

WASH WADER RINGING GROUP



2006-2007 REPORT

AIMS OF THE WASH WADER RINGING GROUP

The group aims to monitor waders using the Wash to provide a better understanding of their biology. This will allow decisions which may affect these waders to be taken in the light of factual information.

Work concentrates on eleven target species (Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank and Turnstone), studying:

- the patterns of migration and origin of each species and any known populations;
- the importance of the Wash as a whole;
- the importance of sub-areas of the Wash;
- the use of biometrics and other techniques to understand how birds use the Wash;
- long-term population dynamics.

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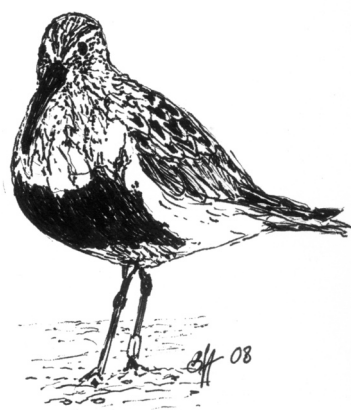
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- The many landowners, farmers and their staff around the Wash who allow us access to their land, foreshores and, through their co-operation, enable catches to be made.
- Natural England for financial support and permission to make catches within the Wash National Nature Reserve.
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- The Village Hall Committee at Friskney for allowing the use of their hall as a Lincolnshire base for our operations.
- The Royal Estate for generously allowing us to use their buildings for storage of equipment.
- Members of the public who have come across us in the field and have co-operated to help with our catching operations.

INTRODUCTION

The years 2006-07 were a period of consolidation rather than seeing any major new developments. The Old School House at Terrington continued to provide an excellent base in all seasons. After first using the Friskney village hall for autumn passage fieldwork in 2004, the Group was again fortunate to be able to be based there for Lincolnshire fieldwork during the period covered by this report.

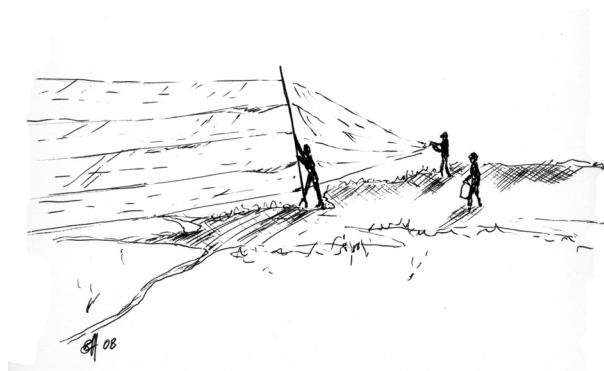
The shift in catching opportunities from fields inside the sea wall to saltmarsh continued. This, combined with a reduction in the numbers of certain species present, most notably Dunlin, made reaching the target catch sizes required for monitoring purposes difficult. Additional experience was gained with the small mesh cannon nets which allow us to extract birds very quickly. This enables us to catch in sites that could not otherwise be used.

Having appeared in the 'Coast' series in 2005, the Group again hosted film crews in 2006/7, including featuring in the 'In Your Area' section of Alan Titchmarsh's 'Nature of Britain' series.

A report of this nature necessarily focuses on fieldwork and results, but we should also acknowledge the background work that goes in to making the Group run. The work to put all of the Group's historic data

into computer accessible form continued. Several Group members have been involved but John Bonell deserves special thanks for keeping up-to-date with the input of the bird processing data generated by the group.

The acknowledgements in the section above formally thank the individuals and organisations who enable the Group to do its work but we must not forget the volunteers who give their time willingly to participate in fieldwork. This report details the results of this dedication; without it we would know so much less about the waders that use the Wash.



FIELDWORK

2006 Fieldwork

As mentioned in the last report, a team was celebrating the New Year at the Old School House at the turn of the year. The first catch for the year was just two (a misfire), but mist-netting in the evening at Wainfleet brought a more respectable 43 birds. A visit to Port Sutton Bridge on 2 January for Turnstone was lucky with 29 caught just before a ship docked.

A feature of the Group's fieldwork programme in recent years has been to include 'possible' dates when mist-netting will take place subject to the weather conditions being right. The next fieldwork for 2006 was one of these occasions and proved very successful. A team assembled for mist-netting at Wolferton in early February and were rewarded with a catch of 128, just over half of which were Knot.

The first full weekend of scheduled fieldwork was in mid-March and the highlight was a catch of just over one hundred birds at Heacham. This included 55 Bar-tailed Godwit, a species rarely caught in numbers on the East Wash beaches. Mist-netting added a further 65 to the total for the weekend.

The April visit was also the Group's AGM which was held on the Saturday evening. Catching attempts were made on both morning tides, but without success on the Saturday and on Sunday a waterlogged net resulted in a catch of just two when it should have been a lot more!

The Group's annual diversion from ringing waders, a visit to the Outer Bund to ring gull pulli, occurred on 25 June, and rather more than the annual quota of 500 were ringed (520 Lesser Black-backed and 298 Herring). The previous day had been spent at the Old School House base preparing equipment for the summer fieldwork.

A long weekend in mid-July provided a very respectable catch of 240 Dunlin on the Terrington



saltmarsh. Other catching attempts proved less successful with clear skies and it remaining light later than expected meaning that few birds were mist-netted. Fields inland of Heacham had a few hundred Curlew and some Bar-tailed Godwit, but just 14 were caught, although one was from Finland (ringed 10 years previously).

For Mini Wash Week in mid-August it proved possible to have two teams, based in Norfolk and Lincolnshire. Both teams were badly affected by the unseasonably wet and windy weather. The Norfolk team, based in the Old School House, had no catch over 40 (but one of those was 38 Black-tailed Godwit) until the final evening when the weather did allow a mist-netting session which produced 97. The highlight however for this team was the following morning when, after early rain cleared, a catch of 108 Bar-tailed Godwit and Curlew was followed by a catch of 316 Bar-tailed Godwit. Both these were taken on the inland fields at Heacham. Meanwhile, the Lincolnshire team's successes were reversed with their best catches early in the period. A catch of just under 700 Dunlin was filmed by a 'Look North' camera crew and was followed by nearly 200 Bar-tailed Godwit on the next day.

Again, the mid-September Wash Week was able to operate as two teams with the Lincolnshire team using the Friskney village hall as they had done in August. The Terrington team had mixed fortunes with several catches, but none over 100. Perhaps the most memorable catch was a visit to Wolferton where the team was eaten alive by mosquitoes and the presence of a large number of geese on the mist-netting pool led to disaster for some of the nets. The Lincolnshire team similarly had a number of double figure catches, but did at least manage one of over a hundred. This was 111 Oystercatchers on the Wainfleet islands, justifying the hard work involved in getting there.

With weekend tides later in the year being unsuitable, the final fieldwork for the year was in late October. Just 43 Oystercatchers were caught then, nearly all juveniles. One of these juveniles had a Belgian ring, and we now know it was ringed as a nestling in that country on 14 June.



2007 Fieldwork

The year got off to an inauspicious start in mid-January when gales prevented any of the three people due to recce from reaching the Wash for the Friday morning tide. This was particularly unfortunate as the Group was to be joined on Saturday morning by a BBC TV film crew, filming for the 'Nature of Britain' series. In the event a catch of just three Turnstone was made with the film crew present which fortunately satisfied their needs. Had they been able to stay for the Saturday evening they would have been able to record a much more satisfactory catch of 117 Oystercatchers. Strong winds returned for Sunday making any further catching impossible.

The February visit was also the Group's AGM which was held on Saturday morning. Comprehensive recces on both Friday afternoon and Saturday morning paid off with a catch of 259 Oystercatchers on the rising tide site at Heacham. This was followed by a further Oystercatcher catch, this time of 145, at Snettisham on Sunday morning, although the original target had been the grey waders roosting there.

No further routine wader catching was scheduled until the autumn passage period, possible mist-netting sessions not taking place due to weather. However an April mid-week evening attempt to catch Sanderling was arranged at short notice to enable more to be colour-ringed. This was successful with a catch of 125 of which 40 received colour rings (see article on page 16).

The annual gull ringing on the Outer Bund was split into two sessions since the first, on 16 June, proved too early for the full quota of at least 500 gulls to be ringed. The second session, on 1 July, rectified this and brought the year's total of gulls ringed to 749.

All three of the Autumn passage fieldwork sessions managed to have teams working on both Norfolk and Lincolnshire sides of the Wash. However, the Lincolnshire team in particular, struggled to get an adequate number of people. As in recent years, the bases used were the Old School House in Terrington and the Friskney village hall.

In the first of these three sessions, a long weekend in early August, the Lincolnshire team kept the best until last. Having struggled to catch well on the earlier tides, a trip out to the Wainfleet Islands

brought the reward of a good Oystercatcher catch with a number of Dunlin and Sanderling on the final morning. Meanwhile the Terrington-based team demonstrated that time spent recceing is seldom wasted. Having failed initially to find good catching options the first catching tide was devoted to further recces and the team went on to make three good catches. Two catches were just under 100 birds, but the Friday morning catch totalled 1,200 birds, almost equally divided between Sanderling and Dunlin. Subsequently looking back at the records revealed it to be the group's largest ever catch of Sanderling.

Main Wash Week took place at the end of August and into September. The Lincolnshire team was augmented by visitors from the Gibraltar Point ringing course and did well catching Curlew and Bar-tailed Godwit in four catches. Other species were more elusive and were mainly caught by mist-netting. A few people even stayed on for an additional mist-netting session at the end of the week. The Terrington team struggled throughout the week to make any significant catch, the best being 106 Curlew on Heacham fields. They made up for the relative lack of success on the final two tides with a productive, 163-bird, mist-netting session and then a catch of 300, mainly Dunlin but also 47 Knot, on the final morning.

Mini Wash Week was as late as the end of September and suffered from rain. Both teams struggled to make a reasonable cannon net catch, the only significant one being 97 Redshank on a Lincolnshire sea wall. Mist-netting was rather more successful, particularly for the Terrington team.

Mid-November saw the last fieldwork of the year and once again the weather conspired against us, this time in a rather spectacular way! A particular set of weather conditions meant a three metre tidal surge was predicted to coincide with the high tide when morning recces were to be undertaken. In the event the tide was only about one metre above predicted but very strong winds made it unpleasant and resulted in no worthwhile recces. The wind did moderate enough to allow a small Oystercatcher catch to be made on the Saturday afternoon, but the nets set for Sunday morning were washed out by the tide again making well over the predicted height.

Phil Ireland

TOTALS

Totals of birds caught in 2006 and 2007 are given in Table 1, with details by catch in Tables 2 and 3. In Tables 2 and 3 the top line records the catching site using a three character code. The first two characters identify the general area (see next page) and the third character identifies the exact location. The second line gives the day and month of the catch and the third line gives cannon nets fired (sm = small mesh) or mist nets set (shown in brackets).

Totals 2005 - correction to last report

The 2005 totals showed that 36 Avocets had been ringed. This was incorrect. The figures had been accidentally moved from Ringed Plover. The totals for Ringed Plover for 2005 should read:

	Newly Ringed	Retrap	Total
Ringed Plover	30	6	36

Table 1: TOTALS - 2006, 2007 and Grand Total

	2006			2007			Grand Total 1959-2007 (newly ringed)
	Newly ringed	Retrap	Total	Newly Ringed	Retrap	Total	
Oystercatcher	188	27	215	496	226	722	35,285
Avocet	0	0	0	0	0	0	4
Stone Curlew	0	0	0	0	0	0	1
Little Ringed Plover	0	0	0	0	0	0	13
Ringed Plover	0	0	0	18	1	19	1,136
Golden Plover	76	0	76	0	0	0	343
Grey Plover	44	7	51	35	3	38	6,129
Lapwing	0	0	0	0	0	0	69
Knot	223	4	227	163	2	165	51,807
Sanderling	0	0	0	758	122	880	10,343
Little Stint	0	0	0	3	0	3	50
Pectoral Sandpiper	0	0	0	0	0	0	1
Curlew Sandpiper	0	0	0	3	0	3	299
Purple Sandpiper	0	0	0	0	0	0	43
Dunlin	1,278	36	1,314	1,070	52	1,122	131,146
Broad-billed Sandpiper	0	0	0	0	0	0	1
Ruff	0	0	0	0	0	0	108
Snipe	0	0	0	0	0	0	60
Black-tailed Godwit	78	2	80	1	0	1	1,400
Bar-tailed Godwit	668	50	718	144	20	164	6,585
Whimbrel	0	0	0	1	0	1	183
Curlew	216	13	229	346	43	389	4,618
Spotted Redshank	2	0	2	0	0	0	80
Redshank	85	4	89	241	9	250	13,651
Greenshank	0	0	0	2	0	2	214
Green Sandpiper	0	0	0	0	0	0	5
Wood Sandpiper	0	0	0	0	0	0	3
Common Sandpiper	0	0	0	0	0	0	55
Turnstone	51	5	56	35	3	38	7,234
TOTAL Waders	2,909	148	3,057	3,316	481	3,797	270,866
Arctic Tern	0	0	0	1	0	1	
Black-headed Gull	0	0	0	1	0	1	
Lesser Bb Gull - pulli	520	0	520	358	0	358	
Herring Gull - pulli	298	0	298	391	0	391	
Herring Gull - adult	0	0	0	1	0	1	
Starling	0	0	0	2	0	2	
TOTAL Non Waders	818	0	818	754	0	754	
GRAND TOTALS	3,727	148	3,875	4,070	481	4,551	

Site codes used in Tables 2 and 3

AF, AP, KF, TM	Terrington	BN	Benington
FM	Friskney	HE	Heacham
HM	Holbeach	LV	Leverton
SB	Sutton Bridge	SN	Snettisham
WL	Wolferton	WM	Wainfleet
WT	Wrangle		

Table 2 : Catch totals for 2006

Site Code	SNX	WMW	SBR	WLU	AFS	HET	AFS	HET	AFS	AFS	HEK	LVT	HEJ	HEJ	LVD	LVD	HMB	HMB	AFS	LVU	HEJ	HEJ	LVT	AFS	LVF	
Date	1.1	1.1	2.1	3.2	4.3	18.3	18.3	30.4	25.6	15.7	15.7	16.7	9.8	9.8	10.8	10.8	11.8	12.8	13.8	13.8	14.8	14.8	7.9	7.9	8.9	
Nets fired / (set)	1	(13)	1	(15)	(9)	2 sm	2 sm	(17)	1 sm	2 sm	(18)	2	2	2	4	2	2	1	1	(15)	(10)	1	1	2	2 sm	2
Newly ringed																										
Oystercatcher						33	2								1		4									
Golden Plover																										
Grey Plover				1	2															1			31			
Knot	1	22		76	54		21	2											11	4	2					
Dunlin		9		38	20		39			238	8				684	3			40	8			47			
Black-tailed Godwit											1						36		5	5	69	304		2		
Bar-tailed Godwit	2			2	5	50						1	18	38	38	8										
Curlew				5								13	18	38					5		33					
Spotted Redshank											5								14	19						
Redshank	1	9					1												16	5						
Turnstone			26																							
TOTAL																										
	2	42	26	122	81	83	63	2	0	238	14	13	19	38	38	685	184	36	4	86	42	104	304	78	2	0
Retraps/controls																										
Oystercatcher						18												3								
Golden Plover																										
Grey Plover				1	1														1			2				
Knot	1			3																						
Dunlin				3						3					12	1			4	4			4			
Black-tailed Godwit																										
Bar-tailed Godwit						5									20		2		1	1	3	12				
Curlew											1	3	2								1				1	
Spotted Redshank																			2							
Redshank							2												2							
Turnstone			3																2							
TOTAL																										
	0	1	3	6	1	24	2	0	0	3	0	1	3	2	0	12	21	2	3	10	5	4	12	6	0	1
ALL WADERS	2	43	29	128	82	107	65	2	0	241	14	14	22	40	38	697	205	38	7	96	47	108	316	84	2	1
Common Gull																			1							
Lesser Bb Gull									520																	
Herring Gull									298																	
Stock Dove								2																		
NON-WADERS																										
	0	0	0	0	0	0	0	2	818	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

