## **2001-2002 Report**

G. J. Carey, Y. T. Yu and Y. K. Ying





The Hong Kong Bird
Watching Society Limited



Agriculture, Fisheries and Conservation Department

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Cover photo: Red-necked Stint Calidris ruficollis at Mai Po (Photo by: Karl Ng )

#### **TABLE OF CONTENTS**

	Page
REPORT	
Introduction	1
Methodology	1
Results	3
Autumn 2001	3
Winter 2001-2002	4
Spring 2002	5
Summer 2002	5
Total numbers recorded	5
Regionally important numbers	8
Threatened species	8
Other observations	9
Acknowledgements	9
References	9
MAP	
Mai Po Marshes Nature Reserve	10
TABLES	
Table 1. Estimate of the minimum number of shorebirds utilizing Deep Bay	
during the 12-month period July 2001 to June 2002	7
Table 2. Species recorded in regionally important numbers in Deep Bay	
During July 2000 to June 2001	8

#### **APPENDIX 1**

Counts of shorebirds in the Mai Po Inner Deep Bay Ramsar Site in autumn 2001

#### **APPENDIX 2**

Counts of shorebirds in the Mai Po Inner Deep Bay Ramsar Site in spring 2002

#### **APPENDIX 3**

- Figure 1. Counts of waders recorded at Mai Po Inner Deep Bay, autumn 2001
- Figure 2. Counts of Black-winged Stilt at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 3. Counts of Pacific Golden Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 4. Counts of Kentish Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 5. Counts of Grey Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001

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Figure 6. Counts of Lesser Sand Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
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- Figure 7. Counts of Greater Sand Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 8. Counts of Black-tailed Godwit at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 9. Counts of Bar-tailed Godwit at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 10. Counts of Whimbrel at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 11. Counts of Eurasian Curlew at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 12. Counts of Spotted Redshank at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 13. Counts of Common Redshank at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 14. Counts of Marsh Sandpiper at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 15. Counts of Common Greenshank at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 16. Counts of Wood Sandpiper at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 17. Counts of Great Knot at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 18. Counts of Red Knot at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 19. Counts of Broad-billed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, autumn 2001
- Figure 20. Total number of waders recorded at Mai Po Inner Deep Bay, spring 2002
- Figure 21. Counts of Pacific Golden Plover at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 22. Counts of Lesser Sand Plover at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 23. Counts of Greater Sand Plover at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 24. Counts of Black-tailed Godwit at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 25. Counts of Spotted Redshank at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 26. Counts of Common Redshank at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 27. Counts of Marsh Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 28. Counts of Common Greenshank at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 29. Counts of Terek Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 30. Counts of Grey-tailed Tattler at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 31. Counts of Ruddy Turnstone at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 32. Counts of Asiatic Dowitcher at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 33. Counts of Red Knot at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 34. Counts of Great Knot at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 35. Counts of Red-necked Stint at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 36. Counts of Sharp-tailed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 37. Counts of Curlew Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002
- Figure 38. Counts of Broad-billed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002

#### **APPENDIX 4**

Records of shorebirds marked with leg-flags in autumn 2001 and spring 2002

#### **APPENDIX 5**

Records of shorebirds assigned to age during autumn 2001

## 2001-2002 Report

G. J. Carey, Y. T. Yu and H. K. Ying

#### REPORT





## SHOREBIRD MONITORING AT THE MAI PO MARSHES AND INNER DEEP BAY RAMSAR SITE

#### 2001-2002 REPORT

G.J. Carey, Y.T. Yu and H.K. Ying

#### Introduction

Systematic, long-term monitoring of waterbirds in the Mai Po and Inner Deep Bay Ramsar Site commenced in March 1998. This project is administered, coordinated and executed by the Hong Kong Bird Watching Society, and funded by the Agriculture, Fisheries and Conservation Department. Counts of shorebirds (also called waders) form one part of this programme, the other components being monthly counts of waterbirds and surveys of ardeid nesting colonies. This report concerns the shorebird monitoring component for autumn 2001 and spring 2002.

#### Methodology

During spring and autumn migration shorebird migrants feed on the intertidal mudflats of Deep Bay and, during the high tide period, roost in the hinterland. The size and geographic layout of Deep Bay is such that it is not viable to count shorebirds when they are feeding in the intertidal areas of Deep Bay, except for a short period immediately prior to and after the tide has reached or withdrawn past the two 'boardwalk' hides situated at the edge of the bay (facilities provided by the WWF-HK Mai Po Marshes Nature Reserve - see map 1). Consequently, counts need to be made mainly during high tide when birds are roosting inland. Since the mid 1980s management activities at the Mai Po Marshes NR have generally ensured that there are suitable roosting areas on the reserve that allow counts to be made with a relatively high degree of accuracy for many species. Depending on the height of the tide, this high tide period when full counts can realistically be made lasts up to four hours, in addition to the time spent in the boardwalk hides.

However, on some days the tide does not reach a height sufficient to force birds to roost inland or even to move close to the boardwalk hides, which means that accurate counts cannot be made. Consequently, the census period is divided into 'blocks' of days that are long enough to ensure the likely occurrence of a high tide sufficient to allow at least one count to be made, yet short enough to ensure that counts are made with sufficient frequency that the majority of birds utilising the Bay during that season can be recorded.

Taking into account these factors the following schedule is used:

- 22 March to 17 May: one count every block of three days
- 18-31 May: one count per week
- 1 June to 15 July: two counts per month
- 16 July to 4 November: one count per week

The equipment used consisted of 8x or 10x binoculars and a telescope with wide angle 32x or 50x eyepieces. The procedure for each count was as follows:

- count birds on the rising tide, beginning at a tidal height of around 1.5m.
- count birds roosting in Mai Po NR using a bicycle (essential on some days to complete the count during the time available).
- count birds on the falling tide until such a time as counting is no longer possible due to distance from the observer.

In some cases where counts were made on days with a relatively low early morning or late afternoon high tide, counts were made prior to high tide on the reserve, where night-time roosts of waders were situated. Counts were carried out by the authors of this report. The numbers of each species in winter were monitored as part of the monthly waterbird counts.

