

Numbers of migrating waders in south-east Kazakhstan assessed by standardised monitoring

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The abundance of migratory waders in spring and autumn 1990 and 1991 was monitored at two sites in south-east Kazakhstan. Estimates of abundance were made by transect counts and standardised mist-netting. A total of 28 species of waders were recorded in the spring and 37 in the autumn at Korjinkol and Alakol lakes. The highest numbers of Temminck's Stint *Calidris temminckii* were recorded in both migration seasons, whereas Whimbrel *Numenius phaeopus* were commonest in the spring, and Redshank *Tringa totanus* in the autumn. During separate years, the most abundant species were Little Stint *Calidris minuta*, Kentish Plover *Charadrius alexandrinus*, Little Ringed Plover *Charadrius dubius*, Curlew Sandpiper *Calidris ferruginea*, Lapwing *Vanellus vanellus*, Terek Sandpiper *Xenus cinereus*, Common Snipe *Gallinago gallinago* and Black-tailed Godwit *Limosa limosa*.

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Был проведен мониторинг обилия перелетных куликов весной и осенью 1990 и 1991 гг. в двух местах на юго-востоке Казахстана. Обилие было оценено маршрутными учетами и стандартизованным отловом птиц паутиными сетями. Было зарегистрировано в целом 28 видов куликов весной и 37 видов осенью на озерах Коржинколь и Алаколь. Максимальная численность белохвостого песочника *Calidris temminckii* была отмечена в оба миграционных сезона, тогда как средние крошечные *Numenius phaeopus* были наиболее многочисленными весной и травник *Tringa totanus* осенью. В отдельные годы самыми обильными видами являлись кулик-воробей *Calidris minuta*, морской зуек *Charadrius alexandrinus*, малый зуек *Charadrius dubius*, краснозобик *Calidris ferruginea*, чибис *Vanellus vanellus*, мордунка *Xenus cinereus*, обыкновенный бекас *Gallinago gallinago* и большой веретенник *Limosa limosa*.

Introduction and methods

Observations of migrating waders in Kazakhstan were made from 29 April - 12 July 1990 on Korjynkol lake (2 km from the north-east extremity of Sasykkol), from 16 July - 9 September 1990 and from 13 May - 8 August 1991 on the western coast of Lake Alakol, Kazakhstan.

The numbers of waders were determined in two ways: by transect counts and trapping in mist nets. Data were standardised according to survey effort. In the analyses of transect data, numbers of birds recorded were expressed in relation to the length of lake shore (numbers/km shore). Numbers caught,

were expressed as the total for 100 net/days (the standard net length was 10 m).

Results and discussion

Summary data for wader abundance as expressed by shoreline counts and standardised between count periods as a mean value per km of the shore of Lake Alakol for 1990 are presented in Table 1 and for 1991 in Table 2. Total numbers observed in each month of these years are given in Table 3.

Table 4 summarises the monthly totals of waders caught at Lake Alakol in mist-nets in both 1990 and 1991. The data are standardised for effort (numbers per 100 net/days) in Table 5 (1990) and Table 6 (1991)



to show seasonal changes in abundance.

Twenty-eight species of wader were recorded during the spring migration period (May - beginning of June). Green Sandpiper *Tringa ochropus*, Wood Sandpiper *Tringa glareola*, Ruff *Philomachus pugnax*, Broad-billed Sandpiper *Limicola falcinellus* and Bar-tailed Godwit *Limosa lapponica* were recorded during transect counts only.

Calculations revealed that the most abundant waders in 1990 were Grey Plover *Pluvialis squatarola*, Kentish Plover *Charadrius alexandrinus*, Little Stint *Calidris minuta*, Temminck's Stint *Calidris temminckii* and Whimbrel *Numenius phaeopus* and, in 1991, Grey Plover, Redshank *Tringa totanus* and Temminck's Stint.