Table 2 : Catch totals for 2006 (continued)

Site Code	WMW	APA	BNA	HMD	WTV	AFS	HMD	WMW	WLU	KFH	LVU	AFS	APS	HET	TOT
Date	8.9	9.9	9.9	10.9	10.9	10.9	11.9	11.9	11.9	12.9	12.9	12.9	13.9	21.10	
Nets fired /(set)	1	2	1	2	(9)	(11)	2	(11)	(?)	2	(12)	(13)	1	2	
Newly ringed															
Oystercatcher	106								1					42	188
Golden Plover			75												76
Grey Plover			2			2		1	1	1	2				44
Knot				1	9	45		10	19		2	9		3	223
Dunlin			1		9						11	27	25		1,278
Black-tailed Godwit				38		1	1								78
Bar-tailed Godwit	1		2	1	3	1		22	1		22				668
Curlew					2		2	1		53	3				216
Spotted Redshank									1		1				2
Redshank					5	11			7		10	3			85
Turnstone			1			1			1			1			51
TOTAL	106	1	81	39	20	70	3	36	32	54	51	40	25	45	2,909
Retraps/controls															
Oystercatcher	5													1	27
Golden Plover															0
Grey Plover						1						1			7
Knot															4
Dunlin						2					2		1		36
Black-tailed Godwit															2
Bar-tailed Godwit								4			4				50
Curlew					1					1	2				13
Spotted Redshank															0
Redshank															4
Turnstone															5
TOTAL	5	1	0	0	1	3	0	4	0	1	8	1	1	1	148
ALL WADERS															
Common Gull	111	2	81	39	21	73	3	40	32	55	59	41	26	46	3,057
Lesser Bb Gull															1
Herring Gull															520
Stock Dove															298
															2
NON-WADERS															
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	821

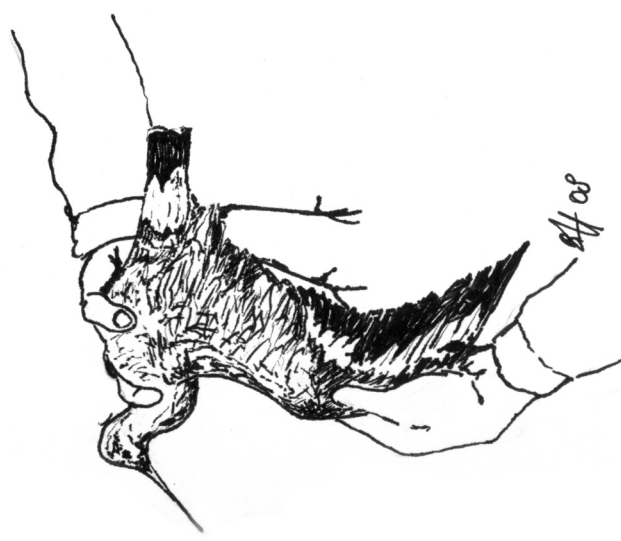


Table 3: Catch totals for 2007

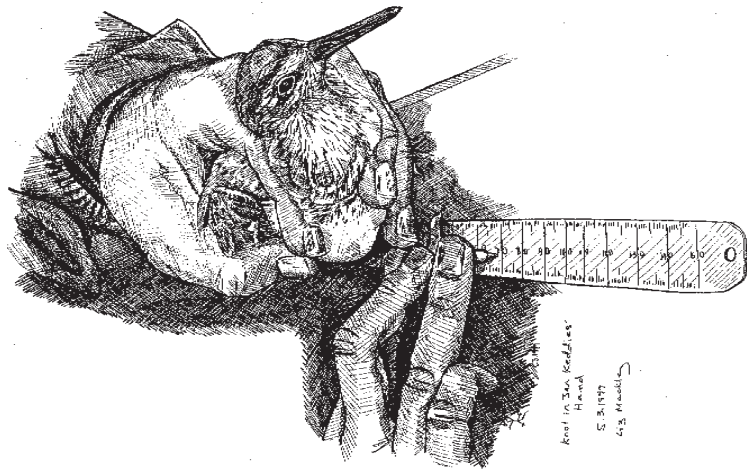
Site Code	SNX	HET	HET	HEW	TMZ	TMZ	HET	WMD	SNX	FMC	WMU	HEJ	LVS	SNW	SNW	SNW	APS	HEJ	WMA	WMW	LVD	APS	AFC
Date	20.1	20.1	17.2	23.3	18.4	16.6	1.7	2.8	3.8	3.8	3.8	4.8	5.8	29.8	29.8	29.8	29.8	30.8	30.8	30.8	31.8	31.8	31.8
Nets fired / (set)	1	1	2	1	(21)	1 sm	1 sm	1 sm	2	2 sm	2	2	1	1 sm	2 sm	2 sm	1 sm	2	2	2	1	2	2
Newly ringed																							
Oystercatcher		70	152	97	1				11	55			1	100									
Ringed Plover					1										4	2					1		
Grey Plover					8								1								4		
Knot																					1		
Sanderling					69			86	562				19	1	8					3	1		
Little Stint									2														
Curlew Sandpiper																							
Dunlin					9	1			559		2		12	13	19	1	7			5	5	10	
Ruff																							
Black-tailed Godwit																							
Bar-tailed Godwit					3					1	36										88		
Whimbrel																							1
Curlew					2			11			30		1					84	12		6		7
Redshank					2								7				1						
Greenshank													2										
Turnstone					2																		
TOTAL	2	70	152	97	26	70	0	0	86	11	1,134	55	3	66	24	11	8	84	12	8	105	10	8
Retraps/Controls																							
Oystercatcher		47	107	48						7				15									
Ringed Plover									1														
Grey Plover																							
Knot																							
Sanderling						56		11	54						1								
Little Stint																							
Curlew Sandpiper																							
Dunlin					1				19				4		2	1							
Black-tailed Godwit																							
Bar-tailed Godwit					1	1					7							1			8		
Curlew											1		1					22			1		
Redshank													1										
Greenshank																							
Turnstone					1																		
TOTAL	1	47	107	49	2	56	0	0	11	7	0	8	6	15	2	2	2	0	23	0	9	0	0
ALL WADERS	3	117	259	146	28	126	0	0	97	11	1,208	62	3	74	30	13	8	107	12	8	114	10	8
Black-headed Gull																							
Lesser Bb Gul						295	63																
Herring Gull						121	270																
Arctic Tern																							
Starling																							
NON-WADERS	0	0	0	0	0	0	416	333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3: Catch totals for 2007 (continued)

Site Code	FMC	HMD	AFS	WMU	AFT	LVU	AFS	BNS	AFS	LVU	WTV	SNX	SNX	AFS	WTV	HET	TOT
Date	1.9	1.9	1.9	1.9	2.9	2.9	15.9	28.9	29.9	29.9	30.9	30.9	30.9	30.9	30.9	10.11	
Nets fired / (set)	2	2	(14)	(9)	1 sm	(7)	(11)	1	(14)	(?)	1	1 sm	1 sm	(15)	(8)	1	
Newly ringed																	
Oystercatcher																20	496
Ringed Plover					17	1											18
Grey Plover			6	14	47	1			21	3	2	1	3	5	3		35
Knot			21												35		163
Sanderling													9				758
Little Stint					1												3
Curlew Sandpiper			1		2												3
Dunlin			64	5	227	19	18	21	1	1		9	60	2			1,070
Black-tailed Godwit			1														1
Bar-tailed Godwit	2		1		2	5		3					2	1			144
Whimbrel																	1
Curlew	126	34			1			1									346
Redshank			50		14	9	1	22	5	95				20	15		241
Greenshank																	2
Turnstone			11		1	1	1	3	7	1		2		6			35
TOTAL	128	34	155	19	297	41	29	4	75	10	98	6	18	128	24	20	3,316

9

Site Code	FMC	HMD	AFS	WMU	AFT	LVU	AFS	BNS	AFS	LVU	WTV	SNX	SNX	AFS	WTV	HET	TOT
Date	1.9	1.9	1.9	1.9	2.9	2.9	15.9	28.9	29.9	29.9	30.9	30.9	30.9	30.9	30.9	10.11	
Nets fired / (set)	2	2	(14)	(9)	1 sm	(7)	(11)	1	(14)	(?)	1	1 sm	1 sm	(15)	(8)	1	
Retraps/Controls																	
Oystercatcher																2	226
Ringed Plover																	1
Grey Plover			1		2									2			3
Knot																	2
Sanderling																	122
Little Stint																	0
Curlew Sandpiper																	0
Dunlin			5		7	2	1	2						8			52
Black-tailed Godwit																	0
Bar-tailed Godwit	1					1											20
Whimbrel																	0
Curlew	14	2															43
Redshank									1	2				1	4		9
Greenshank																	0
Turnstone			2														3
TOTAL	15	2	8	0	9	3	1	0	3	0	2	0	0	11	4	2	481
ALL WADERS	143	36	163	19	306	44	30	4	78	10	100	6	18	139	28	22	3,797
Black-headed Gull				1													1
Lesser Bb Gull																	358
Herring Gull				1													392
Arctic Tern				1													1
Starling		2															2
NON-WADERS	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	754



Knol in San Reddies
Hand
S. B. 1997
Big Handing

SCIENTIFIC PROGRESS

Over the last two years, the catching activities of the group have continued to be focused on the monitoring strategy, in which targets are set for particular species and areas of the Wash. This strategy was reviewed in 2005 and is due for another review in the forthcoming months. Below are some of the details of which targets are being met and which are likely to need serious consideration.

Monitoring strategy

The monitoring strategy is designed to provide targets for each of our study species, both for numbers caught per year and catching locations. These targets reflect what the Group thinks is necessary and appropriate to provide effective monitoring of these wader populations on the Wash. Setting the targets is no easy task, because the Wash is such a large site supporting such huge numbers of waders, and because several different breeding populations of some species use the Wash at different times of year. The separate targets for the east, south and west shorelines of the Wash, and the specific months within which some targets are set, are partly designed to capture these different populations.

The catch targets and totals for 2006-07 and 2007-08 are reported in Table 1, and Figure 1 shows the average difference between the annual catch total and the target over the last five years, for each species. This figure clearly indicates our recent success in catching Sanderling, which is in part linked to the excellent work that Chris Kelly has recently undertaken on this species (see page 16). Since 2003-04, our annual Sanderling total has exceeded the target by an average of 350. While our catching is focused on wintering Sanderling, Chris's work has highlighted the importance of the Wash for Sanderling in late spring (May-June); future catches of these

birds should help to uncover details of the breeding population to which they belong.

In recent years we have successfully met targets for Oystercatcher, Turnstone, Curlew and both godwit species (Figure 1), but we continue to have problems catching sufficient numbers of Redshank, Grey Plover, Knot and Dunlin. A further concern with recent Dunlin catches is that many take place in the summer months, and comprise a large proportion of passage birds of the *schinzii* race. Thus the reduction in our monitoring of wintering *alpina* Dunlin is likely to be even more of a concern than the overall catch totals might suggest.

Catch totals of Knot and Grey Plover also continue to cause concern, with opportunities for catching both of these species becoming thinner on the ground. Wainfleet islands may provide the best opportunity for Knot catches at the moment, so learning more about this site is an important part of the monitoring strategy.

Data and project requests

No new data or project requests were received by the group in 2006-07. Reports on two recent projects are on pages 12-13.

Data archives

The data archiving process continued in 2006-07 with further progress being made on the historic data. Final checking of the remaining issues is taking place alongside continuous inputting and checking of current data. The group are extremely grateful to John Bonell who has undertaken the task of inputting the recent data, and to Jacquie Clark, Sarah Dawkins, Rob Robinson, Jen Smart, Lucy Wright and the many group members who have helped with the data-checking process.

Table 1: Annual catching targets for the ten main study species on the Wash and on each of the three shores of the Wash, during 2006-07 and 2007-08.

Species	Overall			West shore			South shore			East shore		
	Target	06/07	07/08	Target	06/07	07/08	Target	06/07	07/08	Target	06/07	07/08
Oystercatcher	600	683	366	200	111	178	200	8	9	200 ^a	564	179
Grey Plover	250	47	38	75	39	5	75	7	31	100	1	2
Knot	1,000	55	227		12	28		37	162		6	37
Sanderling	150 ^b	125	776			22				150	125	754
Dunlin	3,000	1,215	1,159	1,500	793	71	1,500	402	449		20	639
Black-tailed Godwit	30 ^c	80	1				50	80	1			
Bar-tailed Godwit	300	643	166	100	257	106	100	11	11	100	375	49
Curlew	150	222	392	50	39	206	100	61	49		122	137
Redshank	400	78	250	100	34	144	300	37	106		7	
Turnstone	75	30	55		6	5	100 ^d	20	28	75	4	22

a: September – March

b: September – April

c: colour-ringed

d: during the course of the Port Sutton Bridge study

Presentations

In 2007, the Wainfleet Wildfowlers' extended an invitation to the Group to give a presentation about our work at one of their meetings. We were very happy to accept this invitation, and to take the opportunity to share both groups' concerns, experiences and understanding of the birds of the Wash.

Waterfowl Study Group

WWRG continues to be involved with the Waterfowl Study Group, which comprises representatives of groups with an interest in the biodiversity of the Wash, including Natural England, RSPB, Eastern Sea Fisheries, local wildfowlers and WeBS counters. WWRG is represented on this group by Nigel Clark and Jennifer Gill.

Publications

WWRG data have featured in a number of recent publications, listed below. Summaries of the report by Rob Robinson *et al* and the paper by Lorenzo Serra *et al* are given on pages 12 and 13.

Gill, J.A. (2006) Climate change and coastal migrant birds. In *Principles of Conservation Biology* 3rd Edition (eds: M.J. Groom, G.K. Meffe & C.R. Carroll). Sinauer Associates, USA.

Gunnarsson, T.G., Gill, J.A., Atkinson, P.W., Gélinaud, G., Potts, P.M., Croger, R.E., Gudmundsson, G.A., Appleton, G.F. & Sutherland, W.J. (2006) Population-scale drivers of individual arrival times in migratory birds. *Journal of Animal Ecology* **75**, 1119-1127.

