5
19 2 2006	0	2	1	0	0	0	0	0	0	3
8 3 2006	0	2	1	0	0	1	1	0	1	6
18 3 2006	0	2	0	0	1	0	0	0	0	3
15 4 2006	0	1	1	0	6	0	1	0	0	9
29 4 2006	1	8	1	0	2	0	1	2	1	16
17 5 2006	0	2	0	0	2	0	1	0	0	5
28 5 2006	0	0	0	6	0	1	0	0	0	7
6 6 2006	0	0	1	0	1	0	0	0	0	2
25 6 2006	1	1	1	26	6	0	0	0	0	35

Peak; 35: (2004/05 peak; 29)

MUTE SWAN *Cygnus olor*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	0	2	3	0	0	0	5
24 7 2005	0	0	0	0	0	3	0	0	0	3
27 8 2005	0	0	0	0	0	2	0	0	0	2
7 9 2005	0	0	0	0	0	2	0	0	0	2
21 9 2005	0	0	0	0	1	1	0	0	0	2
5 10 2005	0	0	0	0	1	2	0	0	0	3
22 10 2005	0	0	2	0	6	4	0	0	0	12
9 11 2005	0	2	0	0	0	11	0	0	0	13
23 11 2005	0	0	0	0	6	6	0	7	0	19
10 12 2005	0	0	2	0	2	41	0	0	0	45
23 12 2005	0	0	0	0	0	51	0	0	0	51
8 1 2006	0	0	2	0	11	33	0	0	0	46
22 1 2006	0	0	0	0	13	22	0	0	0	35
5 2 2006	0	0	0	0	17	5	0	5	3	30
19 2 2006	0	2	0	0	0	12	0	0	0	14
8 3 2006	0	0	0	0	5	2	0	0	0	7
18 3 2006	0	0	0	0	4	6	0	3	0	13
15 4 2006	0	2	0	0	1	5	0	2	0	10
29 4 2006	0	0	1	0	4	2	0	0	0	7
17 5 2006	0	2	0	0	4	16	2	0	2	26
28 5 2006	0	1	0	0	14	0	19	0	0	34
6 6 2006	14	1	0	0	10	4	0	0	0	29
25 6 2006	0	0	0	2	24	1	0	0	0	27

Peak; 51: (2004/05 peak; 35)

SHELDUCK *Tadorna tadorna*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	2	32	20	7	0	0	61
24 7 2005	0	3	0	0	14	5	15	0	24	61
10 8 2005	0	2	0	0	13	12	2	2	0	31
27 8 2005	0	0	0	0	6	0	8	1	0	15
7 9 2005	0	0	0	5	11	0	9	0	0	25
21 9 2005	0	0	0	2	6	9	5	0	4	26
5 10 2005	0	1	0	0	4	0	4	0	3	12
22 10 2005	0	0	0	1	1	1	0	0	0	3
9 11 2005	0	1	0	0	3	1	1	0	0	6
23 11 2005	0	0	0	2	21	6	0	0	0	29
10 12 2005	0	0	0	0	2	8	0	0	0	10
23 12 2005	0	0	0	2	18	10	4	0	0	34
8 1 2006	0	8	0	0	26	17	2	2	0	55
22 1 2006	0	7	0	0	0	0	2	1	77	87
5 2 2006	0	22	2	4	63	8	1	2	0	102
19 2 2006	0	31	6	0	81	28	0	0	0	146
8 3 2006	0	41	4	5	63	0	0	4	0	117
18 3 2006	0	35	15	13	51	21	12	6	0	153
15 4 2006	0	4	10	10	64	24	9	2	1	124
29 4 2006	0	14	2	8	17	29	20	7	0	97
17 5 2006	0	5	3	8	33	46	19	0	21	135
28 5 2006	0	10	6	13	36	51	15	4	12	147
6 6 2006	0	12	5	4	34	59	14	2	2	132
25 6 2006	0	11	3	8	28	83	11	2	1	147

Peak; 153: (2004/05 peak; 176)

WIGEON *Anas penelope*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
27 8 2005	0	0	0	0	0	0	44	0	0	44
7 9 2005	0	0	0	0	0	21	0	0	0	21
21 9 2005	0	0	0	0	20	0	0	0	0	20
5 10 2005	1	0	16	0	16	0	3	0	0	36
22 10 2005	0	3	349	0	42	0	0	0	0	394
9 11 2005	1	43	44	0	363	1	0	0	0	452
23 11 2005	7	103	131	0	137	0	0	0	0	378
10 12 2005	0	160	84	0	35	0	0	0	0	279
23 12 2005	26	93	150	0	398	0	0	0	0	667
8 1 2006	32	71	54	0	194	0	0	0	0	351
22 1 2006	12	72	60	0	8	0	0	0	0	152
5 2 2006	4	174	78	0	330	0	15	0	0	601
19 2 2006	8	99	50	0	158	0	25	0	0	340
8 3 2006	68	46	53	3	30	0	320	0	0	520
18 3 2006	0	105	30	0	135	0	22	0	0	292
15 4 2006	0	2	0	0	112	0	6	0	0	120
29 4 2006	0	0	5	0	56	0	0	0	0	61
25 6 2006	0	0	0	0	0	4	0	0	0	4

Peak; 667: (2004/05 peak; 705)