Among the trapped birds, the most numerous were Kentish Plover, Little Stint and Temminck's Stint in 1990 and Redshank, Temminck's Stint and Terek Sandpiper *Xenus cinereus* in 1991 (Table 4). There were some reasons for these marked differences: in 1991, we began our observations 14 days later than in 1990, which meant we missed the end of the Kentish Plover migration and the beginning of the Whimbrel migration. In addition, in 1990 Kentish Plovers bred on the neighbouring salines, increasing the probability of recording these birds on transects and capturing them. The lower number of Little Stint and higher number of Redshank recorded in 1991 was a result of sampling in different habitats, as observations were made on silty and sandy shoals in 1990 and in marshy areas in 1991. The relative numbers of Grey Plover, Whimbrel, Black-winged Stilt *Himantopus himantopus* and other large waders were high on transect counts (Tables 1-3) in comparison to the trapping data (Tables 4-6) where the medium-sized waders (e.g. Redshank and Terek Sandpiper) and small waders (Little Stint, Temminck's Stint and others) were more abundant. During the period of autumn migration (the second half of June - September), we ringed 37 species of waders. Curlew *Numenius arquata* and Whimbrel were recorded during the transects and Pacific Golden Plover *Pluvialis fulva*, Ringed Plover *Charadrius hiaticula*, Least Sandpiper *Calidris minutilla* and Pintail Snipe *Gallinago stenura* were caught in the mist nets. Whimbrel were recorded in high flying flocks. The numbers of other mentioned species were very small, so the probabilities of their

trapping or visual detection were approximately equal. The prevalence of Lapwing *Vanellus vanellus* and Black-winged Stilt on the transects only was defined by their low capture probability in comparison with the medium and small wader species. The relatively high numbers of Kentish Plover, Little Plover and Terek Sandpiper caught compared to count data was probably a consequence of the activity of these species at twilight, while the counts were made mainly in the morning when their activity was less.

In summary, a total of 28 species of waders were recorded in the spring and 37 in the autumn at Korjinkol and Alakol lakes. The highest numbers of Temminck's Stint were recorded in both migration seasons, whereas Whimbrel were commonest in the spring, and Redshank in the autumn. During separate years, the most abundant species were Little Stint, Kentish Plover, Little Ringed Plover, Curlew Sandpiper, Lapwing, Terek Sandpiper, Common Snipe *Gallinago gallinago* and Black-tailed Godwit. The increase of species and their numbers during the period of autumn migration was caused by the different nature of their migration in this season.

This analysis, based on counting and trapping, showed the dynamic character of seasonal migratory abundance. In order to estimate objectively the abundance of migratory waders, it is necessary to use two complimentary methods (trapping and counts), as waders of different sizes have unequal capture probability whereas the probability of visual detection of scarce and rare species is equal.

Table 2. Densities (mean number of birds per 1 km of coastline) of waders on Lake Alakol in 1991. L - total transect length; N - number of counts.