Gunnarsson, T.G., Gill, J.A., Goodacre, S.L., Gélinaud, G., Atkinson, P.W., Hewitt, G.M., Potts, P.M. & Sutherland, W.J. (2006) Sexing Black-tailed Godwits: a comparison of behavioural, molecular, biometric and field-based techniques. *Bird Study* **53**, 193-198.

Robinson, R.A., Burton, N.H.K., Clark, J.A. & Rehfish, M.M. (2007) *Monitoring survival of waders in Britain*. BTO Research Report 469. BTO, Thetford.

Serra, L., Clark, N.A. & Clark, J.A. (2006) Primary moult, body mass and migration of Grey Plovers *Pluvialis squatarola* in Britain. *Ibis* **148**, 292-301.

Jennifer Gill

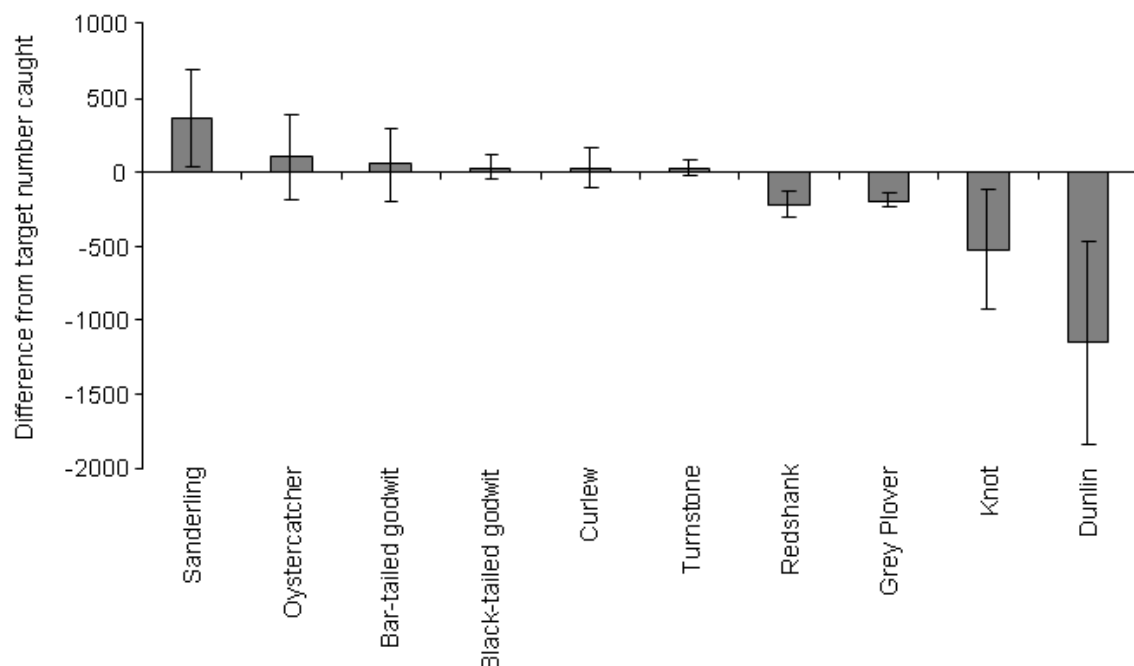
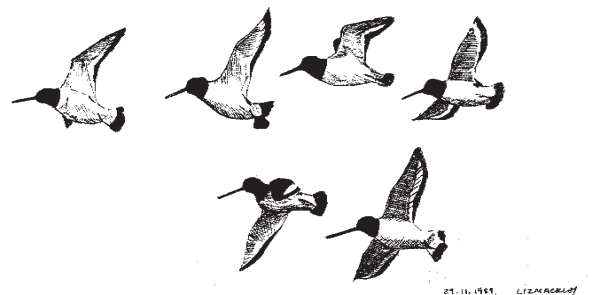


Figure 1: The mean (\pm SD) difference between the overall target number and the numbers caught each year over the last five years (2003-04 to 2007-08), for each of the ten study species on the Wash.

MONITORING SURVIVAL OF WADERS IN BRITAIN

The data we gather from catching waders can be put to many uses: looking at movements, measuring moult and condition, or estimating productivity and survival. It is important that we periodically review our data collection protocols to ensure that we are gathering data in the most efficient manner, and that the data we do collect will be useful for its intended purpose. Recoveries of birds ringed on the Wash have been used very successfully to investigate mortality and population changes in Knot and Oystercatchers (Atkinson *et al* 2003), but how effective are the recapture data at estimating survival rates?

To estimate survival rates we require information on the numbers of birds ringed and the numbers recaptured or found dead subsequently. However, it is also important that birds in the marked sample behave similarly, to each other and to unmarked birds, and that the capture and recovery probabilities of each individual are approximately equal. If these conditions are not met, the estimates of survival rates may be biased. In practice, most of these assumptions are not met fully. For example, birds may migrate to different breeding areas or catching effort may vary between years or sites, so it is important to understand how these affect our ability to measure survival rates accurately.

Robinson *et al* (2007) investigate these issues using information on Dunlin and Redshank caught at various locations around the country, including the Wash. Successfully estimating survival rates depended on a number of factors. Annual adult survival rates of Dunlin and Redshank using the Wash varied markedly from year to year (Figure 1), but were estimated with relatively poor precision. This is due in part to variable catching effort between years but may also reflect different populations using the estuary. The low survival rates estimated for 1996-2000 reflect the low numbers of Dunlin caught during this period. Similarly in some years too few Redshank were caught to produce realistic estimates of survival rates.

The best estimates of survival rates came from situations where catching efforts were made consistently and regularly within a well defined site, this ensures that individual birds have similar recapture probabilities. On the Wash, which has many sites, this may be a challenging target. For several species it will be necessary to identify, where possible, the race of the birds being caught. Different races and populations may have different breeding areas and migratory strategies, meaning survival rates, and possibly recapture or recovery rates, will differ between individuals. This is particularly relevant for Dunlin, where three different races pass through Britain (all of which are present on the Wash at some stage). These races can be fairly readily identified when in breeding plumage, but failing to do so means survival rates are hard to calculate effectively.

More generally, the precision of estimates of survival rates were dependent on the number of birds recaptured each year, with precision increasing as more birds were recaptured. However, precision did not increase markedly if more than 80-100 ringed birds were recaptured each year, so this would seem a sensible target to aim at. Interestingly, increasing the number of marked birds had relatively little impact on precision, apart from increasing the numbers of birds recaptured. To best estimate survival rates of waders from mark-recapture data, catching effort should be concentrated on one, or a small number, of sites where catching attempts on birds of known race can be made consistently through time, and where a good number of birds (ideally at least 80-100) can be expected to be recaptured each year. However, this will clearly be difficult on the Wash.

Rob Robinson

References

Atkinson, P.W., Clark, N.A., Bell, M.C., Dare, P.J., Clark, J.A. & Ireland, P.L. (2003) Changes in commercially fished shellfish stocks and shorebird populations on the Wash, England. *Biological Conservation* **114**, 127-141.

Robinson, R.A., Burton, N.H.K., Clark, J.A. & Rehfish, M.M. (2007) *Monitoring survival of waders in Britain*. BTO Research Report 469. BTO, Thetford.

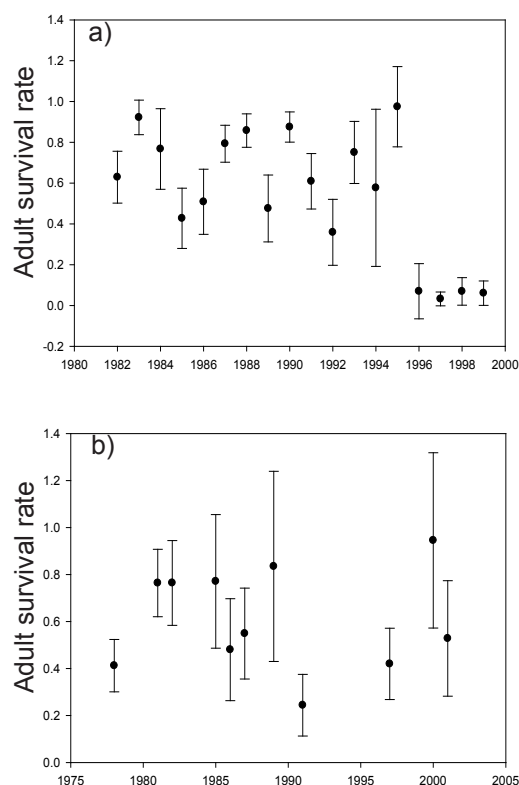


Figure 1: Annual adult survival rates for a) Dunlin and b) Redshank on the Wash.

PRIMARY MOULT, WEIGHT AND MIGRATION OF GREY PLOVER

Data from 6,079 Grey Plover ringed on the Wash between 1959 and 1996 were used to investigate their migration strategy and its relationship to primary moult and weight change (Serra *et al* 2006).

Moult

The timing and duration of primary moult was compared for pre-breeders (second years) and breeders. Pre-breeders, which would have over-summered on the Wash, started to moult 10 weeks earlier than returning breeders. Pre-breeders also took about 19 days longer to moult than returning breeders, and so completed their primary moult about seven weeks earlier. Interestingly, these birds moulted more quickly than pre-breeders in South Africa (Serra *et al* 1999), which took 84 days longer. This is likely to be because the birds wintering in the northern hemisphere were reacting to the shortening daylength to complete moult before the start of the winter when it may be harder to get enough food.

Some of the returning breeders are in suspended primary moult (ie they had started to moult their primaries but had stopped part way through). There were some (5%) that had started to moult recently, presumably on the breeding grounds, and had then stopped before migrating to the Wash. Others (1%) had suspended moult in the previous year. Of 380 adults caught between December and February 38% had suspended primary moult. Most of these birds then completed moult in March-April (so that they had a new set of feathers for the spring migration), although some retained the old feathers to the next moulting period in the following year. There was a sex bias amongst birds that had suspended moult - 38% of males, but only 8% of females. This may be because males have less time to moult before the harsher winter weather, having stayed on the breeding grounds with the young for 2 or 3 weeks longer.

Weight and migration

Grey Plover, in common with other waders, have a seasonal weight pattern with a peak in December when they need 'insurance' to allow them to survive

a possible spell of unusually severe weather. Grey Plover are particularly susceptible to severe weather (Clark 2004) and show a greater percentage increase in weight than other species wintering on the Wash. They also reach higher weights than Grey Plover wintering in Italy (Serra & Rusticali 1998).

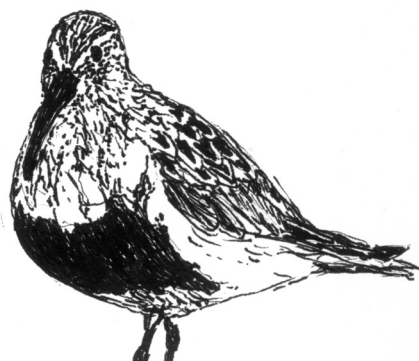
In spring, all Grey Plover on the Wash increase weight to fuel their spring migration at around the same time. This suggests that the birds fattening on the Wash in the spring are the birds that have wintered there. If birds had come in from elsewhere they would have arrived weighing less than the wintering birds and would have decreased the average weight of the birds present. There was no evidence of this.

Grey Plover that winter further south than the Wash appear to increase their weight in autumn at the same time as they moult. However, birds that were staying in northwest Europe for the winter did not start to increase weight until they had almost finished moult. This suggests that, although these birds can moult and put on weight at the same time, it is better to separate these energetically-demanding activities.

Jacquie Clark

References

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- Serra, L. & Rusticali, R. (1998) Biometrics and moult of Grey Plover (*Pluvialis squatarola*) in northeastern Italy. *Vogelwarte* **39**, 281-292.



Grey Plover.
Photo by Nigel Clark

GULL RINGING ON THE OUTER BUND

Background

WWRG continue to monitor the Outer Bund gull colony under contract to Natural England. We started to count and ring there in 2001 (Dawkins 2004). Since then the colony is thought to have grown and now numbers approximately 3,500 pairs. It is probably the largest breeding colony of Herring and Lesser Black-backed gulls between Orfordness (Suffolk) and Coquet (Northumberland). Its importance appears to have increased in this time due to the significant decline in the size of the Orfordness colony, down from 20,000 to 5,000 in the last five years or so.

Trip reports

2004

On 6 June 2004, five group members were joined by Simon Cooter from English Nature (now Natural England) to count gulls. We counted 1,483 nests on the outer face and a further 468 nests on the inner face. On average across the colony, 51% of all nests were still at the egg stage. The ringing trip in 2004 took place on 27 June. A team of 11 were involved, rounding up chicks into crèches for ringing by the majority of the team whilst a couple of people checked the rocks for more chicks. This proved highly efficient and the quota of 500 chicks was ringed quickly. None of the 25 dead adult gulls found on the colony in 2004 were already ringed. A dead shag, originally ringed on the Firth of Forth in May 2003, was recovered along with thirteen dead Oystercatchers, of which one was ringed on the Outer Bund in March 2002.

2005

The count in 2005 took place on 4 June. Just 1,710 nests were recorded on the whole island, again with the majority (1,236) on the outer face. On average throughout the colony, 65% of nests had hatched, indicating that the season was slightly earlier than in previous years. A team of 12 assembled on 26 June, with the aim of ringing approximately 750 chicks to give a better indication of chick productivity and increase the likelihood of recoveries. The team operated for 4.5 hours, finding plenty of chicks of a perfect size to identify and ring, and we managed to ring 680 chicks. None of the 15 dead gulls found had been ringed. Strangely, a dead goat was found on the Island during the ringing trip.

2006

A team of four walked out to the Outer Bund on 28 May 2006 to count the colony. Unfortunately, we were a bit early relative to the falling tide and were walking out in water. However, this enabled us to assess the colony before we got so close that the birds took off. Our initial assessment was that the colony had now grown to about 3,500 pairs. For the first year since nest counts began, we counted over 3,000 nests. The count of 3,042 represents a 78% increase on the 2005 count! The count trip was much earlier than in previous seasons, so unsurprisingly few nests had hatched. During the nest count, two Oystercatcher nests with eggs were found and one, or possibly two,

Shelduck nests were also found. The ringing trip took place on 25 June with a team of 10. The round ups were highly effective and the team managed to ring a staggering 818 birds. Unsurprisingly, there was no evidence of any Oystercatcher or Shelduck chicks during the ringing trip.

2007

In 2007, six people counted gull nests on 26 May. The initial assessment of the colony suggested that it was a similar size to 2006 *ie* approximately 3,500 pairs. This was the second consecutive year where the nest count (3,108) exceeded 3,000. At this point 46.5% of nests had hatched. Because of the number of very large chicks already observed on the island, the ringing trip date was brought forward to 16 June. A team of 15 assembled expecting to find lots of very large chicks to ring. Unfortunately, it proved hard to round up chicks that were big enough to identify with certainty and only 416 chicks were ringed on this visit. A second trip on 1 July managed to ring another 333 chicks to reach our annual target. On walking back across the saltmarsh, a Redshank nest with just hatched chicks was found. Unfortunately, never having used other ring sizes on previous trips, the team leader had decided not to bother carrying any this year so these birds had to be left unringed.