TEAL *Anas crecca*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
27 8 2005	0	4	0	0	4	0	0	0	0	8
5 10 2005	0	0	0	0	2	0	0	0	0	2
9 11 2005	0	0	0	0	6	0	0	0	0	6
23 11 2005	0	0	0	0	0	0	0	5	0	5
10 12 2005	0	2	0	0	0	0	0	0	0	2
8 1 2006	0	0	0	0	0	0	0	0	76	76
5 2 2006	0	0	0	0	0	0	0	46	2	48
19 2 2006	0	0	0	0	7	0	0	0	0	7
8 3 2006	0	0	0	0	0	12	123	0	0	135
18 3 2006	0	0	1	0	0	0	90	2	0	93
15 4 2006	0	0	0	0	0	0	0	28	18	46
29 4 2006	0	0	0	0	0	0	0	0	21	21

Peak; 135: (2004/05 peak; 42)

MALLARD *Anas platyrhynchos*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	3	0	0	0	0	0	0	3
24 7 2005	0	2	0	0	0	1	0	0	0	3
10 8 2005	0	0	0	0	2	0	0	6	0	8
27 8 2005	0	7	0	0	0	0	2	0	0	9
7 9 2005	0	6	0	0	0	0	0	0	0	6
21 9 2005	0	8	0	0	0	0	0	0	0	8
5 10 2005	0	2	0	0	0	0	0	0	0	2
22 10 2005	0	7	0	0	0	0	0	0	0	7
9 11 2005	0	10	0	0	0	0	0	0	0	10
23 11 2005	0	37	22	0	9	0	0	1	0	69
10 12 2005	0	30	6	0	0	0	0	0	0	36
23 12 2005	0	22	0	0	0	0	0	0	0	22
8 1 2006	0	9	0	0	0	0	0	0	0	9
22 1 2006	0	23	0	0	0	0	0	0	0	23
5 2 2006	0	31	12	0	2	0	0	0	0	45
8 3 2006	0	13	8	0	0	13	2	0	0	36
18 3 2006	0	8	0	0	2	0	2	0	0	12
15 4 2006	0	6	3	0	0	0	0	0	0	9
29 4 2006	0	6	0	1	0	0	0	0	0	7
17 5 2006	0	2	0	0	0	0	2	0	0	4
28 5 2006	5	4	0	0	0	1	0	0	2	12
6 6 2006	0	3	1	0	0	0	0	0	0	4
25 6 2006	0	1	0	0	0	6	0	0	0	7

Peak; 69: (2004/05 peak; 70)

EIDER *Somateria mollissima*

Date			Mo	In	Qu	Ta	Sl	Total
11	7	2005	1908	103	102	0	2	2115
24	7	2005	1706	29	9	0	6	1750
3	8	2005	951	6	2	0	3	962
22	8	2005	168	6	6	0	2	182
2	9	2005	591	11	4	0	0	606
19	9	2005	1836	83	30	0	0	1949
4	10	2005	690	72	11	0	0	773
18	10	2005	809	675	906	0	0	2390
1	11	2005	214	453	712	0	0	1379
18	11	2005	71	35	1089	0	4	1199
1	12	2005	45	1409	0	0	0	1454
20	12	2005	95	72	1261	0	0	1428
3	1	2006	79	323	977	0	0	1379
17	1	2006	78	601	401	0	1	1081
10	2	2006	284	27	272	0	11	594
24	2	2006	362	0	2	0	3	367
9	3	2006	582	93	10	0	15	700
15	3	2006	770	0	208	0	21	999
11	4	2006	681	32	611	0	53	1377
18	4	2006	882	53	464	0	27	1426
26	4	2006	2126	26	315	0	71	2538
3	5	2006	3430	412	129	0	35	4006
10	5	2006	1662	897	334	0	81	2974
17	5	2006	1742	953	237	0	73	3005
25	5	2006	1570	809	263	0	46	2688
1	6	2006	1496	791	122	0	21	2430
14	6	2006	1176	238	105	0	24	1543
7	7	2006	1069	55	34	0	4	1162
21	7	2006	1366	2	0	0	13	1381

Peak; 4,006: (2004/05 peak; 3,926)

No Eiders were seen at Snub, Haddo, Machar or Logie

The total number of ducklings reared in 2006 was 56, including 16 on the sea coast between Collieston and the mouth of the estuary.

GOLDENEYE *Bucephala clangula*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
22 10 2005	0	0	0	0	5	0	0	0	1	6
9 11 2005	0	2	1	0	4	0	0	1	0	8
23 11 2005	0	7	6	0	13	0	0	0	2	28
10 12 2005	0	2	5	0	2	0	0	0	0	9
23 12 2005	3	7	2	0	4	0	0	0	1	17
8 1 2006	0	1	6	0	3	2	0	7	0	19
22 1 2006	1	4	6	0	2	2	0	2	0	17
5 2 2006	1	2	4	0	15	0	1	0	2	25
19 2 2006	0	1	1	0	3	7	7	0	0	19
8 3 2006	0	4	0	0	13	0	18	0	0	35
18 3 2006	1	2	5	0	13	9	0	2	0	32
15 4 2006	0	0	0	0	8	0	3	0	1	12
29 4 2006	0	0	0	0	0	0	4	0	0	4
17 5 2006	0	1	0	0	0	0	0	0	0	1

Peak; 35: (2004/05 peak; 40)