When counting from the boardwalk hides at the edge of Deep Bay, the emphasis is on counting species that do not generally roost on the reserve or are difficult to count there, primarily smaller species such as the sand plovers, Broad-billed Sandpiper and Red-necked Stint. The sand plovers, stints and Broad-billed Sandpipers have roosted away from Mai Po NR in recent years, and appear to be fly up the Shenzhen River in the direction of Ma Tso Lung to an unknown roost site. In addition, however, and where possible, counts of species already counted on the reserve were also made as a method of checking or refining numbers, in particular Curlew Sandpiper which is usually the most numerous species and may constitute up to 50% of shorebirds present on any given date. Species that have a tendency to arrive *en masse* at the mudflat when the tide is falling are suitable for such counts; Tringa sandpipers, although numerous, generally behave differently arriving in small groups over a longer period of time, and can rarely be checked this way.

In addition to identification and counting, records were also made of birds carrying coloured leg-flags most of which were attached in Australia, and in autumn, where possible, birds were aged as adults, non-adults, juveniles or first-summer birds.

Finally with regard to methodology, it should be noted that the provision through habitat management by WWF-HK of suitable roosting areas for shorebirds is essential to the

success of this monitoring programme. At present, the great bulk of larger shorebirds roost within the reserve area, which means that using a bicycle on most days a single experienced observer can make an accurate count of the number of birds present. During autumn 2001 and spring 2002 roosting shorebirds were distributed in ponds 8, 11 and 16/17 (see Map 1). There were no phenomena that were considered to have significantly affected the accuracy of counts.

As regards waders such as Red-necked Stint and Greater Sand Plover, which at present do not generally roost on the reserve, these can generally be counted accurately on the falling tide; the falling tide cannot be relied on for the larger shorebirds, however. It is important to note that should significant roosts form elsewhere in the Deep Bay area in the future, then provision will need to be made to ensure that these birds are counted simultaneously with birds roosting at Mai Po in order to maintain the accuracy of counts and of the monitoring programme. Proposals to create further wader scrapes in the Deep Bay area must be viewed with this in mind. At present, it would appear that Mai Po Nature Reserve is providing adequate areas for those waders that wish to roost there. In addition, as far as is known, there are not significant numbers of shorebirds using Tsim Bei Tsui as a roosting area.

Winter 2001-02 saw the commencement of habitat management activities at Mai Po Nature Reserve that are designed to enhance its attractiveness and capacity as a shorebird roosting site. This involves the removal of one or more the three large islands in pond 16-17. It is considered that these islands have little ecological function, and certainly they have never proved attractive to shorebirds; indeed, it appears likely that they are restricting the number of shorebirds utilising this pond as a result of the smaller surface area of mud covered by shallow water and the effect they have on reducing visibility for roosting birds. Consequently, WWF HK has commenced their removal and replacement by a number of much smaller muddy shoals.

#### Results

Results of all wader counts are presented in full in Appendices 1 and 2. The numbers of selected species are illustrated graphically in Appendix 3.

#### Autumn 2001

As can be seen from Figure 1, the total number of shorebirds recorded during autumn 2001 reached an initial peak in mid August, with the highest aggregate count of all waders being 1668 on 16 August. Subsequently, a gradual rise appears to have occurred from early September to the end of the survey period in early November, although the pattern in unclear due to unsuccessful counts in early October. The peak count recorded was 5341 on

2 November, the date of the final count. A shallow peak appears also to have occurred on 30 September, when 2204 shorebirds were recorded.

This initial mid August peak largely comprises passage migrants. At this time, peak counts of 56 Greater Sand Plovers, 737 Common Greenshanks, 330 Wood Sandpipers and 45 Terek Sandpipers were recorded. The count of Common Redshank was 390 on 27 July.

The increase in numbers from early October, and possibly from as early as mid September, marks the arrival of winter visitors to Hong Kong. Analysis of the patterns of occurrence of individual species (see Figures 2-19) indicates that wintering birds may begin to arrive at the following times for the following species:

Pacific Golden Plover – end September (Figure 3)
Kentish Plover – mid October (Figure 4)
Grey Plover – mid October (Figure 5)
Lesser Sand Plover – mid October (Figure 6)
Black-tailed Godwit – mid September (Figure 8)
Eurasian Curlew – mid August (Figure 11)
Spotted Redshank – mid September (Figure 12)
Marsh Sandpiper – mid September (Figure 14)
Great Knot – early October (Figure 17)

Species that occur primarily as passage migrants in the latter half of the autumn are Bartailed Godwit (Figure 9), Whimbrel (Figure 10), Wood Sandpiper (Figure 16), Great Knot (Figure 17), Red Knot (Figure 18) and Broad-billed Sandpiper (Figure 19). The greatest numbers of Common Redshank occur early in the autumn, while the pattern for Common Greenshank is unclear.

#### Winter 2001-2002

A minimum aggregate total of 10,971 waders was recorded wintering in Hong Kong during winter 2001-02, somewhat lower than the 12,420 recorded in winter 2000-01. The count of 10,971 was achieved by summing the peak counts of each species during the midwinter waterbird counts of December, January and February. The bulk of birds, approximately 92%, comprised Pied Avocet (1957), Kentish Plover/Dunlin (4080), Grey Plover (294), Black-tailed Godwit (320), Eurasian Curlew (558), Spotted Redshank (2500) and Common Greenshank (376).

#### Spring 2002

The figure for the minimum number of birds passing through, including some estimate of turnover, was 17,421, slightly higher than the previous three years (16,229 in 1999, 16,479 in 2000 and 16,804 in 2001). Turnover was estimated in a crude manner by calculation on the basis of obvious troughs and peaks, easily determined for some species through the differing passages of adults and first-summer birds. However, this could only be done for a small number of species, and the actual pattern of turnover is likely to be more complex and less visible. Interestingly, the total number of birds passing through was similar to previous years, despite the fact that the peak day count of 8271 was somewhat lower.

Relatively high peak spring counts were noted for Red-necked Stint (2551 - the highest count on record in Hong Kong), Sharp-tailed Sandpiper (246 - the highest count on record in Hong Kong), Curlew Sandpiper (5647), Marsh Sandpiper (2125), Wood Sandpiper (450 – equalling the previous highest spring count) and Terek Sandpiper (481 – recorded at the end of May, and constituting the highest count on record at this time). Relatively low peak spring counts were noted for Spoon-billed Sandpiper (only two individuals were noted) and Asian Dowitcher (36). Unusually, a flock of 13 Little Curlew was noted on 14 April.