Despite the delights of a long walk across the mudflats to a smelly gull colony, the ringing trips have always proved popular and provide good training opportunities for less experienced ringers in closing and adjusting large rings.

Counts and productivity estimates

The Group began regular nest counting in 2003 and has continued to operate two trips, a count trip and a ringing trip annually since. During the ringing trip, we also attempt to estimate the number of chicks on the island. This information is summarised in the Table 1.

Ringing summary

Table 2 summarises the total numbers of gull chicks ringed each year since WWRG began monitoring the colony.

Recoveries

The Group has now been notified of recoveries of 28 Herring Gull chicks and 31 Lesser Black-backed Gull chicks, a recovery rate of 1.5 % and 1.3 % respectively. We continue to find the occasional dead ringed bird in the colony. These have included gulls from other colonies and gulls that were ringed as chicks in previous years that have recruited back into the breeding population.

Despite the low recovery rate, we are beginning to build a picture of the dispersal of gull chicks from the Outer Bund. Table 3 summarises the finding locations of gull chicks from the island and the original ringing location of birds subsequently recovered on the island.

Acknowledgements

The Group monitors gulls on the Outer Bund under contract to Natural England and we are grateful for their support.

Sarah Dawkins

Reference

Dawkins, S. (2004) Gull ringing on the Outer Bund. In: WWRG *Wash Wader Ringing Group 2002-2003 Report*. WWRG, Thetford.



Ringling gulls on the Outer Bund.
Photo by Dawn Balmer

Table 1: Nest, chick and productivity estimates.

Year	Nest count	Chick count	Productivity	Comments
2001	No count	1,000	0.83	Colony estimate 1,200 pairs
2002	No count	1,650	2.36	Colony estimate > 700 pairs
2003	2,822	1,500	0.53	
2004	1,951	2,000	1.03	
2005	1,710	2,040 – 2,720	1.65 – 2.20	
2006	3,042	3,270	1.07	
2007	3,108	4,100	1.32	Estimate on 16 June
		1,665	0.56	Estimate on 1 July (many had already fledged)

Table 2: Numbers of Lesser Black-backed and Herring Gulls ringed on the Outer Bund.

Year	L B-backed	Herring	Total
2001	370	77	447
2002	384	164	548
2003	319	181	500
2004	249	250	499
2005	379	301	680
2006	298	520	818
2007	358	391	749
Total	2,357	1,884	4,241

Table 3: Recoveries of Lesser Black-backed and Herring Gulls to and from the Outer Bund.

	L B-backed		Herring	
	To	From	To	From
UK				
Cambridgeshire			2	
Dorset	1		1	
Gloucestershire	2	1		
Humberside			1	
Kent	2			
Lincolnshire	5		5	2
Norfolk	10	1	12	
North Yorkshire	1		2	
Suffolk			1	
Tyne & Wear			1	
Elsewhere				
Belgium	1		1	
France	2			
Germany			1	
Morocco	1			
Netherlands			1	
Portugal	5			
Spain	1			
Total	31	2	28	2

SANDERLING STUDIES ON THE WASH

Introduction

The Sanderling is a beautiful, tame and extremely endearing wader that somehow seems to have kept many of its secrets well hidden from researchers. The populations and migrations of many waders are well known but those of Sanderling are still poorly understood. Sanderling breed in both Greenland and north central Siberia but we still don't know where the birds that winter on the Wash breed. There have been a number of studies on the feeding ecology of Sanderling but most of these have raised more questions than they have answered. This together with an enduring love affair for this species has prompted me to try and uncover some of the secrets. To kick start this I requested help from the WWRG who kindly agreed to colour ring some Sanderling for me. In this article I document some of the findings that have come from this initial study.

Colour-ringing

During the period October 2004 to April 2007 members of the WWRG colour-ringed a total of 110 Sanderling at Heacham on the east side of the Wash. In October 2004, 25 adults and 25 juveniles were colour-ringed using standard overlapped rings. We used an orange ring as a scheme marker on the left tibia, two colour rings on one tarsus and a colour ring and metal ring on the other tarsus. As a pilot study to determine the suitability of leg flags, five of the adults had a numbered orange flag on the left tibia instead of the orange ring.

Unfortunately a number of the birds suffered serious injuries associated with the rings. This somewhat bewildered everyone involved and to try to get a better understanding of the cause of the problem, in October 2005 a further 20 Sanderling were colour-ringed, 10 using overlapped rings and 10 with butted rings supplied by A.C. Hughes. The overlapped rings were made to a very high precision and a great deal of care was taken to ensure they were fitted to the highest standard. Although this substantially improved the situation, one of the birds with overlapped rings was found dead and a post mortem revealed the rings to be at least partially responsible. At this point we abandoned using overlapped rings entirely and in April 2007 we colour-ringed a further 40 birds using butted rings. Since that time there have been no further problems.

The leg flags proved to be problematic since the numbers could not be read very easily in the field under normal circumstances. When they could be read, it was only at a very much shorter range than for colour rings. Given the difficulty of tracking Sanderling on the Wash we determined that the flags were unsuitable for this particular study, although they have been used successfully in other studies. In addition during windy weather conditions the flags caused some interference with birds constantly kicking their legs back to get the flag out of the way. Since the flags did not seem to be useful, and may be a hindrance, when birds with flags were re-trapped the flags were replaced with rings.

The Study Area

Sanderling occur on the north Norfolk coast all the way from the Wash around to Blakeney Point. Because of constraints on my time I could not hope to cover all of this area, so I concentrated on the Wash, Old Hunstanton and the area from Thornham to Titchwell. I also made occasional visits to Brancaster, Holkham Bay and Wells. Scolt Head and the large area of sand from Wells to Blakeney Point were not visited at all.

Movements of Sanderling within the Study Area

Although on some tides good numbers of Sanderling can be found at the favoured roost sites at Snettisham and Heacham, very little was known about where the birds went at low water. Taylor *et al* (1999) suggested that 'Sanderling moved along the shore of the east Wash from Snettisham towards Holme and Titchwell and back, as they fed during the flood and ebb tides'. This explanation is certainly plausible and might explain why none are present at Snettisham at low water. Testing this hypothesis is where colour-ringing observations would prove to be very useful. We now have approximately 5,500 observations of colour-marked birds, each with GPS coordinates, which show that although Sanderling can in the course of one day move from Snettisham around as far as Brancaster, this is not typical but occurs under certain special circumstances. Indeed if you make a low tide visit to Titchwell you might see 200 Sanderling, but on most occasions there would be none of our colour-ringed birds present. However, following strong northerly winds there is frequently a wreck of razorshells at some point along the north Norfolk coast; anywhere from Old Hunstanton as far as Wells. When this happens many (if not most) of the Sanderling leave the Wash and head for the bounty. For example, on 6 April 2008, following strong northerly winds, 35 of our colour-ringed Sanderling were at Titchwell - this is 83% of the birds that were known to be alive at this time and far more than usually occur within a single flock. So if Sanderling are not moving around the coast on the ebbing tide, where do they go? By watching the direction in which the birds leave the roost and following them by kayak it was possible to piece the story together.

Sanderling roosts

First, a brief digression on where Sanderling roost. On low or medium tides they prefer to roost on the exposed mud on the edge of the saltmarsh at Peter Black Sand at Snettisham (Figure 1). Some birds also roost on the shoreline near Snettisham Sailing Club, although in recent years the popularity of this site has declined somewhat. On higher tides the birds move to Snettisham north beach and on spring tides they move further north to the high beach at Heacham far north and some go even further to the shingle ridge between Old Hunstanton and Holme. The Snettisham north and Heacham far north sites will be very familiar to WWRG members as this is where most of the catches over recent years have taken place. The placement and usage of these

roosts influences the route taken by Sanderling as the tide falls.

Sanderling foraging patterns

The first area of sand exposed as the tide ebbs is the high part of Peter Black Sand, located 1.9 km west of the RSPB reserve at Snettisham. The birds generally fly directly to this from their roost sites, although sometimes the birds from the northerly roosts will stop at the Sailing Club roost to wait for the tide to fall. As the tide ebbs the sandbank grows quickly and the birds follow two routes across it. One route initially goes north for 1.5 km and then turns west for another 1.5 km across Ferrier Sand. Generally the Sanderling keep at, or not too far from, the tide's edge along this route and move quite quickly, particularly on spring tides; following them while dragging a kayak is something of a challenge. The second route goes due west from the high point on Peter Black Sand and consists of a number of small sandbanks that become exposed as the tide falls and eventually join up to form a single sandbank. The Sanderling generally keep to the outermost of these small sandbanks and hop to the next one as it becomes exposed. As the tide falls further the whole area joins up with Stubborn Sand and ceases to be a sandbank separated from the shore.

A couple of hours after high tide, Seal Sand, a sandbank whose nearest point is about 6.5 km from the shore at Snettisham, becomes exposed. This is the most stable and highest of the outer sandbanks and is by far the most popular low tide feeding site for Sanderling. What is interesting is that Sanderling arrive at this site within a few minutes of the first part becoming exposed. To do this they are flying at least 4.5 km from the nearest part of Ferrier Sand; how they are able to time their arrival so precisely is a mystery. It is possible that they are able to see the 'white horses' that form just before a sandbank becomes exposed. Alternatively they may be using information gained on the incoming tide to calibrate - ie when they fly from Seal Sand to Ferrier Sand on the incoming tide they remember the point on Ferrier at which they arrive. Later, when the falling tide reaches this point they know that Seal Sand will start to be exposed. The final destination of the Sanderling that took the westerly 'island hopping' route is also Seal Sand, but some of these birds go via the northerly part of Pandora Sand.

As the tide falls, further sandbanks between Seal Sand and the shore become exposed and some of these, in particular Styleman's Middle and Old Bell Middle, are used by Sanderling at low water. Most birds seem to reach these sandbanks directly from Ferrier Sand but I do have some records of colour-ringed birds initially going to Seal Sand and then doubling back to Old Bell and Styleman's later when they become exposed. As the tide falls on Seal Sand, the Sanderling that initially arrive near the seal basking area on the east side of the bank move westwards along a well defined corridor and then start to disperse both to the north and as far west as the west shore of Seal Sand. At low water the Sanderling use an area of about 7.5 km² on Seal

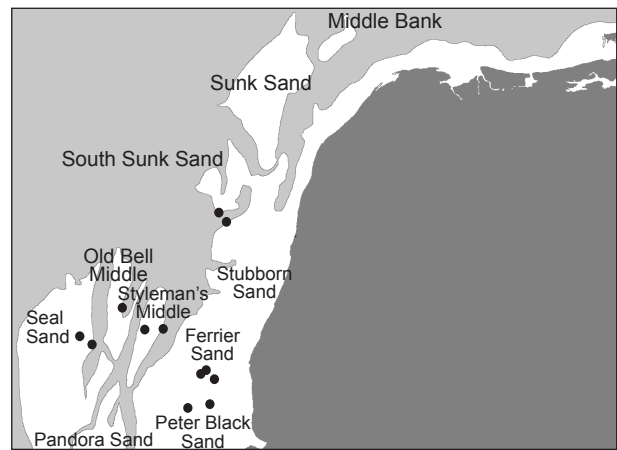


Figure 1: Locations of the principal sandbanks and the highest points on the sandbanks (filled circles).

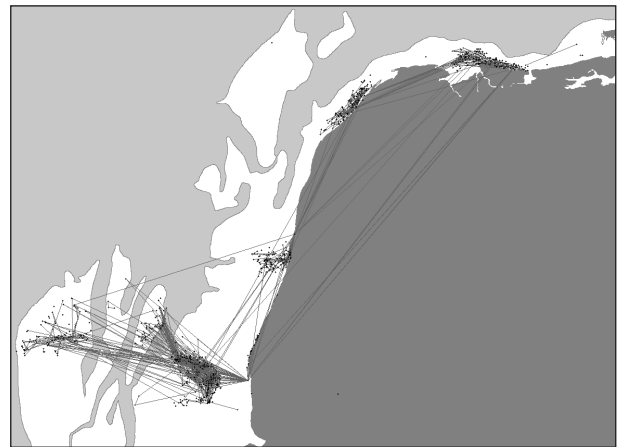


Figure 2: Sightings and movements of colour-ringed Sanderling in the study area.

Sightings of a bird seen more than once on the same day are joined by lines.

Sand. Some birds have been seen to fly even further to the southwest to Thief Sand (west of Seal Sand), although I haven't visited this site yet.

Although this gives the general picture of the path taken by a large number of Sanderling on the ebbing tide, a few other routes are also used. Some of the birds from Heacham far north beach move south to the area of Stubborn Sand between Heacham south and north beach. They follow the tide's edge as it goes out, usually on a broad front of about 1.5 km. Eventually the sandbanks of Outer Ferrier, South Sunk Sand, Sunk Sand and Middle Bank become exposed and the Sanderling fly out to these to feed at low water. Some Sanderling have also been seen to fly to Styleman's Middle directly from the shoreline at Heacham.

The Sanderling roosting on the shingle ridge between Old Hunstanton and Holme move east as the tide falls, and fly out to the large sandbanks in the Sunk Sand/Middle Bank complex. Some birds from here also fly east to feed between Thornham and Titchwell.

The Sanderling that roost at Thornham point probably remain in the Thornham-Brancaster area at low water although I do have some records of colour-ringed birds moving between this area and the Wash within the same day.

On the flooding tide, Sanderling seem to broadly trace the reverse route to the one taken on the ebbing tide. However, it is almost certainly the case that Sanderling also roam from time to time and this is probably an important mechanism for learning about food distribution.

The dynamics of the Sanderling that occur in the Holkham Bay - Wells area is much less well understood. Usually there are relatively small numbers of Sanderling here but when a razorshell wreck occurs then many hundreds can appear. On one very spectacular such wreck, most of our colour-ringed birds appeared in this area and remained for more than a week.

Movements of Sanderling away from the Study Area

The main focus of this project was to look at the winter feeding ecology within the study area and so we focused on colour-marking previously-ringed birds that were known to have been present in the area during winter. There were two exceptions to this; 25 of the birds colour-ringed in October 2004 were juveniles and 20 of the birds colour-ringed in April 2006 had not previously been ringed and so could quite possibly have been passage birds. However, as these catches were prior to the main passage period, most of these birds were expected to be local birds and subsequent sightings proved this to be the case.

To date there have only been five sightings of our colour-ringed Sanderling away from the study area:

- One juvenile from 2004 spent the winter of 2004/2005 in the Gorleston area just south of Great Yarmouth.