Date	13 May	20 May	27 May	20 June	1 July	8 July	4 Aug.	8 Aug.
L (km); N	6.7; 9	3.2; 5	2.2; 3	2.8; 5	4; 4	3.3	1; 1	2; 1
Species								
Grey Plover <i>Pluvialis squatarola</i>	7.2±3.7	5.6±2.6	20.4±0.7					
Little Ringed Plover <i>Charadrius dubius</i>	0.4±0.4	0.6±0.3			0.7±0.7		9	2.5
Kentish Plover <i>Charadrius alexandrinus</i>			3.6±1.9				1	2
Lapwing <i>Vanellus vanellus</i>	0.9±0.5	0.6±0.6	1.8±1.9	2.1±0.5	3.0±1.1		18	14.5
Turnstone <i>Arenaria interpres</i>		2.8±1.3	8.2±2.0					0.5
Black-winged Stilt <i>Himantopus himantopus</i>	3.3±3.3	0.6±0.4	0.4±0.3	7.5±3.1	9.5±4.9		15	14.5
Avocet <i>Recurvirostra avosetta</i>	0.4±0.4	0.3±0.4	0.9±0.6					
Oystercatcher <i>Haematopus ostralegus</i>	0.6±0.5	1.6±1.0	3.6±4.5	4.3±3.8	3.7±3.7			
Wood Sandpiper <i>Tringa glareola</i>							1	
Greenshank <i>Tringa nebularia</i>					1.5±1.5		1	
Redshank <i>Tringa totanus</i>	3.0±1.6	2.8±1.6	9.1±5.3	34.3±9.1	12.5±5.2	4.0±4.0	11	5
Spotted Redshank <i>Tringa erythropus</i>				0.4±0.4	0.7±0.5			
Marsh Sandpiper <i>Tringa stagnatilis</i>		1.9±2.4			0.2±0.2			
Terek Sandpiper <i>Xenus cinereus</i>	0.1±0.1	4.1±2.9	0.4±0.3				1	
Ruff <i>Philomachus pugnax</i>	0.1±0.2				1.2±1.2		2	0.5
Little Stint <i>Calidris minuta</i>	0.7±0.6							
Temminck's Stint <i>Calidris temminckii</i>	16.6±9.4	28.7±17.9					21	13
Common Snipe <i>Gallinago gallinago</i>				0.4±0.3	2.0±0.7	0.3±0.3	13	5
Curlew <i>Numenius arquata</i>				0.7±0.4				
Whimbrel <i>Numenius phaeopus</i>	2.4±1.2	8.1±4.8	0.4±0.3					
<i>Numenius</i> sp.					15.2±15.2	36.6±36.7		
Black-tailed Godwit <i>Limosa limosa</i>					0.2±0.2		15	60
Bar-tailed Godwit <i>Limosa lapponica</i>			0.4±0.3					
Collared Pratincole <i>Glareola pratincola</i>	0.6±0.9	0.6±0.8	0.4±0.3		0.2±0.2			

Table 2. continued.

Date	9 July	16 July	30 July	6 Aug.	13 Aug.	20 Aug.	27 Aug.	3 Sept.	10 Sept.
L (km); N	3; 3	2; 1	8.2; 11	6.1; 2	2.3; 2	2; 1	7; 4	6; 4	1.5; 1
Species									
Grey Plover <i>Pluvialis squatarola</i>			0.8±0.5	0.5±0.26			1.6±2.5	0.8±0.6	
Little Ringed Plover <i>Charadrius dubius</i>		2.5	6.9±2.9	7.9±4.2	23.9±8.1	6.0	0.7±0.2	1.5±0.6	
Greater Sandplover <i>Charadrius leschenaultii</i>									
Caspian Plover <i>Charadrius asiaticus</i>	6.0±6.0								
Kentish Plover <i>Charadrius alexandrinus</i>			19.1±6.8	24.6±17.6	3.0±1.8		1.7±1.6	0.8±0.6	
Lapwing <i>Vanellus vanellus</i>	7.7±7.7		16.5±5.3	17.2±6.2	12.2±5.5	1.5	1.0±0.71	1.3±0.47	
Turnstone <i>Arenaria interpres</i>			17.1±12.2	6.2±4.4	2.2±0.2			1.0±0.2	
Black-winged Stilt <i>Himantopus himantopus</i>	4.0±4.0	11.0	16.8±4.7	8.8±3.4	16.1±0.1	2.5	1.0±0.6	0.7±0.4	
Oystercatcher <i>Haematopus ostralegus</i>	7.7±7.0	20.0					1.0±1.5		
Green Sandpiper <i>Tringa ochropus</i>			0.6±0.46						
Wood Sandpiper <i>Tringa glareola</i>		0.5		1.0±0.5	0.4±0.4	0.5	0.9±0.32	1.3±1.2	
Greenshank <i>Tringa nebularia</i>			0.1±0.1	0.2±0.2					
Redshank <i>Tringa totanus</i>	5.3±5.3	7.5	17.2±6.9	10.3±5.8	14.8±5.2		3.3±0.5	1.0±0.6	1.3
Spotted Redshank <i>Tringa erythropus</i>			0.1±0.1	0.8±0.4	0.9±0.1	0.5	0.4±0.3	0.2±0.2	
Marsh Sandpiper <i>Tringa stagnatilis</i>			0.7±0.4	0.8±0.38			5.8±4.9	0.3±0.2	
Common Sandpiper <i>Actitis hypoleucos</i>		1.0	0.2±0.2	2.0±2.5					
Terek Sandpiper <i>Xenus cinereus</i>			6.3±3.0	0.3±0.3	12.2±6.1		0.4±0.2	0.3±0.3	
Red-necked Phalarope <i>Phalaropus lobatus</i>	12.7±7.5		0.1±0.1	1.8±1.3			8.6±10.0	6.5±3.8	
Ruff <i>Philomachus pugnax</i>			2.9±1.1	2.6±3.3	3.0±2.6	6.0	0.6±0.4	0.5±0.5	
Little Stint <i>Calidris minuta</i>	3.3±3.3		3.9±1.9	30.3±26.4	33.9±4.5	1.5		0.3±0.3	
Temminck's Stint <i>Calidris temminckii</i>		3.0	82.2±29.7	22.8±10.3	35.6±6.6	24.5	20.0±3.1	6.3±2.3	
Curlew Sandpiper <i>Calidris ferruginea</i>	22.3±11.4	64.5	16.0±4.9	12.1±12.6		135.2±27.5	25.0	10.7±6.5	2.7±2.2
Sharp-tailed Sandpiper <i>Calidris acuminata</i>			0.1±0.1						
Dunlin <i>Calidris alpina</i>									
Broad-billed Sandpiper <i>Limicola falcinellus</i>				0.2±0.3	1.7±1.1	0.5	0.4±0.4		
Common Snipe <i>Gallinago gallinago</i>			0.1±0.6	7.9±2.9	51.7±30.1	0.5	1.9±0.4	1.8±0.7	2.0
Jack Snipe <i>Lymnocyptes minimus</i>								0.7±0.2	
Curlew <i>Numenius arquata</i>									
Whimbrel <i>Numenius phaeopus</i>				0.5±0.63				2.0±2.0	
Black-tailed Godwit <i>Limosa limosa</i>		915.0	2.8±1.1	2.2±1.6	19.3±10.4			19.8±12.3	
Bar-tailed Godwit <i>Limosa lapponica</i>			0.2±0.1						
Collared Pratincole <i>Glareola pratincola</i>									