#### Summer

The number of waders recorded during summer is low, and the sum of peak counts for each species during June was 68. It is likely that many of these were first-summer birds in moult. The most numerous species was Common Greenshank, the count of which was 34.

#### Total numbers recorded

In an attempt to estimate the actual number of migrant waders that utilised the Mai Po and Inner Deep Bay Ramsar Site during the 12-month period from July 2000 to June 2001, the peak winter (defined as December to February) count obtained during winter waterbird counts can generally be added to the estimated minimum number of birds passing through during the spring and autumn migration seasons (see Table 1). For some species, however, it is not possible to rule out some overlap in individuals occurring in different seasons; consequently, such records (marked by a dash in Table 1) are excluded from the calculation.

With regard to the number of birds passing through during each migration season, the estimate of the minimum number of individuals occurring is arrived at by taking the peak count or by summing the number of 'new' birds between successive peaks and troughs where such a pattern was observed and where it was felt that such peaks included an element of newly-arrived birds.

It can be seen that a minimum of 30,759 shorebirds utilised the Ramsar Site during the 12-month period from July 2001 to June 2000; this is slightly higher than the 29,580 recorded in the previous 12-month period, but slightly lower than the equivalent figures of 31,387 for the period from July 1999 to June 2000, and 31,115 for July 1998 to June 1999. Of this total, 19,688 were migrant shorebirds recorded during autumn and spring migrations, with 17,421 occurring on spring passage. It should be noted that these are minimum figures; the spring total in particular probably underestimates the number of birds passing through as only minimum turnover rates have been assumed for some species and for others no turnover rate has been postulated.

Shorebird turnover rates in Hong Kong have yet to be determined; however, Howes and Bakewell (1989) quote studies using marked birds in Morocco and Malaysia as indicating that the total number of shorebirds using a given area during migration lies in the range 3-4.5 times the peak daily count of each species. Using this a basis for calculation, with peak day counts of 15,860 in spring and 2,267 in early autumn, totalling 18,127, Deep Bay may have supported in the range 54,381 to 81,572 migrant shorebirds during 2001-2002.

Table 1. Estimated minimum number of shorebirds utilising the Mai Po Inner Deep Bay Ramsar Site during the 12-month period July 2001 to June 2002.

species	autumn	winter	spring	minimum
Pheasant-tailed Jacana Hydrophasianus chirurgus			1	1
Greater Painted-snipe Rostratula bengalensis			7	7
Black-winged Stilt Himantopus himantopus	251	1	317	569
Pied Avocet Recurvirostra avosetta	-	1957	-	1957
Oriental Pratincole Glareola maldivarum	1	1307		1307
Little Ringed Plover Charadrius dubius	<u>'</u>	243	_	243
Kentish Plover <i>C. alexandrinus</i>	_	240	1	1
Lesser Sand Plover C. mongolus	1		111	112
Greater Sand Plover C. leschenaultii	150		733	983
Pacific Golden Plover Pluvialis fulva	59	174	120	353
Grey Plover P. squatarola	4	294	120	298
Grey-headed Lapwing Vanellus cinereus	1	234		1
Great Knot Calidris tenuirostris	52	12	165	229
Red Knot C. canutus	2	1	94	97
Sanderling <i>C. alba</i>	2	ı	9	9
Red-necked Stint <i>C. ruficollis</i>	4	15	2551	2570
Temminck's Stint C. temminckii	4	35	2331	35
Little Stint C. minuta		30	3	3
Long-toed Stint C. subminuta	4		7	11
Pectoral Sandpiper C. melanotos	4		2	2
Sharp-tailed Sandpiper <i>C. meianolos</i>	2		246	248
Curlew Sandpiper <i>C. ferruginea</i>	69		5647	5716
Dunlin <i>C. alpina</i>	1		1	2
Spoon-billed Sandpiper <i>E. pygmeus</i>	'		2	2
Broad-billed Sandpiper L. pygmeus  Broad-billed Sandpiper Limicola falcinellus	2		60	62
Ruff Philomachus pugnax	1		1	2
Common Snipe Gallinago gallinago	'	8	I	8
Long-billed Dowitcher Limnodromus scolopaceus		0	3	3
Asian Dowitcher <i>L. semipalmatus</i>	4		36	40
Black-tailed Godwit <i>Limosa limosa</i>	10	320	572	902
Bar-tailed Godwit L. lapponica	4	2	20	26
Little Curlew Numenius minutus			13	13
Whimbrel <i>N. phaeopus</i>	120	1	53	174
Eurasian Curlew <i>N. arquata</i>	-	558	-	558
Far Eastern Curlew N. madagascariensis	2		3	5
Spotted Redshank <i>Tringa erythropus</i>	-	2500	1086	2500
Common Redshank <i>T. totanus</i>	390	75	1620	2085
Marsh Sandpiper <i>T. stagnatilis</i>	-	153	2125	2278
Common Greenshank <i>T. nebularia</i>	737	376	566	1679
Nordmann's Greenshank <i>T. guttifer</i>			15	15
Green Sandpiper <i>T. ochropus</i>	1	53	-	54
Wood Sandpiper <i>T. glareola</i>	330	21	450	801
Terek Sandpiper Xenus cinereus	45		615	660
Common Sandpiper Actitis hypoleucos	11	92	4	107
Grey-tailed Tattler Heteroscelus brevipes	8		64	72
Ruddy Turnstone Arenaria interpres	1		76	77
Red-necked Phalarope Phalaropus lobatus	· ·		22	22
Kentish Plover/Dunlin		4080		4080
INCHUSIT FIOVEI/DUTIIIT				
NUMBER OF SPECIES	34	23	42	47

Note: a dash indicates that birds were recorded, but are not thought to comprise different individuals to those in other seasons.

#### Regionally important numbers

Carey and Young (1999) listed a number of wader species for which Mai Po and Deep Bay held, or possibly held, regionally important numbers during five-year periods in the 1990s. Regionally important is defined as 1% of the flyway or regional population (criteria 3c for determining a wetland of international importance), and the latter is based on population estimates contained in Rose and Scott (1997). (As the figure for Spotted Redshank appears to be on the low side, the next higher population level is used). These species are listed in Table 2, as are the percentages of the regional population of each estimated to have occurred in the Ramsar Site during the course of July 2000 to June 2001.