- Two of our birds have been seen on spring migration in Iceland - both on 29 May, although in different years. What is interesting is that both were seen in eastern Iceland - one in the south and one in the north. None of our birds have been seen at the important and well-watched site of Sandgerdi in southwest Iceland. In 2005, I spent two weeks searching for our birds at Sandgerdi but with no success. Although it is not really possible to draw any conclusion from just two sightings, it may be a hint that our birds are passing through eastern Iceland towards the end of May. What it does confirm is that at least some of our wintering birds breed in Greenland or Ellesmere Island in Canada. This is in agreement with findings from studies at Teesmouth where many wintering birds were seen on passage in Iceland. Both of these studies contradict the opinion that British wintering Sanderling only breed in Siberia and that Greenland-breeding birds only winter in Africa. Certainly some Greenland-breeding Sanderling do winter in Africa and there is a hint from WWRG ringed birds that some Wash-wintering Sanderling breed in Siberia. It is most probable that there is no clear distinction between breeding and wintering populations; a pattern also suggested by an extensive colour-ringing study of Sanderling in the Nearctic (Myers *et al* 1989).

- One of the birds we colour-ringed on 18 April 2007 remained on the Wash until 5 May and then returned in the autumn from 18 July until 30 September. It then moved to Somerset, where it was then seen at Brean Sands on 17 October and returned to the Wash in spring 2008, remaining from 19 April until 9 May.

- Finally, one of the birds colour-ringed in April 2007 was seen at Finistère, north France from 24-29 September 2007. There are no other sightings of this bird since we colour-ringed it so is almost certainly a passage bird that just happened to be in front of the cannon net.



Sanderling.
Photo by Nigel Clark

Sanderling from other projects passing through the Study Area

There are now a number of other active Sanderling projects across Europe - in particular the Netherlands Institute for Sea Research (NIOZ) is actively colour-ringing Sanderling in the Netherlands, Mauritania, Ghana, Iceland and Greenland. In addition a number of Sanderling have been colour-ringed in Germany.

Mauritania

Since 2002 a team from NIOZ has been colour-ringing Sanderling at Iwik on the Banc d'Arguin in Mauritania. I have seen 20 of these birds in our study area and all have occurred during the spring period of 29 May-11 June or the autumn period of 19 July-13 August. One bird was present on spring migration from 3-10 June and again on autumn migration on 31 July. Another bird that was on the Wash on 23 July had been seen earlier that year on 7 June at Texel, Netherlands. These last two birds fall into a pattern that is discussed below in the section on Late Spring Sanderling. Personally it has been very exciting for me to see these Mauritanian Sanderling as I have also seen most of these individuals on their wintering grounds in Mauritania, 4,000 km to the south.

Ghana

Since 2006, Edward Koomson, a research student from NIOZ, has been colour-ringing Sanderling in Ghana. I have seen nine of these birds in our study area, all during the periods of 22-25 May and 17 July-17 August, with a single later bird on 8 September. One bird was present at Titchwell on spring migration on 22-25 May and was present again on autumn on 15-17 August. Although a very small sample, this seems to suggest the Ghanaian birds are passing through at much the same time as the Mauritanian birds. I have also seen eight non-individually marked birds from Ghana which have occurred between 18 July and 13 August, which corresponds closely with the autumn migration of the Mauritanian Sanderling.

Iceland

Since 2007, Jeroen Reneerkens, another researcher from NIOZ, has been colour-ringing Sanderling in May and early June at Sandgerdi in Iceland. I have seen four of these birds in my study area. One of these birds was present from 19 July until 15 October 2007, so it presumably moulted on the Wash before moving elsewhere to spend the winter. The other two were present on spring migration during the period 27 April-19 May 2008. One of these birds is particularly interesting since I last saw it at 16:44 on 19 May and it was seen less than 48 hours later on 21 May at Sandgerdi in Iceland - 1,815 km away. The other spring migrant also passed through the Wash on autumn migration in July 2008 and was seen on just one day. This bird had also been reported by another observer at Titchwell for just one day in the autumn of 2007.

Greenland

Jeroen Reneerkens has also been colour-ringing Sanderling on the breeding grounds at Zackenberg in northeast Greenland. Two of his adult birds and

one juvenile have been seen in the study area. The juvenile was present in our study area from 17 August until 2 September.

The first adult was a female that was trapped by Jeroen on her nest on 6 July 2007. The eggs hatched on 18 July and she was last seen on the breeding grounds attending four chicks on 20 July. She was present on the Wash on autumn migration on 16-17 August 2007.

The second adult was seen during spring migration on 30 May 2008 and is a female that was ringed at Zackenberg in June 2007. Unfortunately this bird was not located at Zackenberg during the breeding season in 2008. Hopefully she did make it to Greenland and bred somewhere else.

It is interesting that I have also seen two Knots on the Wash that were trapped on their nests at Zackenberg; these birds probably occur within a few kilometres of the Sanderling, both on the breeding and non-breeding grounds.

Germany

I have seen six Sanderling in the study area that were colour-ringed in Schleswig-Holstein, Germany. One of these is particularly interesting and is discussed in more detail in the next section.

Late spring Sanderling

In late spring (the last week of May to the second week of June), there are often large numbers (> 1,000) of Sanderling present in the study area. The origin and destination of these Sanderling is an intriguing question. As all of our own colour-ringed birds have left the area by this time of the year, these are very likely to be largely passage birds. Observations of colour-ringed birds indicate that some are from Mauritania and Ghana. In Iceland, numbers of Sanderling at this time of year are very low, suggesting that these birds are either flying directly to Greenland or are bound for Siberia - I strongly suspect the latter. It is very probable that the breeding season in Siberia's Taimyr Peninsula is somewhat later than in Greenland.

One individual, colour-ringed at Schleswig-Holstein, Germany on 4 June 2004 is particularly interesting. It has passed through the Wash on autumn migration on five successive years (23 July 2004, 21-30 July 2005, 22-23 July 2006, 19-21 July 2007, 21 July - 3 August 2008) but only once on spring migration, on 4-7 June 2005). This bird was caught on Snettisham north beach on 2 Aug 2008 when it was filmed for the BBC programme: 'The One Show', although it was later edited out. This bird may be either not breeding in every year or breeding unsuccessfully; given the autumn arrival dates, if it bred successfully in each year it can only be spending about six weeks on the breeding grounds. One possibility is that Sanderling adopt a similar strategy to Knot and the females migrate south soon after the chicks hatch, leaving the male to raise the chicks. Perhaps our bird is a female doing just that. Two of the Mauritanian birds mentioned above also fall into this pattern of late

spring migration and early autumn return. Colour-marking some of these late spring Sanderling would help us to see if the short period on the breeding grounds is repeated in more birds.

Feeding ecology

Sanderling are quintessentially considered birds of the tide's edge - running in and out of the waves feeding on small, washed up items. Although true to some extent, this is only a part of the story on the Wash. The best feeding areas on the Wash are on the outer sandbanks where Sanderling often feed more than a kilometre from the tide's edge. In general, Sanderling are highly opportunistic, taking a wide variety of prey items and being remarkably quick to exploit an opportunity. Below is a list of the prey which are most commonly taken and the methods Sanderling apparently use to detect them.

Crangon crangon

These shrimps seem to be the favourite prey species, which is not surprising since they are probably very profitable, although a large prey item for such a small bird. Quite large individuals are taken (up to about 5 cm) and are either swallowed whole or broken apart and eaten in pieces. Shrimps are captured at low tide, either by stitching or stabbing, and they appear to be detected by touch or taste. Sight may also be important in detection since these shrimps jump about when probed. The favourite shrimping area for Sanderling is Seal Sand at low water. *Crangon* appears to be a difficult prey item to find but, once found, provides a large meal for a Sanderling. Learning to be good at finding *Crangon* probably features high on the list of skills for a Sanderling to acquire.

***Bathyporeia* sp**

This amphipod is taken on flooding tides where they are detected by sight as they become active, and higher up the beach where they seem to be detected by touch or taste, and possibly also through sight-cues such as the entrance to the burrow. This seems to be the most important amphipod eaten by Sanderling in the study area.

Corophium volutator

This amphipod is taken on the ebbing tide where they are found by touch or taste and on the flooding tide where they are detected by sight. They only seem to be taken in a relatively small area of the Wash at Peter Black Sand where the substrate is more silty.

Talitrus saltator

I have seen Sanderling take this amphipod occasionally by digging them out from their burrows and also from the strandline. They probably take *Talitrus* more extensively at night, but this is speculation.

***Eurydice pulchra* and other isopods**

These species are taken on the flooding tide when they become active.

***Hydrobia* sp**

This mudsnail is pecked from the surface of the sand and also at the tide's edge when they float upside down on the water surface.

***Nephtys* sp**

Catworms are another very important prey species taken mostly on the ebbing tide where the Sanderling use the very distinctive feeding technique of pouncing on them. It is not clear how they detect them.

Scolecopsis squamata

This worm species is detected by sight on very flat areas of sand on the ebbing and flooding tides. These worms use their palps to gather food which is presumably how Sanderling detect them – I can certainly see them.

***Crab* sp**

Large crabs are eaten as carrion left by gulls. Small crabs are eaten whole and this occurs mostly in the autumn when there often large numbers of soft bodied individuals on some parts of the Wash.

Cerastoderma edule

Sanderling sometimes scavenge from cockles that have been eaten by Oystercatchers. Under these circumstances Sanderling follow Oystercatchers around and move in as soon as the Oystercatchers have finished – they even defend individual Oystercatchers as a resource against other Sanderling. Sanderling also glean from cockles that are washed up following storms. In addition I frequently find fragments of very small cockles in pellets so I assume they eat these whole in much the same manner as Knot.

Macoma balthica

Fragments of this small bivalve are often found in pellets - it is not clear whether they are eating them or just eating fragments of the shell to help grind other prey in the gizzard.

***Ensis* sp**

Razorshells become very important when they occur in large wrecks on the north Norfolk coast. This seems to occur after strong northerly winds, after which virtually all the Sanderling move out of the Wash to feed on them. This is a dangerous activity and seems to be the cause of some leg injuries, as the sharp-edged shells can become attached to the foot. One bird had such a shell attached to its foot for more than a week.

***Insect* sp**

Insects are often picked from the surface of the water on the flooding tide. As the tide sweeps across the sand flats a concentration of insects forms just behind the tide's edge. Sanderling pellets also often contain large quantities of beetle carapace fragments.

Seaweed

This is often taken in the Heacham area just as the tide starts to go out. I assume there is some nutrient that the Sanderling need or like.

***Aurelia aurita* (jellyfish)**

The sex organs of dead jellyfish are eaten by Sanderling which probe deeply into the jelly to get them out. Although quite often taken, this does not appear to be a very favoured food.

***Asterias rubens* (common starfish)**

Razorshell wrecks are often accompanied by large numbers of dead or dying starfish. These are sometimes taken, but Sanderling don't seem to like them very much.

Carrion

Many other forms of carrion are taken by Sanderling including dead fish and sea potatoes (*Echinocardium flavescens*).

Gull faeces

Sometimes Sanderling eat the faeces of gulls which they obtain at the gull roosts. This is thought to be the cause of the botulism that sometimes occurs in Sanderling in the late summer and early autumn.

Future research

The initial period of this study has given a fairly good idea, in general terms, of how Sanderling use the Wash and which prey species appear to be most important. It seems that understanding in

more detail the cues used by Sanderling to detect prey is the most important next step, but this is going to be a very tough nut to crack. I am taking a 'bottom-up' approach in which I am trying to build a Sanderling robot with video camera and onboard image processing. The aim here is to try to get a better understanding of the visual cues being used in prey detection. An even more difficult problem is to understand how Sanderling learn about prey distribution. Watch this space for more on how this research goes.

Chris Kelly

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BANDING ON THE WASH - THE VIEW FROM THE OTHER SIDE OF THE POND

Almost exactly a year ago I met Rob Robinson and Nigel Clark on a shorebird banding (aka wader ringing) trip in the heart of Dixie - the coast of Georgia. Sadly, the Red Knots failed to show, and while we Yanks were happy with a catch of 45 American Oystercatchers on one day (a significant percentage of Georgia's Oystercatcher population), Nigel regaled us with tales of many hundreds of Oystercatchers in a single net and invited me over to the UK to see how cannon-netting is done by the pros. In August, I headed across the pond for Wash mini-week, 2006.

From the get-go it was pretty clear why Rob and Nigel had considered the Georgia trip to be a holiday (the white sandy beaches and balmy water might also have had something to do with it). Reveille on the first morning at the Wash was at an ungodly hour - 4 am, I think - and after that, even though the tide was getting later each day, we seemed to be getting up ever earlier. Adding to the discomfort was the peevishness of the weather gods, who, at the height of a long, parched summer, ordered up day after day of unrelenting wind and rain. The inclement weather didn't slow down the pace of group, but I could tell that Nigel was concerned that I was heading home after four days, and our success so far was going to give the lie to his boasts of the previous summer - our biggest catch yet was 40 Curlew.

Fortunately the airline bomb plot intervened. I postponed my departure, the skies cleared, and we headed to the marsh for mist-netting. If there is something more magical than the churring of Curlews and godwits as they wheel into the fields, it is the marsh at night. We caught a lovely assortment

of small waders, though it was a bit surreal to be ringing them in a barn full of snuffling cows. It was off to bed at 2 am, then up the next morning at 5:30 (now I was certain the Brits were mad). The day dawned inauspiciously - gloomy and threatening. But planning, perseverance and the intuition of the pros paid off. I finally found out what it was like to have hundreds of birds - Bar-tailed Godwits - in one net. The density of the birds was mind-boggling, but more so was the efficiency of the operation in getting them extracted and processed. It was a fitting finale to my trip, and the reputation of the Wash ringers' prowess was intact.

During my week at the Wash I was continually flabbergasted by the insanity of the schedule (I have vague memories of babbling nonstop on the drive home, certain that Nigel would otherwise fall asleep at the wheel and drive us into a tree). I was also struck by the dedication of the crew, a mix of professionals and committed amateurs, and impressed that they had cultivated such trust and support among the landowners over the years. And I am deeply grateful for the genuine welcome given to visitors like me and to several volunteers who had never ringed a bird in their lives. Many, many thanks for a memorable time.

Natasha Atkins



SUMMARY OF RECOVERIES RECEIVED

The following tables summarise the totals of recoveries generated by the group. The tables include all recoveries from 1909 to 2007 that had been reported to the BTO by the end of April 2008. In each case the number before the / is the birds that were ringed on the Wash and found in the county or country and the number after the / is the birds ringed elsewhere and found on the Wash.