RED-BREASTED MERGANSER *Mergus serrator*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	1	0	0	0	0	0	0	0	0	1
24 7 2005	0	0	0	0	1	0	2	0	0	3
10 8 2005	0	2	0	0	0	0	0	0	0	2
27 8 2005	0	0	0	0	1	0	0	0	0	1
7 9 2005	5	0	0	0	0	0	0	0	0	5
21 9 2005	0	2	0	0	0	0	0	0	0	2
5 10 2005	0	5	3	0	0	0	0	0	1	9
22 10 2005	1	3	9	0	7	0	0	0	4	24
9 11 2005	1	6	4	0	6	0	0	0	0	17
23 11 2005	1	9	0	0	0	0	0	0	0	10
10 12 2005	6	7	2	0	0	0	0	0	0	15
23 12 2005	6	4	0	0	2	0	1	0	0	13
8 1 2006	8	0	3	0	1	0	0	0	0	12
22 1 2006	2	3	1	0	4	0	0	0	0	10
5 2 2006	1	6	4	0	0	0	0	0	0	11
19 2 2006	4	16	0	0	0	0	0	0	0	20
8 3 2006	5	6	6	0	0	0	0	0	0	17
18 3 2006	2	1	1	0	17	0	0	0	0	21
15 4 2006	0	5	7	0	0	0	0	0	0	12
29 4 2006	0	2	5	0	2	0	0	0	0	9
6 6 2006	0	0	0	0	1	0	0	0	0	1

Peak; 24: (2004/05 peak; 30)

OYSTERCATCHER *Haematopus ostralegus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	27	92	18	9	45	17	0	3	2	213
24 7 2005	79	159	35	10	21	11	4	0	0	319
10 8 2005	228	255	15	2	20	2	1	0	0	523
27 8 2005	263	361	26	0	5	0	0	0	0	655
7 9 2005	301	164	23	1	13	1	0	0	0	503
21 9 2005	221	175	23	0	23	2	1	0	0	445
5 10 2005	211	148	30	0	18	1	0	0	0	408
22 10 2005	202	215	27	3	8	1	0	0	0	456
9 11 2005	148	267	36	1	21	4	0	0	0	477
23 11 2005	173	174	35	0	32	0	0	0	0	414
10 12 2005	213	178	29	0	30	1	0	0	0	451
23 12 2005	184	216	26	1	32	7	0	0	0	466
8 1 2006	151	167	36	0	33	0	0	0	0	387
22 1 2006	182	150	41	0	28	1	0	0	0	402
5 2 2006	157	107	51	4	31	2	6	0	0	358
19 2 2006	211	176	62	0	39	21	0	0	0	509
8 3 2006	211	210	0	5	106	11	23	0	0	566
18 3 2006	96	124	0	4	75	7	19	17	2	344
15 4 2006	21	55	7	2	65	18	5	0	1	174
29 4 2006	10	48	8	0	36	4	4	0	0	110
17 5 2006	77	16	4	4	9	3	5	1	0	119
28 5 2006	16	33	3	5	8	0	8	0	0	73
6 6 2006	12	37	5	4	16	17	5	0	0	96
25 6 2006	8	30	13	12	15	3	3	1	1	86

Peak; 655: (2004/05 peak; 746)

RINGED PLOVER *Charadrius hiaticula*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 8 2005	0	0	12	0	0	0	0	0	0	12
27 8 2005	2	12	0	0	0	0	1	0	0	15
7 9 2005	20	25	3	0	0	0	0	0	0	48
21 9 2005	0	17	0	0	0	0	0	0	0	17
5 10 2005	1	0	7	0	0	0	0	0	0	8
9 11 2005	0	2	0	0	0	12	0	0	0	14
23 11 2005	0	0	0	0	0	8	0	0	0	8
10 12 2005	0	10	0	0	0	0	0	0	0	10
23 12 2005	0	0	0	0	0	4	0	0	0	4
22 1 2006	0	0	0	0	0	4	0	0	0	4
5 2 2006	0	0	0	0	0	9	0	0	0	9
19 2 2006	0	0	0	0	0	21	0	0	0	21
8 3 2006	0	0	0	0	0	14	0	0	0	14
18 3 2006	0	14	0	0	5	18	0	0	0	37
15 4 2006	0	9	2	0	0	0	0	0	0	11
29 4 2006	0	0	0	0	0	4	0	0	0	4
17 5 2006	42	37	0	0	0	0	0	0	0	79
28 5 2006	10	0	0	0	0	0	0	0	0	10

Peak; 79: (2004/05 peak; 56)

GOLDEN PLOVER *Pluvialis apricaria*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	0	132	0	0	0	0	132
24 7 2005	0	126	0	0	0	0	0	0	0	126
10 8 2005	0	430	0	0	0	0	0	0	0	430
27 8 2005	0	510	340	450	0	0	0	0	0	1300
7 9 2005	0	1370	7	320	0	0	0	0	0	1697
21 9 2005	0	850	0	0	90	2600	0	0	0	3540
5 10 2005	0	560	0	0	0	10	0	0	0	570
22 10 2005	0	0	2800	6	0	0	0	0	0	2806
9 11 2005	0	2	0	0	3500	0	0	0	0	3502
23 11 2005	0	375	0	0	0	0	0	0	0	375
10 12 2005	0	0	0	0	0	900	0	0	0	900
23 12 2005	0	5	8	0	0	350	0	0	0	363
8 1 2006	0	0	0	0	0	440	0	0	0	440
22 1 2006	0	200	0	0	10	450	0	0	0	660
19 2 2006	0	0	0	0	610	0	570	0	0	1180
18 3 2006	0	0	0	0	0	0	60	0	0	60
15 4 2006	0	0	0	0	0	1	0	0	0	1