Table 2. Species recorded in regionally important numbers in Deep Bay during July 2000 to June 2001.

species	flyway/regional population	number recorded	percentage
Black-winged Stilt H. himantopus	10,000-100,000	569	0.6-5.6%
Pied Avocet Recurvirostra avosetta	10,000-25,000	1957	7.8-19.6%
Kentish Plover C. alexandrinus	25,000-1,000,000	*	*
Greater Sand Plover C. leschenaultii	99,000	983	0.99%
Grey Plover P. squatarola	25,000-100,000	298	0.3-1.2%
Curlew Sandpiper C. ferruginea	471,000	5716	1.2%
Dunlin C. alpina	25,000-1,000,000	*	*
Eurasian Curlew N. arquata	10,000-100,000	558	0.6-5.6%
Spotted Redshank Tringa erythropus	25,000-100,000*	2500	2.5-10%
Marsh Sandpiper T. stagnatilis	90,000	2278	2.5%
Common Greenshank T. nebularia	40,000	1679	5.2%
Nordmann's Greenshank T. guttifer	1000	15	1.5%
Terek Sandpiper Xenus cinereus	36,000	660	1.8%

All but one of the regional population estimates are derived from Rose and Scott (1997). That for Spotted Redshank has been amended to one class higher, and that for Terek Sandpiper is based on Watkins (1993).

#### Threatened species

With regard to species listed in BirdLife International (2000), the following were recorded during the 12-month period July 2000 to June 2001 (population figures from Rose and Scott 1997):

- Spoon-billed Sandpiper: listed as Vulnerable, the population is estimated at 2000-2800 pairs. Only two individuals occurred during the 12-month period, both in spring. Numbers of this species remain low, possibly reflecting decreased noted on the breeding grounds (Pavel Tomkovich in litt.).
- Asian Dowitcher: listed as Near-threatened, the world population is estimated to be 15,000-20,000 birds. At least 40 birds passed through during the period under consideration, a relatively low figure.

<sup>\*</sup> no representative count made during the winter, though number present apparently similar to previous years.

- Far Eastern Curlew: listed as Near-threatened, the world population is estimated to be 21,000 birds. Three birds were recorded during the 12-month period.
- Nordmann's Greenshank: listed as Endangered (i.e. facing a very high risk of extinction in the wild in the near future), the world population is estimated to be 1000 birds. A total of 15 birds were recorded during spring passage, a relatively low figure.

#### Other observations

The regular observations brought a series of records of leg-flagged birds. Some of these refer to the wader colour ringing programme recently commenced in Hong Kong, while the majority were attached in Australia (see Appendix 4). These latter records have been sent to the Australasian Wader Studies Group, which organises the leg-flagging programme involved.

In addition, when possible, birds passing through were assigned to an age-class of juvenile or non-juvenile. Non-juvenile was chosen as it is often not possible in the field to be certain whether an individual bird is adult or first-summer (i.e. second calendar-year). Details are provided in Appendix 5.

#### **Acknowledgements**

We would like to thank Lew Young and his staff at the WWF-HK Mai Po Marshes Nature Reserve for much help in ensuring that waders were provided with suitable roosting areas, without which this work would not be possible.

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## 2001-2002 Report

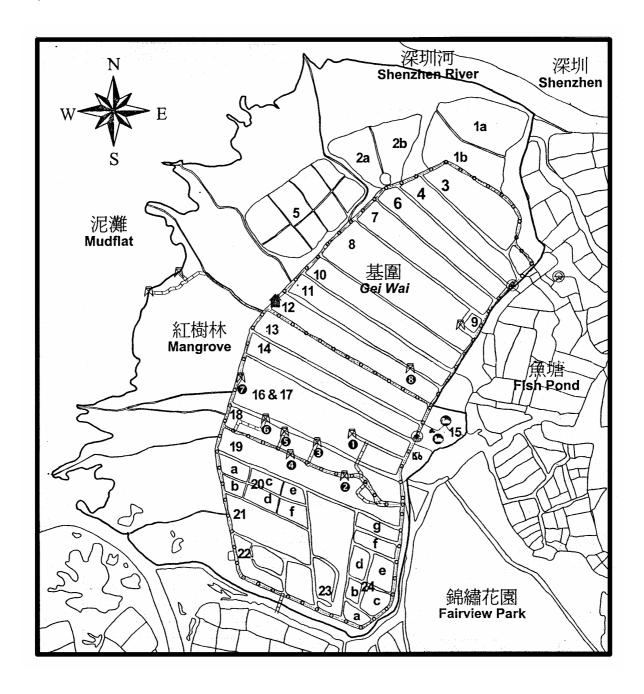
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### MAP