Table 1: Movements of the Wash study species between the Wash and elsewhere in Britain & Ireland

	O'catcher	Ringed Plover	Grey Plover	Knot	Sanderling	Dunlin	Black-t Godwit	Bar-t Godwit	Curlew	Redshank	Turnstone
Antrim	- / -	- / -	- / -	- / -	- / -	1 / 2	2 / -	- / -	- / -	- / -	- / -
Avon	- / -	1 / -	- / -	- / -	- / -	21 / 9	- / -	- / -	1 / -	1 / -	- / 1
Bedfordshire	- / -	- / 1	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / -	- / -
Berkshire	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Cambridgeshire	5 / -	3 / -	- / 1	1 / 7	- / -	3 / -	16 / -	- / -	1 / 1	9 / 3	- / -
Central	- / -	- / -	- / -	- / -	- / -	- / 1	- / -	- / -	- / -	- / -	- / -
Cheshire	- / -	1 / -	- / -	7 / 11	4 / 6	27 / 20	1 / -	- / -	- / -	- / -	- / -
Cleveland	5 / 2	4 / -	2 / 1	56 / 27	18 / 2	20 / 39	- / -	- / 2	- / -	4 / 5	1 / 1
Clwyd	- / 5	2 / -	- / -	5 / 8	1 - / 3	11 / 29	2 / -	- / -	- / -	1 / 2	- / 1
Cornwall	- / 1	- / -	- / -	1 / -	- / -	5 / 6	- / -	- / -	- / -	- / -	- / -
Cumbria	1 / 1	5 / -	- / -	5 / 10	3 / 3	21 / 30	- / -	- / 1	- / -	1 / -	1 / -
Derbyshire	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Devon	3 / 7	5 / -	- / -	- / 2	- / -	10 / 10	2 / -	- / 1	- / -	- / -	- / -
Dorset	2 / 7	2 / 1	- / -	- / 2	- / 3	8 / 14	- / -	- / 1	- / 1	2 / -	- / -
Down	- / -	1 / -	- / -	2 / -	- / -	2 / 6	2 / -	- / -	- / -	- / -	- / -
Dumfries & Gall	3 / 1	- / -	- / -	4 / 11	7 / 1	11 / 21	- / -	- / -	- / -	1 / 1	- / -
Durham	4 / -	1 / -	- / -	1 / -	6 / 1	4 / 2	- / -	- / -	- / -	2 / -	- / -
Dyfed	- / 1	- / -	2 / -	- / -	- / -	7 / 7	- / -	- / -	- / 1	- / -	- / -
E Ulster	- / -	- / -	- / -	- / -	- / -	5 / 3	- / -	- / -	- / -	1 / -	- / -
England	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -
Essex	9 / 2	2 / -	2 / -	3 / -	3 / -	5 / 9	17 / -	- / -	- / -	7 / -	1 / -
Fair Isle	3 / 6	- / -	- / -	- / 1	- / -	1 / -	- / -	- / -	- / 1	- / -	1 / -
Fife	3 / -	2 / -	- / -	2 - / 17	- / -	4 / 9	- / 5	- / -	- / -	1 / 3	- / -
Glamorgan	5 / 10	1 / -	- / -	3 / 2	- / -	16 / 4	- / -	- / -	- / -	2 / 5	- / -
Gloucestershire	- / -	- / -	- / -	- / -	- / -	2 / 7	- / -	- / -	- / 1	1 / 1	- / -
Gtr London	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
Gtr Manchester	4 / 3	6 / -	- / -	23 / 26	7 / 2	9 / 9	- / -	- / -	1 / -	3 / -	- / -
Grampian	11 / 2	- / -	- / -	3 / 6	- / -	2 / 22	- / -	- / -	- / -	6 / 9	- / -
Gwent	- / -	- / -	- / -	- / -	- / -	16 / 25	- / -	- / -	1 / -	1 / -	- / -
Gwynedd	9 / 7	4 / 2	- / -	5 / 2	- / -	118 / 74	- / -	- / -	2 / 1	4 / 4	- / -
Hampshire	3 / 1	1 / -	2 / 1	3 / 1	- / -	17 / 19	5 / 3	- / -	- / -	8 / 2	- / -
Herefordshire	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -
Hertfordshire	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1	- / -
Highland	6 / 1	1 / 1	- / -	20 / 33	- / -	11 / 15	- / -	- / 2	- / -	7 / 11	- / -
Humberside	19 / 6	8 / -	1 / 1	8 / 2	- / -	6 / 23	25 / -	1 / -	- / 1	5 / 2	- / -
Isle of Man	1 / -	- / -	- / -	- / -	- / -	- / 1	- / -	- / -	- / -	- / -	- / -
Kent	9 / 1	- / -	1 / -	1 / 2	13 / 2	5 / 42	6 / -	- / -	1 / -	3 / 2	1 / -
Lancashire	2 / 1	6 / -	- / -	56 / 44	5 / -	36 / 41	7 / -	- / -	- / -	- / 1	1 / -
Leicestershire	- / -	1 / -	- / -	- / -	- / -	- / 2	2 / -	- / -	- / -	1 / -	- / -
Lincolnshire	496 / 22	27 / 1	85 / -	132 / 2	1 - / -	167 / 3	5 / -	69 / -	78 / 2	187 / 1	31 / -
Londonderry	- / -	- / -	- / -	- / -	- / -	- / 1	- / -	- / 1	- / -	- / -	- / -
Lothian	2 / 1	1 / -	- / -	5 / 2	- / -	4 / 2	- / -	- / -	- / -	1 / 1	- / -
Merseyside	3 / -	- / -	- / -	12 / 10	6 / -	18 / 9	2 / -	1 / -	- / -	2 / 1	- / 1
North Yorkshire	6 / -	3 / 1	1 / -	5 / 4	3 / -	19 / 37	1 / -	1 / -	- / 2	5 / 3	- / 1
Norfolk	677 / 14	111 / 1	184 / -	305 / -	95 / -	359 / 4	3 / -	36 / -	111 / -	437 / -	154 / -
Northamptonshire	- / 3	- / -	- / -	1 / 3	- / -	- / 2	- / -	- / -	- / -	- / 1	- / -
Northumberland	7 / -	6 / -	- / -	- / -	- / -	- / 5	- / -	- / -	- / -	2 / 1	- / -
Nottinghamshire	1 / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	1 / 2	- / -
Orkney	6 / -	- / -	- / -	- / 1	- / -	5 / -	- / -	- / -	- / -	- / -	1 / -
Powys	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -
South Yorkshire	- / -	4 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Shetland	26 / 8	- / -	- / -	1 / -	- / 2	- / 3	- / -	- / -	- / -	- / -	- / -
Shropshire	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2	- / -	- / -
Somerset	1 / -	- / -	- / -	- / -	- / -	41 / 8	- / -	- / -	- / -	1 / -	- / -
Staffordshire	- / -	- / 1	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -
Strathclyde	1 / -	- / -	- / -	1 / -	- / -	3 / 4	1 / -	- / -	- / -	- / 1	- / -
Suffolk	22 / 11	4 / -	1 / -	6 / 1	- / -	18 / 31	17 / 2	1 / -	1 / -	12 / 5	1 / -
Surrey	- / -	- / -	- / -	- / -	- / 1	- / -	- / -	- / -	- / -	1 / -	- / -
Sussex	3 / -	- / -	- / -	2 / -	- / -	1 / 2	3 / -	- / -	1 / -	- / -	- / -
Tayside	2 / 3	- / -	1 / -	2 / 5	1 / -	- / 2	- / -	- / -	- / -	6 / 6	- / -
Tyne & Wear	1 / -	- / -	- / -	- / -	2 / -	- / 1	- / -	- / -	- / -	1 / -	- / -
Western Isles	1 / -	1 / -	- / -	1 / 1	- / -	1 / 9	- / -	- / -	- / -	2 / 3	- / 1
West Yorkshire	- / -	- / 1	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Warwickshire	1 / -	- / -	- / -	- / 1	- / -	2 / -	- / -	- / -	- / -	- / -	- / -
West Midlands	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1	- / -
Grand Total	1,364 / 127	214 / 10	282 / 4	700 / 244	193 / 26	1,045 / 624	147 / 10	109 / 8	198 / 13	732 / 78	194 / 6



Table 2: Movements of other species between the Wash and elsewhere in Britain & Ireland

County	Little R Plover	Golden Plover	Lapwing	Curlew S'piper	Purple S'piper	Ruff	Snipe	Whimbrel	Green- shank	Green S'piper	Wood S'piper	Common S'piper
Antrim	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Avon	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Bedfordshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Berkshire	-/1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Cambridgeshire	-/-	-/-	-/-	-/-	-/-	1/-	2/-	-/-	-/-	-/-	-/-	-/-
Central	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Cheshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Cleveland	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Clwyd	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
Cornwall	-/-	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Cumbria	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Derbyshire	1/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Devon	-/-	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Dorset	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Down	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Dumfries & Gall	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Durham	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Dyfed	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
E Ulster	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
England	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Essex	-/-	-/-	-/-	-/1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/1
Fair Isle	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Fife	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Glamorgan	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gloucestershire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gtr London	1/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gtr Manchester	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Grampian	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gwent	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gwynedd	-/-	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Hampshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/1	-/-	-/-	-/-
Herefordshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Hertfordshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Highland	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Humberside	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Isle of Man	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Kent	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
Lancashire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Leicestershire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Lincolnshire	1/1	-/-	5/1	4/-	-/-	1/-	-/-	-/-	2/-	1/-	-/1	4/-
Londonderry	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Lothian	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Merseyside	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
North Yorkshire	-/-	-/-	-/1	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Norfolk	1/1	1/-	6/1	1/-	1/-	2/-	6/-	-/-	1/-	-/-	-/-	1/-
Northamptonshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Northumberland	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Nottinghamshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Orkney	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Powys	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
South Yorkshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Shetland	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/2	-/-	-/-	-/-	-/-
Shropshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Somerset	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Staffordshire	-/-	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Strathclyde	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Suffolk	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Surrey	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Sussex	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Tayside	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Tyne & Wear	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Western Isles	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
West Yorkshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Warwickshire	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
West Midlands	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Grand Total	4/3	1/-	11/3	5/1	1/-	6/-	13/-	-/2	3/1	1/-	-/1	5/1

Table 3: Movements of the Wash study species between the Wash and other countries

Country	O'catcher	Ringed Plover	Grey Plover	Knot	Sanderling	Dunlin	Black-t Godwit	Bar-t Godwit	Curlew	Redshank	Turnstone
Algeria	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
Arctic Ocea	-/-	-/-	-/-	1/-	-/-	2/-	-/-	-/-	-/-	-/-	-/-
Austria	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-
Belgium	5 / 1	-/-	-/-	2/-	-/-	2 / 6	-/-	-/-	- / 6	2/-	1/-
English Channel	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Canada	-/-	-/-	-/-	9 / 2	-/-	-/-	-/-	-/-	-/-	-/-	2 / 1
Channel Is	2 / -	2 / -	-/-	-/-	- / 1	4 / 8	-/-	-/-	-/-	1 / -	-/-
Former Czech'vakia	-/-	-/-	-/-	-/-	-/-	- / 1	-/-	-/-	-/-	-/-	-/-
Dahomey	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Denmark	23 / 1	1 / -	12 / -	30 / -	1 / -	54 / 57	1 / -	3 / -	8 / 1	2 / -	2 / -
Eire	1 / -	14 / -	-/-	2 / -	-/-	20 / 20	6 / -	-/-	2 / -	1 / -	-/-
Faroes	29 / -	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	1 / -	-/-
Finland	2 / -	- / 1	1 / -	-/-	1 / -	84 / 112	-/-	1 / -	31 / 35	-/-	5 / 7
France	153 / -	33 / -	17 / 1	47 / 8	15 / -	104 / 35	13 / -	4 / -	7 / -	41 / -	7 / 1
Gabon	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gambia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	1 / -
Germany	18 / 2	1 / 3	3 / 1	65 / 37	2 / -	64 / 84	1 / -	14 / 8	3 / 3	- / 2	2 / 2
Ghana	-/-	1 / -	-/-	-/-	2 / -	-/-	-/-	-/-	-/-	-/-	2 / -
Greece	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	1 / -
Greenland	1 / -	- / 1	-/-	73 / -	-/-	- / 1	-/-	-/-	-/-	-/-	4 / -
Guinea	-/-	-/-	-/-	-/-	-/-	-/-	-/-	1 / -	-/-	-/-	1 / -
Guinea Bissau	-/-	-/-	-/-	-/-	-/-	1 / 1	-/-	1 / -	-/-	-/-	2 / -
Hungary	-/-	-/-	-/-	- / 1	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Iceland	9 / -	-/-	-/-	101 / 40	3 / 1	6 / 4	32 / 4	-/-	-/-	3 - / 9	7 / 1
Italy	-/-	-/-	-/-	-/-	1 / 1	1 / -	-/-	-/-	-/-	-/-	-/-
Latvia	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Lithuania	-/-	-/-	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-
Liberia	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-	1 / -
Mali	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Mauritania	-/-	-/-	-/-	1 / -	-/-	9 / 15	-/-	2 / -	-/-	-/-	-/-
Morocco	2 / -	1 / -	3 / -	1 / -	11 / -	22 / 14	1 / -	-/-	-/-	2 / -	3 / -
Netherlands	167 / 17	3 / 2	1 / 1	75 / 22	2 / -	3 - / 17	11 / -	11 / 5	4 / 5	4 / 3	4 / 1
North Atlantic	-/-	-/-	1 / -	1 / -	-/-	1 / -	-/-	-/-	-/-	-/-	-/-
North Sea	-/-	-/-	-/-	-/-	-/-	2 / -	-/-	-/-	1 / -	1 / -	-/-
Norway	726 / 109	3 / -	-/-	35 / 69	1 / 8	9 / 309	-/-	1 / 5	- / 2	-/-	2 / 12
Poland	-/-	-/-	1 / 1	3 / 6	1 / -	51 / 70	-/-	- / 1	-/-	-/-	- / 1
Portugal	-/-	- / 1	-/-	1 / -	2 / -	54 / 16	1 / -	-/-	-/-	2 / -	1 / -
Senegal	-/-	1 / -	-/-	4 / -	3 / -	-/-	-/-	-/-	-/-	-/-	1 / -
South Africa	-/-	-/-	-/-	1 / 1	2 / 1	-/-	-/-	-/-	-/-	-/-	-/-
Spanish W Africa	-/-	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-
Spain	1 / -	3 / -	1 / -	2 / -	3 / -	38 / 13	2 / -	1 / 1	-/-	3 / -	1 / -
Sweden	9 / 1	- / 1	-/-	1 / 5	-/-	245 / 344	-/-	-/-	5 / 12	-/-	- / 2
Tunisia	-/-	-/-	-/-	-/-	1 / -	-/-	-/-	-/-	-/-	-/-	-/-
USA	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	- / 1
Former USSR	8 / -	1 / -	3 / -	1 / -	2 / -	9 / 38	-/-	11 / 1	6 / -	-/-	1 / -
Grand Total	1,156 / 131	65 / 9	43 / 4	460 / 191	55 / 12	814 / 1,165	68 / 4	50 / 21	67 / 64	90 / 14	51 / 32