Peak; 3,540: (2004/05 peak; 5,115)

LAPWING *Vanellus vanellus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	14	60	70	290	690	660	4	12	1800
24 7 2005	0	32	26	120	90	205	180	29	2	684
10 8 2005	0	85	90	95	140	340	400	8	82	1240
27 8 2005	0	210	120	550	1200	1400	610	7	95	4192
7 9 2005	0	191	525	260	1720	1220	140	26	11	4093
21 9 2005	0	242	230	250	2250	1200	2340	40	44	6596
5 10 2005	0	14	4	70	100	0	0	0	0	188
22 10 2005	0	115	216	60	1620	500	0	0	0	2511
9 11 2005	0	26	43	35	590	1020	510	0	0	2224
23 11 2005	0	100	16	0	185	170	2	0	0	473
10 12 2005	0	0	0	0	920	1090	210	0	0	2220
23 12 2005	0	0	25	0	190	1570	220	0	0	2005
8 1 2006	0	0	12	0	460	1290	520	0	0	2282
22 1 2006	0	0	50	0	140	75	150	0	0	415
5 2 2006	0	0	0	0	30	37	240	0	0	307
19 2 2006	0	0	30	0	650	320	1000	0	0	2000
18 3 2006	0	0	2	0	97	390	60	0	0	549
15 4 2006	0	0	0	0	0	4	0	0	0	4
29 4 2006	0	0	0	0	0	1	0	0	0	1
25 6 2006	0	1	1	0	11	0	13	4	16	46

Peak; 6,596: (2004/05 peak; 3,662)

KNOT *Calidris canutus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 8 2005	0	2	0	0	3	0	0	0	0	5
27 8 2005	1	93	0	0	0	0	0	0	0	94
7 9 2005	70	10	0	0	25	15	0	0	0	120
21 9 2005	0	0	1	0	0	102	0	0	0	103
5 10 2005	2	0	0	0	0	90	0	0	0	92
22 10 2005	120	0	0	0	0	0	0	0	0	120
9 11 2005	5	5	0	0	20	215	0	0	0	245
23 11 2005	0	0	0	0	26	0	0	0	0	26
10 12 2005	0	230	0	0	0	0	0	0	0	230
23 12 2005	0	230	0	0	0	0	0	0	0	230
8 1 2006	0	30	0	0	0	0	0	0	0	30
22 1 2006	0	0	140	0	210	0	0	0	0	350
5 2 2006	0	0	0	0	0	460	0	0	0	460
19 2 2006	0	0	0	0	0	420	0	0	0	420
8 3 2006	0	0	0	0	0	14	390	0	0	404
18 3 2006	0	0	0	0	0	280	0	0	0	280
15 4 2006	18	0	0	0	0	130	0	0	0	148
29 4 2006	11	0	0	0	17	0	0	0	0	28

Peak; 460: (2004/05 peak; 396)

DUNLIN *Calidris alpina*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	0	2	1	18	0	0	21
24 7 2005	0	0	0	0	0	1	2	0	0	3
10 8 2005	0	1	2	0	0	127	1	0	0	131
27 8 2005	0	5	0	10	301	510	85	0	0	911
7 9 2005	0	60	32	16	7	253	70	0	0	438
21 9 2005	0	67	0	0	6	960	195	14	0	1242
5 10 2005	0	14	0	0	0	115	240	0	0	369
22 10 2005	0	300	27	0	0	205	30	0	0	562
9 11 2005	0	140	16	0	25	460	6	0	0	647
23 11 2005	0	0	20	0	0	252	0	0	0	272
10 12 2005	0	295	0	0	0	60	150	0	0	505
23 12 2005	0	60	0	0	0	215	0	0	0	275
8 1 2006	0	2	0	0	0	170	60	0	0	232
22 1 2006	0	0	0	0	0	270	70	0	0	340
5 2 2006	0	0	0	1	0	372	46	0	0	419
19 2 2006	0	0	0	0	0	270	0	0	0	270
8 3 2006	0	0	0	0	0	40	0	0	0	40
18 3 2006	0	2	0	0	0	251	0	0	0	253
29 4 2006	0	2	0	0	0	0	0	0	0	2
17 5 2006	81	75	0	0	0	0	0	0	0	156
28 5 2006	13	0	0	0	0	0	0	0	0	13
25 6 2006	0	0	0	0	0	0	0	2	0	2

Peak; 1,242: (2004/05 peak; 785)