Map 1. Mai Po Marshes Nature Reserve



## 2001-2002 Report

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#### **APPENDIX 1**





	1-15 Jul	16-22 Jul	23-29 Jul	30-5 Aug	6-12 Aug	13-19 Aug	20-26 Aug	27-2 Sep	3-9 Sep	10-16 Sep	17-23 Sep	24-30 Sep	1-7 Oct	8-14 Oct	15-21 Oct	22-28 Oct	29-4 Nov
Pheasant-tailed Jacana	1-13 Jul 0	0-22 301	23-29 301	30-3 Aug	-	13-13 Aug 0	20-20 Aug 0	27-2 Sep 0	0 3-9 3-ep	10-10 Sep	17-23 Sep		1-7 Oct		13-21 Oct	0	29-4 1100
Greater Painted-snipe	0	0				0		0	0			1 -	0		0	0	0
Black-winged Stilt	29	0				10	·	120	141	113		1	0		218	0	λ
	29 0	0				0	0	0	0		<u> </u>		0		218 6	0	<u> </u>
Pied Avocet	1				4	0		0			0			<u> </u>	0	0	<u> </u>
Oriental Pratincole									0			4	0				L
Northern Lapwing	0			C	1	0	<u> </u>	0								0	
Grey-headed Lapwing	0	0		0		0	1	0						0		0	
Pacific Golden Plover	0				1	10	<u> </u>	2				1			134	67	
Grey Plover	0			1		0		2	0			3	0			34	<u> </u>
Little Ringed Plover	0	0		C		4	ļ	0	0				0			0	
Kentish Plover	0			C		0	à	0								1300	à
Lesser Sand Plover	0			C		0	11	0				1				12	<u> </u>
Greater Sand Plover	150	11		41		34	l	11	0			3	0	1	0	1	1
Oriental Plover	0	0		C		0		0					0			0	<u> </u>
Black-tailed Godwit	0	8	10	10	9	8	44	70	76	51	118	195	0	312	280	450	360
Bar-tailed Godwit	0		0	C	0	0	0	4	4				0		0	8	7
Little Curlew	0			C		0	l	0								0	£
Whimbrel	10	1	7	20	48	81	120	51	58	13	97	21	0	24	13	5	3
Eurasian Curlew	23	33	35	8	3 2	24	32	41	46	25	49	31	55	38	61	59	73
Far Eastern Curlew	0	0	0	C	0	0	0	0	0	0	2	0	1	0	1	0	1
Spotted Redshank	0	0	0	C	0	1	4	3	17	1	15	31	0	93	75	81	94
Common Redshank	34	280	390	360	344	329	146	101	86	217	102	113	0	194	183	142	101
Marsh Sandpiper	0	0	2	1	1	8	5	200	220	197	569	648	0	365	856	870	910
Common Greenshank	28	233		400		737		686	710				0		702	210	2
Nordmann's Greenshank	0		\$	C		0	()	0			·		0	<u> </u>	1	0	;
Green Sandpiper	0			1	0	0	\	0				4	0	<u> </u>	0	0	<u> </u>
Wood Sandpiper	2			21		330	l	38	55			.1	0		58	80	L
Terek Sandpiper	1					45		3								0	<u> </u>
Common Sandpiper	3					1		2		0		d				0	<u> </u>
Grey-tailed Tattler	8	0				1	å	0	0							0	à
Ruddy Turnstone	0				1	0		0				1				0	
Red-necked Phalarope	0					0	<u> </u>	0					0			0	<u> </u>
	0				1	0	·	0			L					0	λ
Pintail/Swinhoe's Snipe	0	0			1	0		0	0						0	0	
Common Snipe	0	0				0	0	0	0			1	0			0	ļ
Long-billed Dowitcher								2				1				0	i
Asian Dowitcher	0					2	(		4								
Red Knot	0					0	<u> </u>	0					0	<u> </u>	0	2	<u> </u>
Great Knot	0	0		C	1	0	2	21	28	2					2	4	· .
Sanderling	0			C	-	0		0				1	0			0	
Red-necked Stint	0			C		4	L	0								19	<u> </u>
Little Stint	0			C		0	<b></b>	0								0	<u> </u>
Temminck's Stint	0			C	1	0	L	0	0			1		L		0	L
Long-toed Stint	0			C	1	4		1	1	0		1	0			0	<u> </u>
Pectoral Sandpiper	0	0		C		0	L	0					0		0	0	<u> </u>
Sharp-tailed Sandpiper	0			2		1		0			L		L			0	š
Dunlin	0			C		1	}	0			L	d				1100	<u> </u>
Curlew Sandpiper	2			61		30	l	2	6				0	l	2	0	i
Spoon-billed Sandpiper	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0
Broad-billed Sandpiper	0	0	0	C	0	3	0	0	0	2	0	1	0	0	6	11	0
Ruff	0	0	1	C	0	0	0	0	0	0	0	1	0	0	0	0	0
Sand Plover sp.	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0
Small wader sp.	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0
Large tringa sp.	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	291	580	973	927	1055	1668	1253	1360	1466	1157	2070	2204	57		4039	4455	5341
	_01	300	310	JEI	.500	. 500	00	.500	. 100	. 101	_510		01	_500	.000	. 700	504