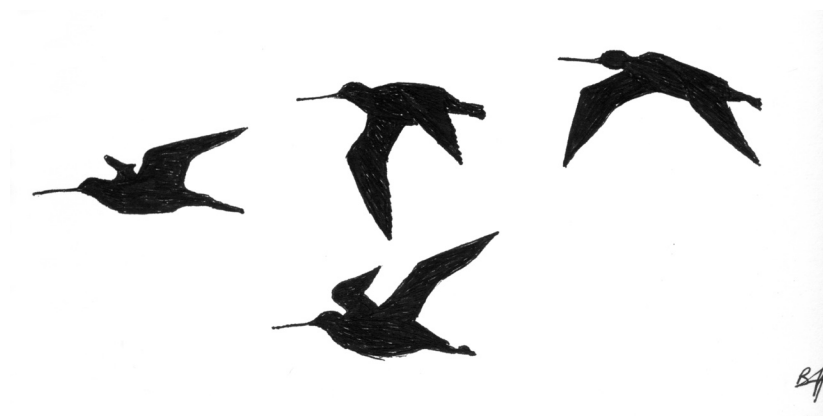
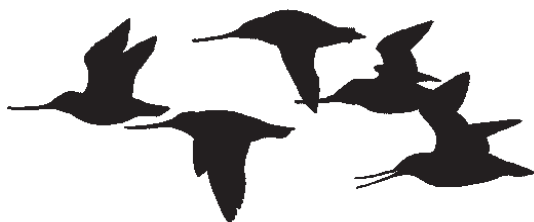


Table 4: Movements of other species between the Wash and other countries

Country	Little R Plover	Golden Plover	Lapwing	Curlew S'piper	Purple S'piper	Ruff	Snipe	Whimbrel	Spotted redshank	Green- shank	Green S'piper	Common S'piper
Algeria	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Arctic Ocea	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Austria	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Belgium	-/1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
English Channel	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Canada	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Channel Islands	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Former Czech'vakia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Dahomey	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Denmark	-/-	1/-	1/9	-/-	-/-	-/-	1/-	-/-	-/-	1/-	-/-	-/-
Eire	-/-	-/-	-/-	-/-	-/-	-/-	3/-	-/-	-/-	-/-	-/-	-/-
Faroes	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Finland	-/-	-/-	-/2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
France	-/-	1/-	9/-	4/-	-/-	3/-	9/-	2/-	-/-	2/-	2/-	4/-
Gabon	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gambia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Germany	-/-	-/-	-/3	-/-	-/-	1/-	-/1	-/-	-/-	-/-	-/-	-/-
Ghana	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Greece	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Greenland	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Guinea	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Guinea Biss	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Hungary	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Iceland	-/-	-/1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Italy	-/-	-/-	-/1	-/-	-/-	5/-	1/-	-/-	1/-	-/-	-/-	-/-
Latvia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Lithuania	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Liberia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Mali	-/-	-/-	-/-	-/-	-/-	2/-	-/-	-/-	-/-	-/-	-/-	-/-
Mauritania	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Morocco	-/-	-/-	1/-	-/-	-/-	1/-	1/-	-/-	2/-	1/-	-/-	-/-
Netherlands	-/-	2/2	1/7	-/-	-/-	1/3	-/2	-/-	-/-	1/-	-/-	-/-
North Atlantic	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
North Sea	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Norway	-/-	1/-	-/1	1/1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	1/-
Poland	-/-	-/-	-/1	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
Portugal	-/-	-/-	-/-	1/-	-/-	1/-	4/-	-/-	-/-	-/-	-/-	1/-
Senegal	-/-	-/-	-/-	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
South Africa	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Spanish W Africa	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Spain	1/-	-/-	3/-	1/-	-/-	2/-	5/-	-/-	-/-	-/-	-/-	1/-
Sweden	-/-	-/-	-/2	-/1	-/1	-/-	-/1	-/-	-/-	-/-	-/-	-/-
Tunisia	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
USA	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Former USSR	-/-	-/-	3/1	-/-	-/-	1/-	-/-	-/-	-/-	-/-	-/-	-/-
Grand Total	1/1	5/3	18/27	7/2	-/1	19/3	24/4	2/-	3/-	5/-	2/-	7/-

The summaries of movements are produced from data supplied by the BTO Ringing Scheme. The Scheme is funded by a partnership of the British Trust for Ornithology, the Joint Nature Conservation Committee (on behalf of Natural England, Scottish Natural Heritage and the Countryside Council for Wales, and also on behalf of the Environment and Heritage Service in Northern Ireland), The National Parks and Wildlife Service (Ireland) and the ringers themselves.

Jacquie Clark & Rob Robinson



NOTABLE RECOVERIES

Below is a selection of the more notable recoveries (reports of ringed birds) received in 2006 and 2007. Details of each recovery are given, with a brief explanation of its importance. The following codes are used:

Ringing Scheme

Only given if not BTO

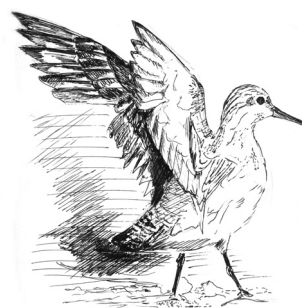
BLB	Belgium, Bruxelles
CIJ	Channel Islands, Jersey
DEH	Germany, Hiddensee
ISR	Iceland, Reykjavik
NOS	Norway, Stavanger
SFH	Finland, Helsinki
SVS	Sweden, Stockholm

Age at ringing

1	pullus (nestling or chick)
2	fully grown, year of hatching unknown
3	hatched during calendar year of ringing
4	hatched before calendar year of ringing, exact year unknown
5	hatched during previous calendar year
6	hatched before previous calendar year, exact year unknown
7	definitely hatched two calendar years before ringing
8	hatched more than two calendar years before year of ringing

Condition at recovery

X	found dead
XF	found freshly dead or dying
XL	found dead (not recent)
+	shot or intentionally killed by man
+F	shot or intentionally killed by man - fresh
S	sick or injured - not known to have been released
V	alive and probably healthy, caught and released but not by a ringer
VV	alive and probably healthy, ring or colour marks read in the field but not by a ringer
R	caught and released by a ringer
RR	alive and probably healthy, ring or colour marks read in the field by a ringer



OYSTERCATCHER

SS88071	3	29.08.69	Dawsmere			
= FA10150	R	07.09.86	Friskney			LOCAL
	XF	15.05.06	Olberg, Sola, Rogaland, NORWAY	58 52'N 05 5'E	750 KM	NNE

This Oystercatcher, which was re-ringed when recaptured in 1986, was found on its Norwegian breeding grounds. A first year bird when originally ringed in 1969, this bird was nearing 37 years old when killed by a predatory bird, and sets a new British & Irish longevity record for the species.

NOS	1	23.06.02	Kvaloyvag, Tromso, Troms, NORWAY	69 50'N 18 45'E		
5157624	R	23.07.05	Heacham		2,108 KM	SSW
NOS	1	19.06.03	Kvaloysetta, Tromso, Troms, NORWAY	69 42'N 18 35'E		
5139543	R	23.07.05	Heacham		2,099 KM	SSW

Norwegian-ringed Oystercatchers are not uncommon on the Wash, but the majority come from south of the Arctic Circle. These two, both ringed as nestlings near Tromso, were caught together at Heacham, and are the two northernmost controls notified during 2006-2007.

FA46711	3	21.08.93	Holbeach			
	X	30.07.06	Sortland, Nordland, NORWAY	68 41'N 15 22'E	1,935 KM	NNE

Whilst this individual was the northernmost recovery of an Oystercatcher ringed on the Wash.

FA39362	8	25.10.92	Wig, Bangor, GWYNEDD			
=FP62489	R	20.08.05	Wainfleet		291 KM	E
FA39464	8	25.10.92	Wig, Bangor, GWYNEDD			
	R	20.08.05	Wainfleet		291 KM	E

These two Oystercatchers were caught together in North Wales and then recaptured together on the Wash, nearly 14 years later, prompting speculation about birds migrating together.

FP08373	8	01.08.00	Friskney			
	VV	06.06.06	Randoya, Vest-Agder, NORWAY	58 05'N 08 07'E	748 KM	NE

FA40143	6	10.04.93	Heacham			
VV	06.06.06	Randoya, Vest-Agder, NORWAY	58 05'N 08 07'E	751 KM	NE	

Although ringed at different sites on the Wash, these two had paired, and were raising young, when spotted by a Norwegian birdwatcher.

BLB	1	14.06.06	Grembergen, Oost-Vlaanderen, BELGIUM	51 03'N 04 07'E		
L119624	R	21.10.06	Heacham		324 KM	NW

Only the second Belgian-ringed Oystercatcher to be found on the Wash, arriving here in its first autumn. The previous record, back in 1995, was also a bird ringed as a nestling from the relatively small population of Belgian Oystercatchers.

FV39784	1	23.07.80	Sheringham, NORFOLK			
R	17.02.07	Heacham		51 KM	W	

A Norfolk-bred Oystercatcher still going strong after over 26 years.

RINGED PLOVER

NW13306	1	01.06.03	Willington, BEDFORDSHIRE			
R	20.10.05	Heacham		105 KM	NE	

The first Ringed Plover to be controlled on the Wash since 1991 and, as it was ringed as a nestling and is therefore of known origin, a valuable record. Our first from Bedfordshire.

GREY PLOVER

DEH	3	26.09.05	Langenwerder, Rostock, GERMANY	54 02'N 11 30'E		
LA004996	R	12.09.06	Terrington		754 KM	W

Only the second German-ringed Grey Plover to be reported on the Wash. Both this, and the previous one in 1985, were juveniles caught at the same German site, whilst passing through during late September, *en route* from their natal grounds in northern Russia. Note that, as an adult bird the following year, this individual had already reached the Wash by mid-September.

KNOT

XR77029	6	09.03.96	Heacham			
VV	17.01.97	Den Helder, N-Holland, NETHERLANDS	52 57'N 04 43'E	285 KM	E	
VV	04.02.06	Den Helder				

One of only two overseas Knot recoveries during 2006 (the other being reported in Germany). This individual, wintering at the same site in The Netherlands, has now twice had its ring read 'in the field'.

SX19886	3	16.10.04	Terrington			
R	29.05.07	Alert, Ellesmere Island, CANADA	82 30'N 62 20'W	3,969 KM	NNW	

It has long been established that the majority of Knot using the Wash in the winter are of the *islandica* race which breed in northern Greenland and the High Arctic islands of northern Canada. Nevertheless it is still a notable event to get a recovery in Canada, this being our first since 1988. This individual now also bears colour-rings, so increasing the chance that it may be reported again in the future.

SANDERLING

NT75176	4	17.10.04	Heacham			
XF	27.12.05	V Real de S Antonio, Algarve, PORTUGAL	37 10'N 07 26'W	1855 KM	SSW	
NT74561	3	30.10.04	Heacham			
XF	06.02.06	San Fernando, Cadiz, SPAIN	36 27'N 06 13'W	1899 KM	SSW	

Following a number of particularly successful Sanderling catches in recent years we continue to be rewarded with some notable recoveries. Hot on the heels of a similar recovery featured in the 2004-2005 Report comes

only the sixth BTO-ringed Sanderling to be found in Portugal. Also shown is the ninth to Spain (only the third from the Wash). Both these birds are likely to have been from the Greenland population and caught on passage through the Wash. The bird in Portugal was probably on its wintering grounds, whilst the Spanish bird is likely to have been on return passage from Africa or southern Iberia.

NT53072	4	01.08.04	Snettisham		
	R	18.05.07	Sandgerdi, Gullbringu, ICELAND	64 03'N 22 42'W	1,821 KM NW

This bird is also likely to be from the Greenland breeding population and is only the third Wash-ringed Sanderling to be found in Iceland. This individual, and the previous examples, were all recaptured at the same Icelandic site in mid to late May, and will probably have been *en route* to Greenland.

NOS	3	20.08.03	Revtangen, Klepp, Rogaland, NORWAY	58 45'N 05 30'E	
8854917	R	25.08.05	Heacham		720 KM SSW

Our seventh from Norway, demonstrating the timing of autumn migration through Norway and into Britain.

CIJ	5	30.01.05	Le Haule, Jersey, CHANNEL ISLANDS	49 12'N 02 10'W	
X23306	R	25.08.05	Heacham		452 KM NNE

The first Sanderling bearing a Channel Islands ring to be caught on the Wash, and only the fifth from anywhere in France and the Channel Islands to be found in Britain.

NT48574	6	01.03.02	Coast Guards, Walney Island, CUMBRIA		
	R	25.08.05	Heacham		281 KM ESE
NT12421	5	22.02.97	Heacham		
	R	01.04.06	Panbride, Carnoustie, TAYSIDE		449 KM NNW

The third Cumbrian Sanderling to be found on the Wash, and the first either to or from Tayside.

DUNLIN

SVS	5	21.07.04	Ottenby, Oland, SWEDEN	56 12'N 12 24'E	
3493521	R	22.07.05	Terrington		1,104 KMWSW
SVS	6	24.07.04	Ottenby, Oland, SWEDEN	56 12'N 12 24'E	
3498435	R	22.07.05	Terrington		1,104 KMWSW

Dunlin caught on passage at Ottenby are regularly controlled on the Wash.

NT23104	3	02.08.00	Terrington		
	R	24.08.00	I de Murraceira, Beira Litoral, PORTUGAL	40 07'N 08 49'W	1,571 KM SSW

Being controlled in Portugal just 22 days after its capture on the Wash, the details of this recovery took rather longer than the bird took to make the journey! This bird is most likely of the *schinzii* race, which passes through the Wash *en route* to wintering grounds in western Africa.

NT84449	4	10.08.96	Leverton		
	xF	20.10.06	Mehdia, Kenitra, MOROCCO	34 15'N 06 40'W	2,152 KM SSW
NT02661	4	02.08.96	Leverton		
	R	05.12.04	near Iwik, MAURITANIA	19 54'N 16 17'W	3,944 KM SSW
NT54147	4	03.09.04	Terrington		
	R	28.11.05	near Iwik, MAURITANIA	19 54'N 16 17'W	3,930 KM SSW

...as is illustrated by these recoveries, which include our 21st Dunlin to be reported in Morocco, along with the seventh and eighth Wash-ringed Dunlin to be reported in Mauritania. Ringing expeditions to Mauritania have resulted in 15 records of birds ringed there being reported on the Wash.

BLACK-TAILED GODWIT

EP85366	4	09.09.02	Holbeach		
	R	27.03.03	Alftafjordur, Sudur-Mula, ICELAND	64 34'N 14 30'W	1545 KM NNW
ES28085	4	18.09.93	Holbeach		
	R	03.05.03	Alftafjordur, Sudur-Mula, ICELAND	64 34'N 14 30'W	1,544 KM NNW

EP85397 4 09.09.02 Holbeach
X 01.07.07 Kollabaer, Fljotshlid, Rangarvalla, **ICELAND** 63 44'N 20 04'W 1,680 KM NW

Colour-ringing has shown that the majority of the Black-tailed Godwit using the Wash originate from the Icelandic breeding grounds. Many records are of colour-ring sightings, but the first two records are recaptures and the third was found dead.

EL09341 6 12.08.06 Holbeach
VV 21.03.07 Leighton Moss, Silverdale, LANCASHIRE 240 KM NW

Colour-ringing has also demonstrated a northwestward shift within the UK during March and April prior to birds returning to their Icelandic breeding grounds, this record being a typical example.