BAR-TAILED GODWIT *Limosa lapponica*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
24 7 2005	0	8	2	0	0	0	0	0	0	10
10 8 2005	1	3	0	0	0	0	1	0	0	5
27 8 2005	0	17	5	0	0	0	0	0	0	22
7 9 2005	0	12	7	0	0	0	0	0	0	19
21 9 2005	0	9	13	0	2	0	0	0	0	24
5 10 2005	0	18	15	0	0	0	0	0	0	33
22 10 2005	0	8	19	0	0	0	0	0	0	27
9 11 2005	0	19	4	0	0	0	0	0	0	23
23 11 2005	0	26	8	0	6	0	0	0	0	40
10 12 2005	3	43	10	0	1	0	0	0	0	57
23 12 2005	0	25	11	0	0	0	0	0	0	36
8 1 2006	2	16	9	0	2	7	0	0	0	36
22 1 2006	0	14	20	0	5	1	0	0	0	40
5 2 2006	4	6	42	0	5	0	0	0	0	57
19 2 2006	1	15	12	0	7	0	0	0	0	35
8 3 2006	0	12	6	0	15	0	0	0	0	33
18 3 2006	2	13	23	0	13	3	0	0	0	54
15 4 2006	0	1	5	0	10	8	0	0	0	24
29 4 2006	0	0	0	0	17	1	0	0	0	18
17 5 2006	4	2	4	0	17	0	0	0	0	27
28 5 2006	0	0	0	0	0	0	15	0	0	15
6 6 2006	0	0	0	0	32	0	6	0	0	38
25 6 2006	0	0	0	0	5	0	0	0	0	5

Peak; 57: (2004/05 peak; 34)

CURLEW *Numenius arquata*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	47	30	0	488	87	12	1	0	665
24 7 2005	2	101	13	2	328	70	29	1	2	548
10 8 2005	8	139	7	15	71	226	10	1	0	477
27 8 2005	4	99	7	2	143	90	203	2	2	552
7 9 2005	8	144	5	4	127	190	25	1	1	505
21 9 2005	5	142	7	3	296	160	35	2	1	651
5 10 2005	13	83	9	50	123	42	260	0	0	580
22 10 2005	11	78	4	6	466	50	10	0	2	627
9 11 2005	7	59	2	0	176	150	11	2	0	407
23 11 2005	7	76	2	3	51	20	0	2	1	162
10 12 2005	2	112	11	2	194	130	2	2	0	455
23 12 2005	2	151	32	2	585	52	2	1	0	827
8 1 2006	0	49	3	1	247	345	0	0	0	645
22 1 2006	2	61	18	4	533	42	15	0	1	676
5 2 2006	0	42	17	8	28	76	47	0	0	218
19 2 2006	3	68	0	1	481	2	230	0	0	785
8 3 2006	7	52	1	0	15	74	0	0	0	149
18 3 2006	2	47	8	2	229	32	50	0	0	370
15 4 2006	0	0	5	0	217	151	10	0	0	383
29 4 2006	0	4	0	3	2	2	7	0	0	18
17 5 2006	0	0	0	1	104	0	0	0	0	105
28 5 2006	0	6	0	0	0	1	2	1	0	10
6 6 2006	0	49	0	1	48	0	0	0	0	98
25 6 2006	0	0	0	0	275	3	7	0	0	285

Peak; 827: (2004/05 peak; 952)

REDSHANK *Tringa totanus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	8	10	0	28	67	21	0	0	134
24 7 2005	0	72	94	5	101	162	86	99	0	619
10 8 2005	2	165	46	3	316	306	170	28	0	1036
27 8 2005	14	122	55	15	434	376	351	22	2	1391
7 9 2005	14	133	36	13	141	459	379	52	1	1228
21 9 2005	12	131	98	10	297	717	188	22	1	1476
5 10 2005	17	115	46	27	225	380	296	21	1	1128
22 10 2005	30	78	39	4	124	625	122	0	1	1023
9 11 2005	22	108	22	8	196	348	54	7	1	766
23 11 2005	6	144	14	8	168	132	69	5	1	547
10 12 2005	12	182	24	1	248	156	59	5	1	688
23 12 2005	3	104	25	3	301	144	61	3	0	644
8 1 2006	8	47	6	9	235	218	32	3	0	558
22 1 2006	3	52	7	6	219	239	93	7	0	626
5 2 2006	8	41	36	33	144	137	45	2	0	446
19 2 2006	6	81	13	1	315	281	0	0	0	697
8 3 2006	2	22	12	4	174	215	126	0	0	555
18 3 2006	2	28	18	107	121	285	112	4	0	677
15 4 2006	1	51	95	0	151	268	207	6	2	781
29 4 2006	4	26	4	2	93	135	31	1	4	300
17 5 2006	0	0	0	0	0	0	0	6	0	6
28 5 2006	0	0	0	0	0	0	0	5	0	5
6 6 2006	0	0	0	0	0	0	1	0	0	1
25 6 2006	0	0	0	0	0	0	2	25	2	29

Peak; 1,476: (2004/05 peak; 1,412)

TURNSTONE *Arenaria interpres*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 8 2005	0	0	0	0	1	0	0	0	0	1
27 8 2005	5	2	0	0	0	0	0	0	0	7
7 9 2005	0	4	0	0	0	0	0	0	0	4
21 9 2005	0	21	4	0	2	0	0	0	0	27
5 10 2005	6	39	2	0	0	0	0	0	0	47
22 10 2005	0	21	1	0	0	2	0	0	0	24
9 11 2005	8	36	1	0	2	0	0	0	0	47
23 11 2005	5	21	0	0	0	11	0	0	0	37
10 12 2005	13	27	6	0	5	0	0	0	0	51
23 12 2005	11	34	0	0	0	0	0	0	0	45
8 1 2006	8	21	1	0	1	0	0	0	0	31
22 1 2006	1	5	3	0	11	1	0	0	0	21
5 2 2006	6	6	0	0	0	0	0	0	0	12
19 2 2006	1	16	9	0	0	0	0	0	0	26
8 3 2006	4	10	0	0	0	0	0	0	0	14
18 3 2006	1	7	6	0	0	0	0	0	0	14
15 4 2006	0	0	0	0	1	0	0	0	0	1

Peak; 51: (2004/05 peak; 37)

2.2 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
2005			
July	1,933	2,779	4,712
August	572	6,666	7,238
September	1,278	11,581	12,859
October	1,582	6,184	7,766
November	1,289	5,922	7,211
December	1,441	5,862	7,303
2006			
January	1,230	4,562	5,792
February	481	4,840	5,321
March	850	2,975	3,825
April	1,780	1,303	3,083
May	3,168	515	3,683
June	2,487	546	3,033

The total number of birds of all species on the estuary was much higher in September than in any other month (Figure 2), due mainly to large numbers of Golden Plovers and Lapwings. Numbers were over 7,000 from August to December and between 3,000 and 4,000 in spring.