Table 3. Total numbers of waders counted on the Lake Alakol in 1990 and 1991. L - total transect length; N - number of counts.

Species	Date	1990					1991	
	L (km); N	30 April- 28 May 30; 48	4 June- 25 June 16.2; 25	9 July- 30 July 13.3; 15	6 Aug.- 27 Aug. 17.4; 15	3 Sept.- 10 Sept. 7.5; 5	13 May- 20 June 14.9; 22	1 July- 8 Aug. 10; 9
Grey Plover <i>Pluvialis squatarola</i>		263	7	7	22	5	111	
Little Ringed Plover <i>Charadrius dubius</i>		31	14	62	120	9	5	17
Greater Sandplover <i>Charadrius leschenaultii</i>		3	2					
Caspian Plover <i>Charadrius asiaticus</i>		3	170	18				
Kentish Plover <i>Charadrius alexandrinus</i>		120	192	157	169	5	8	5
Lapwing <i>Vanellus vanellus</i>		2	15	158	143	8	18	59
Turnstone <i>Arenaria interpres</i>		36	15	140	43	6	27	1
Black-winged Stilt <i>Himantopus himantopus</i>		58	69	172	103	4	46	82
Avocet <i>Recurvirostra avosetta</i>							6	
Oystercatcher <i>Haematopus ostralegus</i>		2	3	61	7		29	15
Green Sandpiper <i>Tringa ochropus</i>		4	8	5				
Wood Sandpiper <i>Tringa glareola</i>			1	1	16	8		2
Greenshank <i>Tringa nebularia</i>		12	26	1	1			7
Redshank <i>Tringa totanus</i>		33	777	172	120	8	145	83
Spotted Redshank <i>Tringa erythropus</i>			5	1	11	1	1	3
Marsh Sandpiper <i>Tringa stagnatilis</i>			8	6	40	2	6	1
Common Sandpiper <i>Actitis hypoleucos</i>		31	13	4	12		2	
Terek Sandpiper <i>Xenus cinereus</i>		18	25	52	33	2	15	2
Ruff <i>Philomachus pugnax</i>			8	24	39	3	1	8
Red-necked Phalarope <i>Phalaropus lobatus</i>		6		39	71	39		8
Little Stint <i>Calidris minuta</i>		283	4	42	266	2	5	
Temminck's Stint <i>Calidris temminckii</i>		225	4	680	410	38	203	47
Curlew Sandpiper <i>Calidris ferruginea</i>		27		327	510	16		6
Sharp-tailed Sandpiper <i>Calidris acuminata</i>				1				
Dunlin <i>Calidris alpina</i>		31	1					
Broad-billed Sandpiper <i>Limicola falcinellus</i>					9			
Common Snipe <i>Gallinago gallinago</i>				8	182	13	1	32
Jack Snipe <i>Lymnocyptes minimus</i>						1		
<i>Numenius</i> sp.								171
Curlew <i>Numenius arquata</i>		2	45				2	
Whimbrel <i>Numenius phaeopus</i>		1,632			3	12	43	
Black-tailed Godwit <i>Limosa limosa</i>			19	1,853	140	119		136
Bar-tailed Godwit <i>Limosa lapponica</i>				2			1	
Collared Pratincole <i>Glareola pratincola</i>		6	5				7	1
TOTAL		2,832	1,436	3,993	2,470	301	682	686