EL09217 6 22.08.05 Holbeach
+ 28.11.05 Baie de Somme, Somme, **FRANCE** 50 14'N 01 33'E 311 KM SSE

EK94359 4 02.09.04 Terrington
VV 08.12.04 Locquenole, Finistere, **FRANCE** 48 37'N 03 51'W
VV 15.12.05 Plouezoch, Finistere, **FRANCE** 48 38'N 03 51'W
X 16.03.06 Ile aux Dames, Finistere, **FRANCE** 48 41'N 03 53'W 548 KM SSW

EP85142 4 10.08.96 Holbeach
VV 08.04.98 Weirigen, Noord-Holland, **NETHERLANDS** 52 55'N 04 57'E
+ 10.01.06 Bouin, Vendee, **FRANCE** 46 58'N 01 59'W 673 KM SSW

Some other recoveries of colour-ringed birds; these three demonstrate onward movement from the Wash to France in winter - colour-ringing resulting in multiple sightings, with one also being seen in The Netherlands on return migration. Note that two of these birds were shot in France. However, a five year hunting moratorium for Black-tailed Godwits and Curlew has recently been announced in France, so more of the Black-tailed Godwits wintering in France should survive in the future.

BAR-TAILED GODWIT

DN20623 3 12.08.87 Terrington
R 21.08.05 Wainfleet 34 KM

Still going strong 18 years after being ringed. The Wash (and national) longevity record is 32 years.

DEW 6 01.04.87 Bupheverkoog Pellworm, **GERMANY** 54 32'N 00 28'E
6326798 R 14.08.06 Ken Hill, Heacham 571 KMWSW

The only Bar-tailed Godwit ringed abroad and found on the Wash to be notified during the period. This is the first foreign control of a Bar-tailed Godwit since 1997.

CURLEW

FA97141 4 02.09.00 Terrington
+ 30.01.06 Pont l'Abbe, Finistere, **FRANCE** 47 52'N 04 13'W 636 KM SSW
FV50297 4 31.08.81 Terrington
+ 01.06.04 Dourduff-en-mer, Finistere, **FRANCE** 48 38'N 03 49'W 546 KM SSW

Only the sixth and seventh Wash-ringed Curlew to be recovered in France. Sadly, as is often the case here, both were shot. Not all Curlew using the Wash in autumn winter here. These birds were clearly wintering further to the southwest. The second individual was all the more unfortunate, as at nearly 23 years since ringing, this bird was well on its way towards the Wash-ringed longevity record, which is now held by...

FV43050 4 01.08.77 Terrington
XF 17.05.05 Harkamaentie, Pyhajarvi O, Oulu, **FINLAND** 63 39'N 26 03'E 1,919 KM NE

...taken by a predatory bird 27 years 9 months after being ringed, this bird beats our previous record which was set back in 1995, but is still two years short of the national record holder.

FA69937 4 11.08.98 Wainfleet
X 01.05.05 Vahakangas, Ylivieska, Oulu, **FINLAND** 64 03'N 24 40'E 1,856 KM NE

SFH	3	10.07.97	Seinajoki, Vaasa, FINLAND	62 49'N 22 42'E	
CT106916	R	16.07.06	Ken Hill, Heacham		1,709 KM SW
FA89790	4	23.07.97	Terrington		
	X	24.04.07	Ytterjeppovagen, Uusikaarlepyy, FINLAND	63 27'N 22 33'E	1,757 KM NE

As with the new longevity record holder above, the majority of overseas Curlew movements involving Wash-captured birds are individuals to and from the breeding stronghold in Finland, these being three further typical examples.

FP08804	6	16.02.02	Terrington		
	X	05.05.06	Lake Kemscoe, Vologda, RUSSIA	61 03'N 37 06'E	2,401 KM ENE

Indeed, very few Wash Curlew recoveries come from beyond Finland: this being only the Group's sixth to the former Soviet Union, and the tenth from Britain & Ireland that has been found there.

REDSHANK

DB61425	4	29.08.04	Terrington		
	XF	19.02.07	La Rocque, Jersey, CHANNEL ISLANDS	49.12'N 2.02'W	433 KM SSW

The first record of a Redshank on the Wash moving either to or from the Channel Islands.

GREENSHANK

DB61241	4	28.08.03	Terrington		
	VV	15.07.06	Ruidhorn, Groningen, NETHERLANDS	53 27'N 06 40'E	429 KM E

Only 212 Greenshank have been ringed by the group so, not surprisingly, we have had few recoveries. This is our first to The Netherlands.

TURNSTONE

NOS	3	31.08.98	Revtangen, Klepp, Rogaland, NORWAY	58 45'N 05 30'E	
7363956	R	24.08.05	Leverton		721 KM SSW

Only the twelfth Norwegian-ringed Turnstone to be found on the Wash, this bird is likely to have been on passage from its Finnish breeding grounds when caught both in Norway and on the Wash, *en route* to African wintering grounds. Note: when ringed as a juvenile it was still in Norway at the end of August, but seven years later as an adult it had already reached the Wash at least a week earlier in the season.

ISR	6	28.05.01	Nupasveit, Nordur-Thingeyjar, ICELAND	66 18'N 12 27'W	
756323	R	13.08.06	Terrington		1,765 KM SSE

The first Icelandic-ringed Turnstone to be found on the Wash, although there have been seven Wash-ringed birds found there. This bird will have still been on passage towards its breeding grounds in Greenland or Canada when first caught, and would have recently arrived back on the Wash to moult when controlled.

LESSER BLACK-BACKED GULL

GC16219	1	26.06.05	Inner Westmark Knock		
	XL	02.10.05	L de Obidos, Estremadura, PORTUGAL	39 25'N 09 11'W	1,657 KM SSW
GC16070	1	26.06.05	Inner Westmark Knock		
	VV	18.11.05	Sesimbra, Estremadura, PORTUGAL	38 26'N 09 06'W	1,755 KM SSW
GN89583	1	27.06.04	Inner Westmark Knock		
	VV	04.11.06	Figueira da Foz, Beira Litoral, PORTUGAL	40 09'N 08 51'W	1,570 KM SSW
GC33251	1	25.06.06	Inner Westmark Knock		
	VV	12.08.07	Portimao, Algarve, PORTUGAL	37 08'N 02 16'W	1,874 KM SSW
GC52028	1	16.06.07	Inner Westmark Knock		
	VV	06.10.07	Quarteira, Algarve, PORTUGAL	37 04'N 08 07'W	1,869 KM SSW

Following two previous reports in France of Lesser Black-backed Gulls from the Inner Westmark Knock (generally known as the Outer Bund) breeding colony come these five, all having had their rings read 'in the field' in Portugal. Recoveries from ringing elsewhere in Britain have demonstrated that British-bred Lesser Black-backed Gulls generally migrate southwards, with most wintering in Iberia, and these fit this pattern of behaviour.

GC33013	1	21.06.03	Outer Bund		
	X	20.09.06	Plage Blanche, Guelmim, MOROCCO	29 23'N 10 09'W	2,742 KM SSW

Whilst all but one of the Portuguese examples above were in their first year, adult birds, in particular, are thought to venture further south in winter. This bird is the first Wash-ringed Lesser Black-Backed Gull to be recovered in Morocco.

HERRING GULL

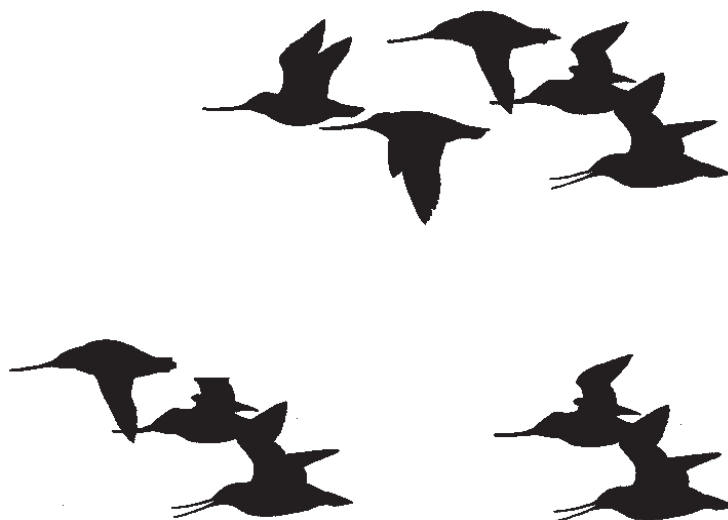
GG88576	7	01.08.00	Friskney		
	S	16.06.02	Kirkcaldy, FIFE		
	X	10.07.04	Inchkeith, FIFE		394 KM NNW

When a bird is reported as having been found sick but then released it is easy to assume that it's chances of survival are slim. This bird, however, survived another two years before being found dead in a breeding colony.

GC16747	1	26.05.06	Inner Westmark Knock		
	VV	18.05.07	Helgoland, GERMANY	54 11'N 07 55'E	529 KM ENE

The second overseas recovery of a Herring Gull from the Outer Bund breeding colony, and the first to Germany.

Steve Wakeham



WADER LONGEVITY RECORDS

Listed below are all known longevity records for all species where the group has ringed 25 or more individuals since 1959. The BTO-ringed records have been extracted from annual ringing reports in *Ringling & Migration*. Some of the species ringed by WWRG have had few recoveries and so no significant longevity has been noted. Where a bird ringed on the Wash holds the BTO record, the details appear in *italics*.

Table 1: Longevity records for BTO-ringed birds and those ringed by WWRG

SPECIES	BTO-RINGED			RINGED BY WWRG		
<i>Oystercatcher</i>	<i>SS88071</i>	<i>36yr</i>	<i>8m</i>	<i>SS88071</i>	<i>36yr</i>	<i>8m</i>
<i>Ringed Plover</i>	<i>BV85945</i>	<i>19yr</i>	<i>8m</i>	<i>BV85945</i>	<i>19yr</i>	<i>8m</i>
Golden Plover	2072773	12yr	1m	DN77939	6yr	5m
<i>Grey Plover</i>	<i>DR33258</i>	<i>25yr</i>	<i>1m</i>	<i>DR33258</i>	<i>25yr</i>	<i>1m</i>
Lapwing	DS30355	21yr	1m			
Knot	CE25745	26yr	4m	CK68568	24yr	0m
<i>Sanderling</i>	<i>BB52147</i>	<i>17yr</i>	<i>7m</i>	<i>BB52147</i>	<i>17yr</i>	<i>7m</i>
Little Stint	KR8--	3yr	11m			
Curlew Sandpiper	NB15296	12yr	11m			
Purple Sandpiper	CV58657	13yr	11m	BV89291	11yr	11m
<i>Dunlin</i>	<i>BX31762</i>	<i>18yr</i>	<i>8m</i>	<i>BX31762</i>	<i>18yr</i>	<i>8m</i>
Ruff	CC91720	9yr	0m	CE33211	6yr	7m
Snipe	XC34292	16yr	0m			
Black-tailed Godwit	EF90838 (previously controlled by WWRG)	23yr	5m			
<i>Bar-tailed Godwit</i>	<i>DS66532</i>	<i>32yr</i>	<i>0m</i>	<i>DS66532</i>	<i>32yr</i>	<i>0m</i>
Whimbrel	EH49697	16yr	1m			
Curlew	3101164	29yr	9m	FV43050	27yr	9m
<i>Spotted Redshank</i>	<i>DR28508</i>	<i>7yr</i>	<i>5m</i>	<i>DR28508</i>	<i>7yr</i>	<i>5m</i>
Redshank	DR10814	19yr	10m	P10010 DN20546	17yr 17yr	0m 0m
Greenshank	DR70162	16yr	0m	DR96000	5yr	11m
Common Sandpiper	NV54164	12yr	11m			
Turnstone	XS24927	19yr	3m	CC88754	19yr	2m

Table 2: Details of WWRG longevity records

Species in italics are holders of the national record

Species	Ring no	Ringing information			Finding information		
		Age	Place	Date	Circs	Place	Date
<i>Oystercatcher</i>	SS88071	1st Winter	<i>Dawsmere</i>	29/08/69	Dead	Norway	15/05/06
<i>Ringed Plover</i>	BV85945	Adult	<i>Heacham</i>	31/08/80	Controlled	<i>Snettisham</i>	20/05/00
Golden Plover	DN77939	Adult	Terrington	24/07/97	Shot	Sutton Bridge	14/12/03
<i>Grey Plover</i>	DR33258	2nd Summer	<i>Terrington</i>	13/07/79	Controlled	<i>Terrington</i>	09/08/04
Knot	CK68568	Adult	N.Wootton	27/08/68	Controlled	Friskney	01/09/92
<i>Sanderling</i>	BB52147	Adult	<i>Snettisham</i>	18/07/70	Controlled	<i>Heacham</i>	21/02/88
Purple Sandpiper	BV89291	Adult	Heacham	16/04/88	Controlled	Hunstanton	08/04/00
<i>Dunlin</i>	BX31762	1st Winter	<i>N.Wootton</i>	02/09/73	Controlled	<i>Scotland</i>	18/05/92
Ruff	CE33211	1st Winter	Wolferton	22/08/78	Controlled	Senegal	20/02/85
<i>Bar-tailed Godwit</i>	DS66532	Adult	<i>Friskney</i>	03/08/73	Controlled	<i>Wainfleet</i>	21/08/05
Curlew	FV43050	Adult	Terrington	01/08/77	Dead	Finland	17/05/05
<i>Spotted Redshank</i>	DR28508	2nd Summer	<i>Terrington</i>	27/07/75	Dead	<i>Morocco</i>	12/01/83
Redshank	P10010	Adult	Terrington	18/08/59	Controlled	Terrington	27/08/76
	DN20546	Adult	Terrington	11/08/87	Controlled	Terrington	29/08/04
Greenshank	DR96000	Adult	Wolferton	22/08/82	Controlled	Denmark	10/08/88
Turnstone	CC88754	Adult	Terrington	28/08/72	Controlled	Heacham	22/11/91

It is interesting that the longevity records for some of the species that we catch regularly are still being surpassed eg Oystercatcher. However, the longevity record for a Wash-ringed Redshank has remained at 17yr 0m since 1976. The first to achieve this was P10010, a bird originally caught in the group's first ever catch on 18 August 1959 and only the 10th bird ringed by the WWRG! The second to make it to 17 years was just 9 days older than the first when it was controlled in 2004. P10010 held the national longevity record from 1976 until it was beaten elsewhere by an 18yr 5m old recovery in 1993 with the record then being extended to 19yr 10m in 1995. Such long-standing records suggest that we may have established the normal maximum life expectancy for Redshank; any living over 17 years being exceptional. This also seems to be the case for Knot (24yr 0m), Sanderling (17yr 7m), Dunlin (18yr 8m) and Turnstone (19yr 2m), all of which have longevity records that have not changed for 15 years or more, despite significant numbers being caught in the 1960s and 1970s.

Steve Wakeham



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David Andrews
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Francis Argyle
Sean Ashton
Phil & Sharon Atkinson
Graham Austin
Ian & Carole Bainbridge
Dawn Balmer
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