## 2001-2002 Report

G. J. Carey, Y. T. Yu and H. K. Ying

### **APPENDIX 2**





	22-24 Mar.	25-27 Mar.	28-30 Mar.	31-2 Apr.	3-5 Apr.	6-8 Apr.	9-11 Apr.	12-14 Apr.	15-17 Apr.	18-20 Apr.		24-26 Apr.	27-29 Apr.	30-2 May	3-5 May	6-8 May	9-11 May	12-14 May	15-17 May	18-24 May	25-31 May	1-15 Jun.	16-30 Jun.
Pheasant-tailed Jacana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Greater Painted-snipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	7	4
Black-winged Stilt	0	0	22	273	82	51	0	0	0	0	0	0	0	17	2	7	1	44	10	0	3	18	10
Pied Avocet	1650	1251	1230	1100	745	701	520	289	269	207	0	121	0	56	51	48	27	28	45	1	6	8	0
Oriental Pratincole	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern Lapwing	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
Grey-headed Lapwing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pacific Golden Plover	212	0	0	0	35 9	29	0	0	111	120	74	0	62	107 7	2	0	0	0	0	0	0	7	0
Grey Plover	28		19	15		11	16	0	3	0	0	8	6		0	11	4	5	9	0	2		3
Little Ringed Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	11	1	0	2
Kentish Plover	31	0	0	0	2	1	0	0	0	0	0	0	0	1	0	0	0 70	0	0	0	0	0	0
Lesser Sand Plover	0	0	2		5	8	0	0	2	3	23	73	31 7	L	55	103	73	25	5	2	1	0	0
Greater Sand Plover Oriental Plover	56	2	68	40	180	555	600	0	12	10	25	110		13	23	40	6	133	108	37	15	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
Black-tailed Godwit	235	150	572	117	480	492	502	290	300	371	305	265	76	0	18	<u> </u>	5	4	1 1	4	3	2	1 0
Bar-tailed Godwit	2	4	1	3	1	1	3	16	0	6	5	0	0	2	4	2	1	1	4	0	0	0	0
Little Curlew	0	0	0	0	0		0	13	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Whimbrel Eurasian Curlew	1 70	· · · · · · · · · · · · · · · · · · ·	1	0	0	0	0	5 8	5	11	53 4	23	14	7	49 10	8	18	8	12 9	0	1	4	12 0
Far Eastern Curlew	73 0	99	60 0	41 1	24 1	24	3	3	8	<u>4</u> 0	0	0	5	0	0	0	11	3	0	12 0	0	14 0	0
Spotted Redshank	1030	187	997	948	950	908	830	1015	0	350	480	990	632	479	744	696	556	1086	278	0	0	0	0
Common Redshank						444												<u> </u>		44		0	
Marsh Sandpiper	180 1350	120 493	145 2125	253 1837	493 1403	1412	291 816	640 1224	0	779 660	104 393	1620 115	847 73	905 35	315 24	10 10	338	262 13	80	0	31 0	1	0
Common Greenshank	580	289	31	47	242	541	591	130	0	192	596	710	277	35 421	942	577	484	816	170	68	59	44	34
Nordmann's Greenshank	1	0	2	2	1	2	3	4	3	0	1	0	1	0	3	0	1 1	11	5	2	1	1	0
Green Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<del> </del>	0	0	0	0	0	0
Wood Sandpiper	0	0	0	4	40	38	0	450	0	0	54	0	13	2	0	0	0	2	1	0	0	0	1
Terek Sandpiper	2	0	0	2	12	18	23	14	0	31	117	134	21	106	49	27	137	214	252	396	481	473	0
Common Sandpiper	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	202	0	0	0	1
Grey-tailed Tattler	0	0	0	0	0	0	3	0	0	4	8	0	14	5	7	5	64	47	36	10	2	0	0
Ruddy Turnstone	0	0	0	0	0	1	3	0	0	1	9	61	15	58	16	38	76	64	58	0	0	0	0
Red-necked Phalarope	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	22	0	0	1	0	0	0	0
Pintail/Swinhoe's Snipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Common Snipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-billed Dowitcher	1	0	2	3	2	2	2	2	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0
Asian Dowitcher	0	0	0	0	0	0	2	7	0	30	8	12	36	6	15	8	1	7	3	1	1	2	0
Red Knot	0	0	0	0	1	1	0	2	0	1	0	0	9	5	21	7	94	15	8	1	0	0	0
Great Knot	21	35	30	70	80	23	0	35	33	21	0	0	7	1	4	85	11	5	13	10	11	23	0
Sanderling	0	0	0	0	0	0	6	0	0	2	2	6	9	1	2	1	4	2	1	0	0	0	0
Red-necked Stint	35	0	10	5	180	228	250	0	0	91	115	460	477	705	214	150	1660	2551	1087	6	0	0	0
Little Stint	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	0	1	2	1	0	0	0	0
Temminck's Stint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-toed Stint	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	0	7	1	0	0	0	0
Pectoral Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0
Sharp-tailed Sandpiper	0	0	1	3	10	9	7	42	0	61	54	0	92	73	89	30	246	192	241	0	0	3	0
Dunlin	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Curlew Sandpiper	170	32	572	80	2290	2129	1433	1834	0	3350	4490	3540	3366	1960	356	200	506	215	89	34	28	13	0
Spoon-billed Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
Broad-billed Sandpiper	2	0	3	6	14	14	15	0	0	11	0	21	41	60	3	4	21	30	36	0	0	0	0
Ruff	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small wader sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1000	0	0	0	0	0	0	0
Large tringa sp.	0	1112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5,661	3,785	5,896	4,852	7,284	7,645	5,922	6,023	746	6,320	6,922	8,271	6,134	5,047	3,020	3,103	4,351	5,802	2,573	629	646	620	68

# Egretry Counts in Hong Kong, with particular reference to the Mai Po Inner Deep Bay Ramsar Site

Captain.L.C Wong

### **APPENDIX 3**

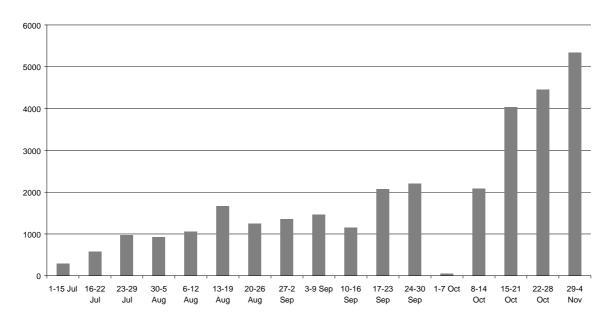


The Hong Kong Bird Watching Society Limited



Agriculture, Fisheries and Conservation Department

Figure 1. Total number of waders recorded at Mai Po Inner Deep Bay, autumn 2001





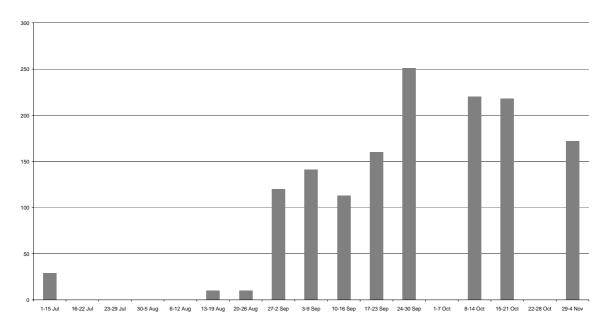
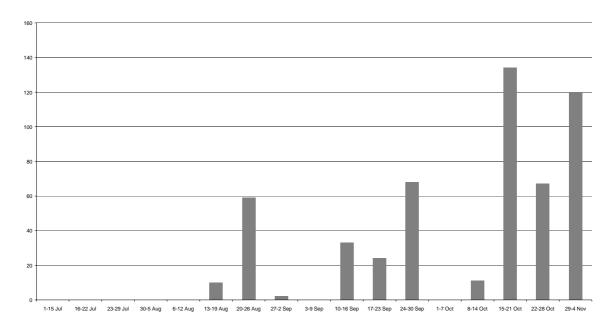


Figure 3. Counts of Pacific Golden Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





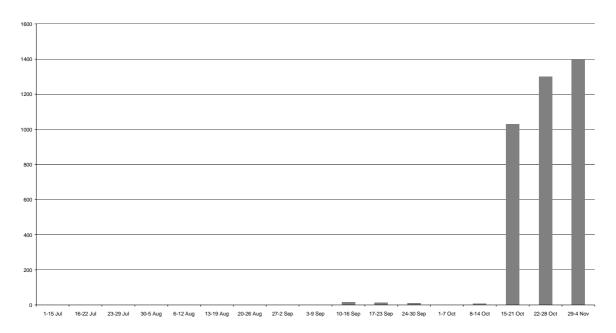
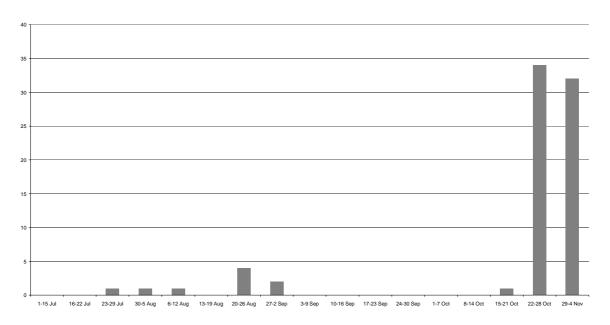