2.3 Comparison between 2004/05 and 2005/06

2.3.1 Total number of birds

There was little overall change between 2004/05 and 2005/06 in the monthly mean numbers of birds of all species (including Eiders); numbers were higher in 2005/06 in five of the 12 months and lower in seven. The peak of 12,859 birds in September 2005 was, however, much higher than the peak in 2004/05 (10,629; in November) but was similar to the peak in 2002/03 (12,788).

Eiders decreased between the two years, with numbers lower in 2005/06 in nine of the 12 months. Species other than Eiders, however, showed little overall change, with higher mean numbers in 2005/06 in six months of the 12 months and lower numbers in six. 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 increase from 5,051 in 2004/05 to 6,516 in 2005/06.

2.3.2 Individual species

For each of the commonly-recorded species, the mean of the three highest counts in 2005/06 was compared with the same measure for the previous year (Patterson and Thorpe 2005).

Species	2004/05	2005/06	Change
Cormorant	71	47	-
Heron	26	34	+
Mute Swan	28	47	+
Shelduck	167	149	-
Wigeon	617	596	-
Teal	34	101	+
Mallard	65	50	-
Eider	3,926	3,328	-
Goldeneye	38	32	-
Red-breasted Merganser	24	22	-
Oystercatcher	698	581	-
Ringed Plover	35	55	+
Golden Plover	4,039	3,283	-
Lapwing	2,107	4,960	+
Knot	366	428	+
Dunlin	695	933	+
Bar-tailed Godwit	33	50	+
Curlew	891	723	-
Redshank	1,312	1,365	+
Turnstone	33	48	+

Of the eight wildfowl species, two showed increases and six showed decreases. Of the 10 wader species, seven increased and three 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. Peak counts were, however, appropriate for Eiders and Shelduck, which reached predictable seasonal peak numbers in the nesting season (usually in May).

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 2004/05	2005/06	Change
Cormorant	10	8	-
Heron	11	8	-
Mute Swan	12	14	+
Wigeon	292	346	+
Teal	1	4	+
Mallard	18	11	-
Goldeneye	18	17	-
Merganser	15	13	-
Wildfowl total	356	421	+
Oystercatcher	385	448	+
Ringed Plover	10	10	=
Golden Plover	41	615	+
Lapwing	918	2003	+
Knot	234	230	-
Dunlin	373	355	-
Bar-tailed Godwit	15	36	+
Curlew	556	543	-
Redshank	712	683	-
Turnstone	23	27	+
Wader total	3,267	4,950	+
Overall total	3,955	5,371	+

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

2.4 Species which occur less commonly on the Ythan, which were 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
23 11 2005	0	0	0	0	0	0	0	0	2	2

RED-NECKED GREBE

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
9 11 2005	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
7 9 2005	0	0	0	0	1	0	0	0	0	1
21 9 2005	0	0	0	0	1	0	0	0	0	1

WHOOPER SWAN *Cygnus cygnus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5 2 2006	0	0	0	0	0	3	0	0	0	3

PINK-FOOTED GOOSE *Anser brachyrhychus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	0	2	0	0	0	0	2
10 12 2005	4	0	0	0	0	0	0	0	0	4
23 12 2005	0	0	1	0	0	0	0	0	0	1
18 3 2006	0	0	0	0	0	2	0	0	0	2

GREYLAG GOOSE *Anser anser*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	0	0	1	0	0	0	0	1
24 7 2005	0	0	0	0	0	0	7	0	0	7
10 8 2005	0	0	0	0	0	0	28	0	0	28
7 9 2005	0	0	0	0	0	16	11	0	0	27
5 10 2005	0	0	0	0	0	100	0	0	0	100
22 10 2005	0	0	0	0	0	2	0	0	0	2
23 11 2005	0	0	0	0	0	3	0	0	0	3
6 6 2006	0	0	0	0	0	0	0	6	0	6

BAR-HEADED GOOSE *Anser indicus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	3	0	0	0	0	0	0	0	0	3
10 8 2005	0	0	0	0	0	0	3	0	0	3
7 9 2005	0	0	0	0	0	0	2	0	0	2

CANADA GOOSE *Branta canadensis*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
24 7 2005	0	0	0	0	0	0	13	1	0	14
10 8 2005	0	0	0	0	0	0	27	0	0	27
7 9 2005	0	0	0	0	0	0	21	0	0	21
6 6 2006	0	0	0	0	0	0	0	1	0	1

BRENT GOOSE *Branta bernicla*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
21 9 2005	0	0	0	1	0	0	3	0	0	4
9 11 2005	0	2	0	0	0	0	0	0	0	2
10 12 2005	1	0	0	0	0	0	0	0	0	1