Table 4. Total number of waders captured at Lake Alakol in 1990 and 1991.

Species	1990						1991				
	April - May	June	July	Aug.	Sept.	Total	May	June	July	Aug.	Total
Grey Plover <i>Pluvialis squatarola</i>	3	5		1		9	9	1		1	11
American Golden Plover <i>Pluvialis dominica</i>				3		3					
Ringed Plover <i>Charadrius hiaticula</i>				1		1					
Little Ringed Plover <i>Charadrius dubius</i>	6	3	102	137	4	252	1	1	28	8	38
Greater Sandplover <i>Charadrius leschenaultii</i>	1	5				6	1				1
Caspian Plover <i>Charadrius asiaticus</i>		33	50			83					
Kentish Plover <i>Charadrius alexandrinus</i>	45	66	84	299	4	498	5	7	60	23	95
Lapwing <i>Vanellus vanellus</i>			1	6		7					
Turnstone <i>Arenaria interpres</i>	1	2		5	1	9					
Black-winged Stilt <i>Himantopus himantopus</i>			5	15	1	21	2	1	14	7	24
Oystercatcher <i>Haematopus ostralegus</i>								3	1		4
Green Sandpiper <i>Tringa ochropus</i>			1	5	1	7			8	2	10
Wood Sandpiper <i>Tringa glareola</i>		1	3	14	2	20	1		8		9
Greenshank <i>Tringa nebularia</i>				1		1					
Redshank <i>Tringa totanus</i>	13	275	313	128	2	731	42	189	307	28	566
Spotted Redshank <i>Tringa erythropus</i>				1		1					
Marsh Sandpiper <i>Tringa stagnatilis</i>		3	4	17	1	25		1	4	4	9
Common Sandpiper <i>Actitis hypoleucos</i>	4	4	33	15		56	1	1	19	3	24
Terek Sandpiper <i>Xenus cinereus</i>	13	10	78	149	2	252	24		1		25
Red-necked Phalarope <i>Phalaropus lobatus</i>			11	134	47	192			3	1	4
Ruff <i>Philomachus pugnax</i>		1	16	70	5	92		4	18	4	26
Little Stint <i>Calidris minuta</i>	188	13	30	267	1	499	3		2	2	7
Long-toed Stint <i>Calidris subminuta</i>			3	16		19			2		2
Temminck's Stint <i>Calidris temminckii</i>	125	3	132	464	8	732	61		53	23	137
Curlew Sandpiper <i>Calidris ferruginea</i>	2		36	508	25	571	1		11	6	18
Broad-billed Sandpiper <i>Limicola falcinellus</i>	1		1	12	1	15					
Dunlin <i>Calidris alpina</i>	1	1		4	2	8					
Common Snipe <i>Gallinago gallinago</i>			19	172	9	200		1	54	21	76
Pin-tailed Snipe <i>Gallinago stenura</i>				1		1					
Whimbrel <i>Numenius phaeopus</i>	11					11	5				5
Black-tailed Godwit <i>Limosa limosa</i>			5	6		11		2	5		7
Collared Pratincole <i>Glareola pratincola</i>		1	20			21			4		4
Total	414	426	947	2451	116	4354	156	211	602	133	1102