Figure 5. Counts of Grey Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





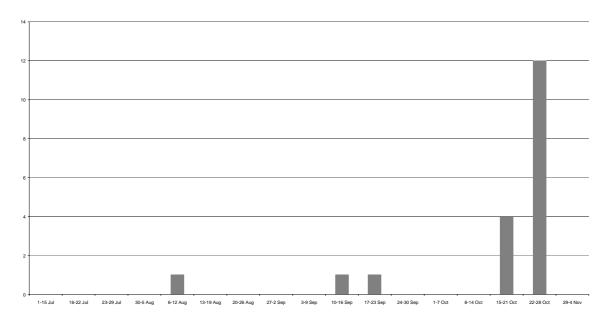
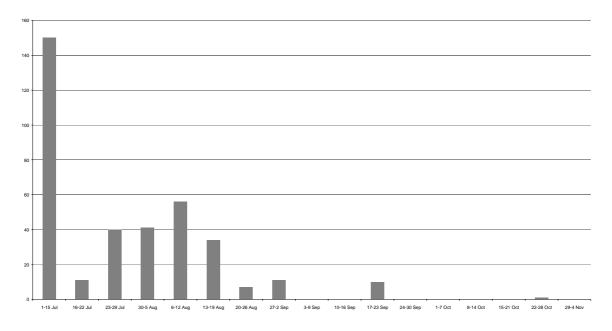


Figure 7. Counts of Greater Sand Plover at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





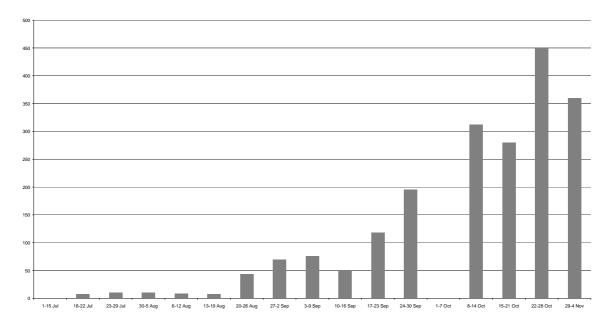
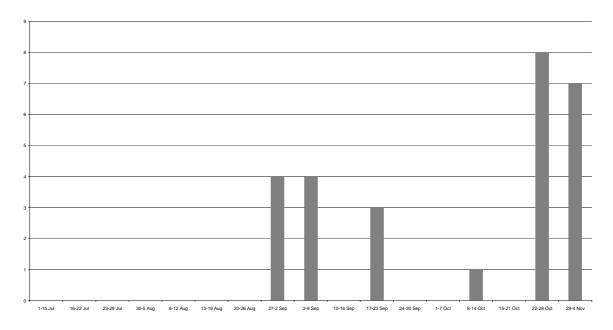
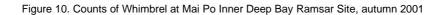


Figure 9. Counts of Bar-tailed Godwit at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





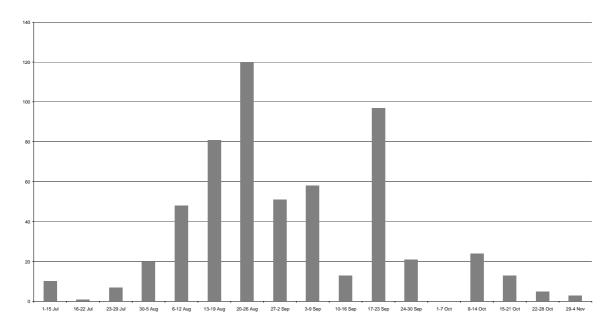
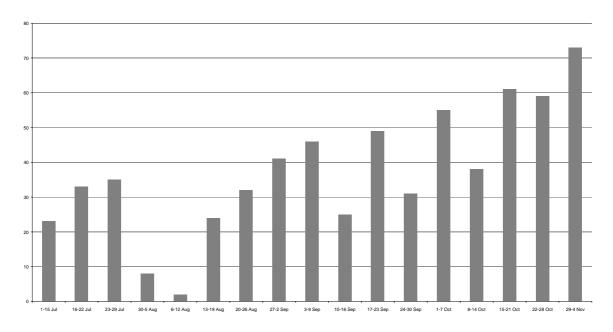


Figure 11. Counts of Eurasian Curlew at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





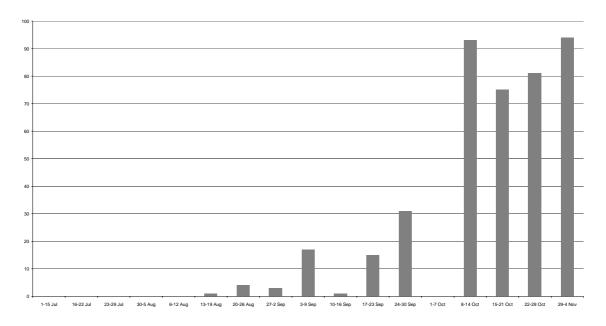
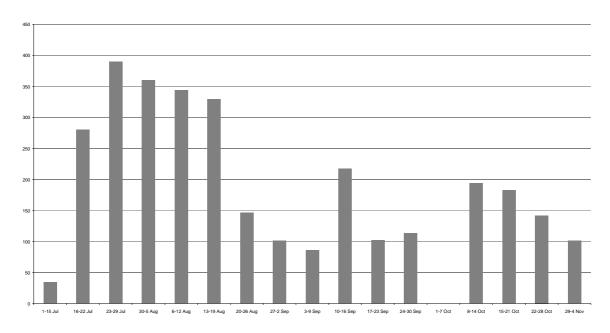
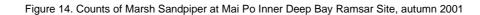


Figure 13. Counts of Common Redshank at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