PINTAIL *Anas acuta*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
8 3 2006	0	0	0	0	0	0	2	0	0	2
29 4 2006	0	0	0	0	0	0	1	0	0	1

SHOVELER *Spatula clypeata*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
6 6 2006	1	0	0	0	0	0	0	0	0	1

TUFTED DUCK *Aythya fuligula*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 12 2005	3	0	0	0	0	0	0	0	0	3
8 1 2006	0	1	0	0	0	0	0	0	0	1
19 2 2006	0	1	0	0	0	0	0	0	0	1
8 3 2006	0	0	0	0	0	5	0	0	0	5
18 3 2006	0	1	0	0	0	0	0	0	0	1

SCAUP *Aythya marila*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5 10 2005	0	0	0	0	0	6	0	0	0	6
22 10 2005	0	0	0	0	4	0	0	0	0	4
23 11 2005	0	5	0	0	0	0	0	0	0	5
10 12 2005	4	0	0	0	0	0	0	0	0	4
8 1 2006	0	4	0	0	0	0	0	0	0	4
19 2 2006	0	3	0	0	0	0	0	0	0	3
18 3 2006	1	1	0	0	0	0	0	0	0	2

LONG-TAILED DUCK *Clangula hyemalis*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
5 2 2006	0	1	0	0	0	0	0	0	0	1
8 3 2006	1	3	0	0	0	0	0	0	0	4

OSPREY *Pandion haliaetus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
27 8 2005	0	0	0	0	2	1	0	0	0	3

GREY PLOVER *Pluvialis squatarola*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 8 2005	0	1	0	0	0	0	0	0	0	1
27 8 2005	2	0	0	0	0	0	0	0	0	2
7 9 2005	1	1	0	0	0	0	0	0	0	2
5 10 2005	2	3	1	0	0	0	0	0	0	6
22 10 2005	0	5	1	0	0	0	0	0	0	6
9 11 2005	5	2	0	0	0	0	0	0	0	7
23 11 2005	4	10	0	0	0	0	0	0	0	14
10 12 2005	3	9	2	0	0	0	0	0	0	14
23 12 2005	5	7	0	0	0	0	0	0	0	12
8 1 2006	2	11	1	0	0	0	0	0	0	14
22 1 2006	0	8	1	0	0	0	0	0	0	9
5 2 2006	2	2	0	0	0	0	0	0	0	4
19 2 2006	0	7	0	0	0	0	0	0	0	7
8 3 2006	2	8	0	0	0	0	0	0	0	10
18 3 2006	0	5	0	0	0	0	0	0	0	5

RUFF *Philomachus pugnax*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
10 8 2005	0	0	0	0	0	0	0	1	0	1
21 9 2005	0	0	0	0	0	1	0	0	0	1
5 10 2005	0	0	0	0	0	4	0	0	0	4

SNIPE *Gallinago gallinago*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
7 9 2005	0	1	0	0	0	0	0	0	0	1
8 3 2006	0	4	0	0	0	0	0	0	0	4
29 4 2006	0	0	0	0	0	0	0	0	1	1

BLACK-TAILED GODWIT *Limosa limosa*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	0	3	2	0	4	0	0	0	9
24 7 2005	0	0	0	0	0	3	0	0	0	3
10 8 2005	0	3	0	0	0	0	0	0	0	3
27 8 2005	0	10	0	0	0	0	0	0	0	10
7 9 2005	0	21	0	0	4	8	0	0	0	33
21 9 2005	0	6	0	0	0	0	0	0	0	6
5 10 2005	0	37	0	0	8	0	0	0	0	45
22 10 2005	0	2	2	0	12	0	0	0	0	16
9 11 2005	0	6	0	0	1	1	0	0	0	8
23 11 2005	0	0	0	0	4	0	0	0	0	4
10 12 2005	0	3	0	0	0	0	0	0	0	3
29 4 2006	0	4	0	1	0	0	0	0	0	5

WHIMBREL *Numenius phaeopus*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
11 7 2005	0	2	0	0	0	0	0	0	0	2
24 7 2005	0	0	0	0	0	2	1	0	0	3

GREENSHANK *Tringa nebularia*

Date	Mo	In	Qu	Ta	Sl	Ha	Sn	Ma	Lo	Total
24 7 2005	0	0	0	0	0	2	0	0	0	2
10 8 2005	0	0	0	0	2	0	1	1	0	4
27 8 2005	1	0	0	0	0	2	0	0	2	5
7 9 2005	0	0	0	3	0	0	0	0	0	3
21 9 2005	0	0	0	0	2	0	0	0	0	2
29 4 2006	0	0	0	0	1	3	0	0	0	4

COMMON SANDPIPER

11 7 2005	0	0	0	0	0	0	0	0	1	1

3. 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 2004/05 and 2005/06, 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.

There was little overall change in total bird numbers between the two years, with numbers higher in 2005/06 than in 2004/05 in five of the 12 months and lower in the other seven months. However, the mean total number of birds (of species other than Eiders) between August and February was higher than in the previous year. A majority of the individual wildfowl species showed a decrease in their peak numbers but no overall change in their winter median numbers. Both of the main breeding duck species, Eider and Shelduck showed a decrease in their peak counts. Evidence from the common wader species was ambiguous, with a difference between peak numbers (which tended to increase between the two years) and winter median numbers (which showed no overall change). The same difference between peak and median numbers was found when comparing earlier pairs of years (Patterson and Thorpe 2005) and presumably reflects the variable occurrence of short-term peaks independent of overall numbers.