Table 5. Changes in numbers of waders caught through summer 1990 at Lake Alakol on the basis of standardised mist-netting (numbers of waders caught per 100 net/days).

Species	30 April	7 May	14 May	21 May	28 May	4 June	11 June	18 June	25 June	2 July	9 July	16 July	23 July	30 July	6 Aug.	13 Aug.	20 Aug.	28 Aug.	3 Sept.
Grey Plover <i>Pluvialis squatarola</i>				1.2	1.2	0.8									1.2		0.4		
American Golden Plover <i>Pluvialis dominica</i>																			
Ringed Plover <i>Charadrius hiaticula</i>																			
Little Ringed Plover <i>Charadrius dubius</i>	5.9	0.5		0.4	0.8	0.4	0.4	0.4	0.3	6.4	12.4	14.4	9.8	12.6	16.1	13.1	5.7	4.8	1.5
Greater Sandplover <i>Charadrius leschenaultii</i>				0.4	0.8	0.8	0.4												
Kentish Plover <i>Charadrius alexandrinus</i>	6.3	1.9	3.9	7.3	2.4	4.8	8.4	6.8	5.9	5.4	19.7	5.0	4.5	32.8	31.8	26.4	15.3	2.4	3.1
Lapwing <i>Vanellus vanellus</i>														1.8	0.4				
Turnstone <i>Arenaria interpres</i>				0.4	0.4	0.4								0.4	0.8	0.3	0.4		0.8
Black-winged Stilt <i>Himantopus himantopus</i>												1.1	1.2	1.4	2.4	0.6	0.8	0.6	0.8
Green Sandpiper <i>Tringa ochropus</i>														0.7	0.8	0.3	0.4		
Wood Sandpiper <i>Tringa glareola</i>								0.4			0.4		0.8	0.4	0.8	1.6	1.5	1.2	0.8
Greenshank <i>Tringa nebularia</i>														0.4					
Redshank <i>Tringa totanus</i>	1.9		2.4	3.6	3.6	3.6	26.8	30.0	43.5	18.8	24.0	63.3	27.0	26.0	14.1	7.5	2.7		1.5
Spotted Redshank <i>Tringa erythropus</i>																0.3			
Marsh Sandpiper <i>Tringa stagnatilis</i>				0.4	0.4	0.4	0.4	0.4			0.4		0.8	1.1	0.4	2.8	1.9	0.6	
Common Sandpiper <i>Actitis hypoleucos</i>	0.8	0.9		0.4	0.4				1.0	1.7	5.1	2.2	4.9	1.1	2.0	1.6	0.8		
Terek Sandpiper <i>Xenus cinereus</i>			0.4	2.8	2.4	2.0	0.4	1.1		2.0	9.0	9.4	12.7	12.6	11.3	18.7	10.3	1.2	1.5
Red-necked Phalarope <i>Phalaropus lobatus</i>										0.7	3.9			0.4	3.2	1.2	29.0	42.6	16.0
Ruff <i>Philomachus pugnax</i>								0.4			0.4	2.2	4.5	0.7	6.8	6.8	8.8	3.6	3.8
Little Stint <i>Calidris minuta</i>	2.4	13.2	21.5	32.9	14.4	1.2				0.7	9.4	1.7	1.2	3.2	15.7	39.2	30.9	7.8	
Long-toed Stint <i>Calidris subminutilla</i>									0.3				0.8	0.7	2.0	1.9	1.1		
Temminck's Stint <i>Calidris temminckii</i>			9.4	29.2	13.4	2.8					0.9	36.1	23.3	29.6	16.9	37.7	80.6	9.6	5.3
Curlew Sandpiper <i>Calidris ferruginea</i>	0.5			0.4							5.1	5.5	2.9	4.7	26.6	89.0	43.9	23.4	10.7
Dunlin <i>Calidris alpina</i>				0.4		0.4				2.3							0.4	1.8	1.5
Broad-billed Sandpiper <i>Limicola falcinellus</i>													0.4	0.4	0.4	0.9	1.5	1.8	0.8
Common Snipe <i>Gallinago gallinago</i>											4.4		3.7	5.8	19.3	26.1	6.1	9.0	3.1
Whimbrel <i>Numenius phaeopus</i>																			
Black-tailed Godwit <i>Limosa limosa</i>	2.3	1.7	0.8									1.7	8.2	0.4	0.8	0.3	0.8		
Collared Pratincole <i>Glaucola pratincola</i>										1.3			5.7	1.4					