4. REFERENCES

Patterson, I.J. and Cosgrove, P.J. 1998. Waders and waterfowl on the Ythan estuary, 1997/1998. *Scottish Natural Heritage Archive Report No. 007.*

Patterson, I.J. and Thorpe A.W. 2005. Waders and waterfowl on the Ythan estuary, 2004/2005. *Scottish Natural Heritage Commissioned Report No. 014.*

APPENDIX 1. SURVEY METHODS

1.1 Field survey

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 nine 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.

1.2 Data analysis

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

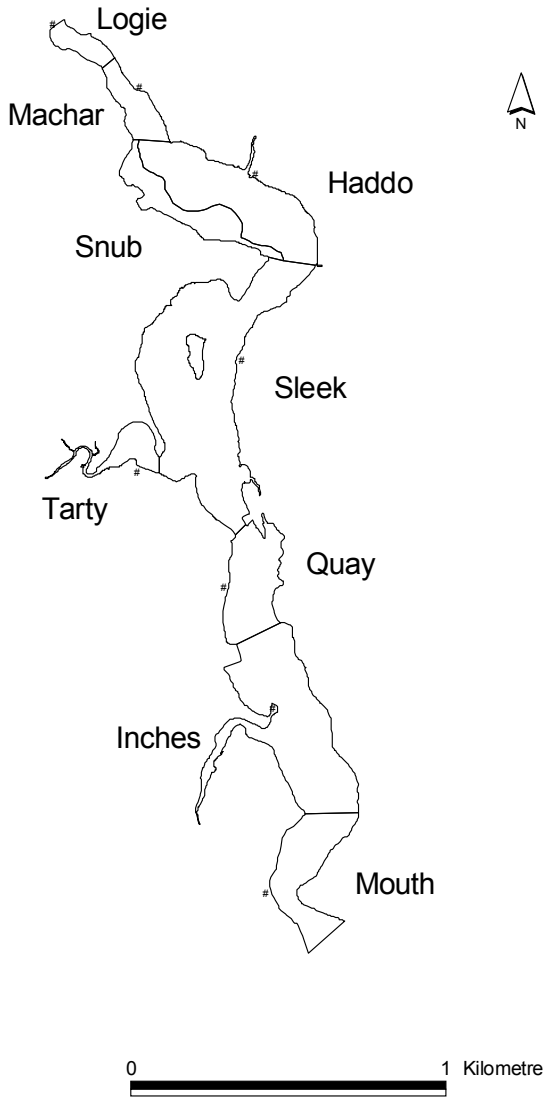

Figure 1. The Ythan estuary, showing the counting sections (named) and count points (spots). The division between the Snub and Haddo sections is the centre of the low-water channel.

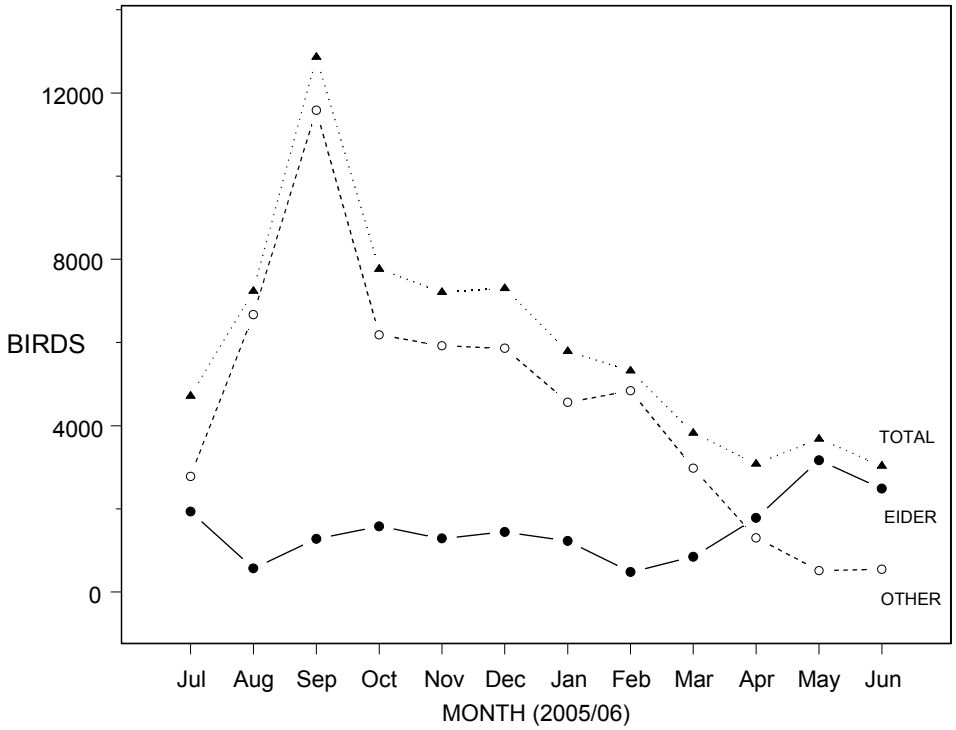

Figure 2. The mean number of Eiders (closed circles), birds of other species (open circles) and the total of birds of all species (triangles) on the Ythan estuary in 2005/06

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