Table 6. Changes in numbers of waders caught through summer 1991 at Lake Alakol on the basis of standardised mist-netting (numbers of waders caught per 100 net/days).

Grey Plover <i>Pluvialis squatarola</i>	1.5	1.3	1.8	0.4	0.4	1.9	2.7	4.9	2.2	4.0	4.2
Little Ringed Plover <i>Charadrius dubius</i>			0.4								
Greater Sandplover <i>Charadrius leschenaultii</i>			0.4								
Kentish Plover <i>Charadrius alexandrinus</i>	0.5	1.8	0.9	0.9	0.4	1.0	4.9	6.7	7.6	11.6	8.3
Lapwing <i>Vanellus vanellus</i>	0.5		1.8		0.4	0.5	1.3	0.9	0.4	0.9	2.1
Turnstone <i>Arenaria interpres</i>		0.4									
Black-winged Stilt <i>Himantopus himantopus</i>		0.9	0.4	0.4		0.6	0.9	1.3	0.9	5.4	2.1
Oystercatcher <i>Haematopus ostralegus</i>			0.4	0.9		0.6					
Green Sandpiper <i>Tringa ochropus</i>									3.1	0.4	2.1
Wood Sandpiper <i>Tringa glareola</i>	0.5							3.1	3.1	0.9	
Redshank <i>Tringa totanus</i>	5.9	8.9	6.2	5.4	16.5	24.0	26.8	41.1	27.7	23.2	27.1
Marsh Sandpiper <i>Tringa stagnatilis</i>				0.4				0.9	2.7	1.8	4.2
Common Sandpiper <i>Actitis hypoleucos</i>		0.4	5.4	0.4		0.5	1.3	0.4	2.7	3.1	
Terek Sandpiper <i>Xenus cinereus</i>	1.5	5.4	4.0								
Red-necked Phalarope <i>Phalaropus lobatus</i>									0.9		2.1
Ruff <i>Philomachus pugnax</i>				0.9		1.0	0.4	1.3	4.0	3.1	2.1
Little Stint <i>Calidris minuta</i>	1.0		0.4					0.4	0.4	0.4	2.1
Long-toed Stint <i>Calidris subminutilla</i>									0.4	0.4	
Temminck's Stint <i>Calidris temminckii</i>	18.3	8.0	2.7					2.2	19.6	8.5	16.7
Curllew Sandpiper <i>Calidris ferruginea</i>	0.5						0.9	2.2	1.8	2.2	2.1
Sharp-tailed Sandpiper <i>Calidris acuminata</i>											
Dunlin <i>Calidris alpina</i>											
Common Snipe <i>Gallinago gallinago</i>						0.5	1.3	7.6	11.2	8.5	22.9
Whimbrel <i>Numenius phaeopus</i>	0.5	1.8									
Black-tailed Godwit <i>Limosa limosa</i>						0.5	0.4	0.4	0.4	0.4	
Collared Pratincole <i>Glareola pratincola</i>					0.4		1.3	0.4			