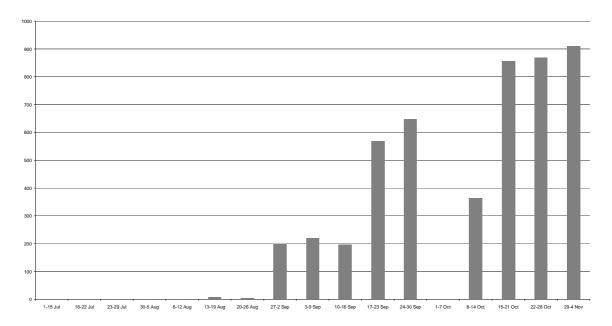
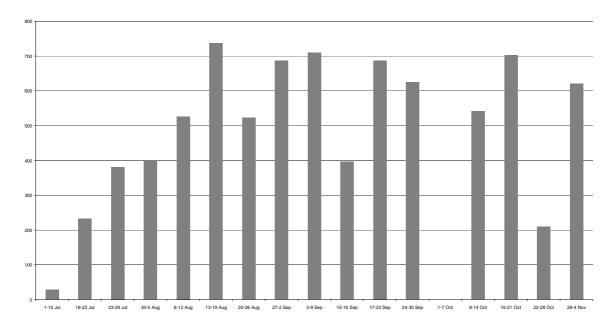


Figure 15. Counts of Common Greenshank at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





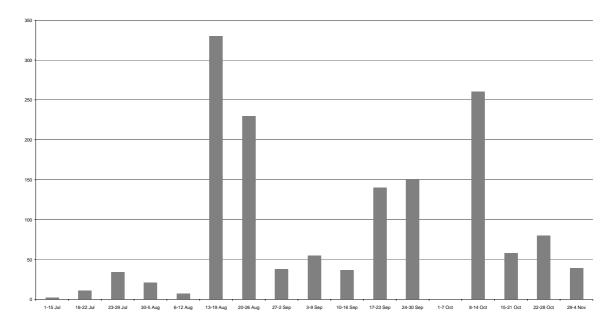
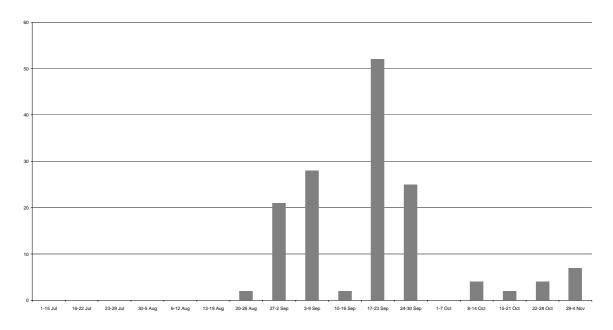
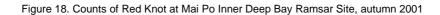


Figure 17. Counts of Great Knot at Mai Po Inner Deep Bay Ramsar Site, autumn 2001





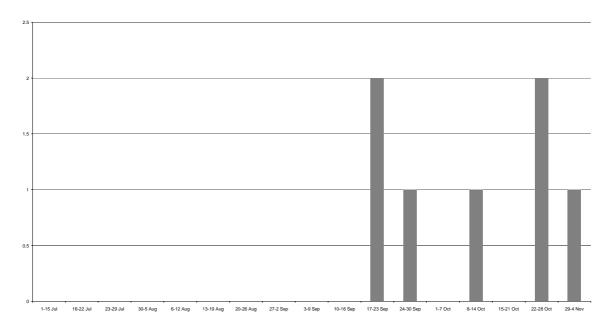
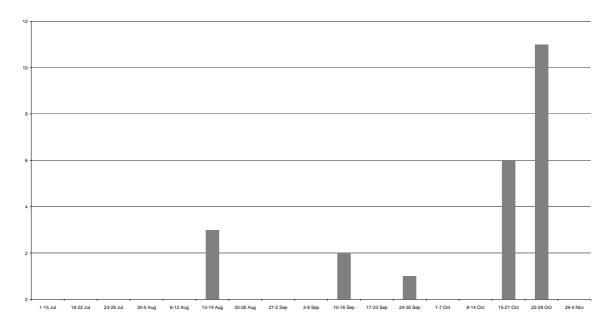


Figure 19. Counts of Broad-billed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, autumn 2001



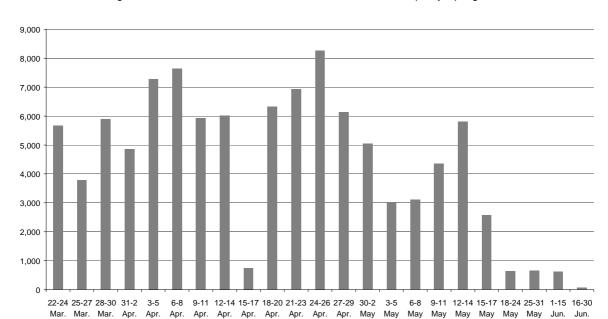


Figure 20. Total number of waders recorded at Mai Po Inner Deep Bay, spring 2002



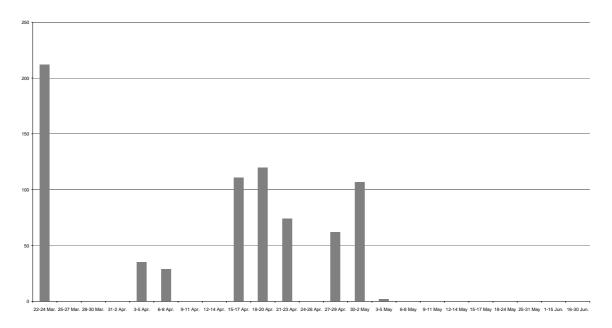
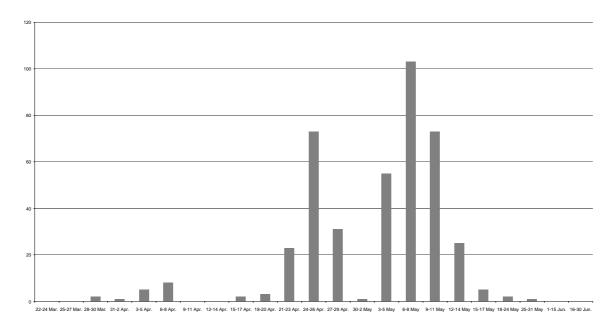


Figure 22. Counts of Lesser Sandplover at Mai Po Inner Deep Bay Ramsar Site, spring 2002





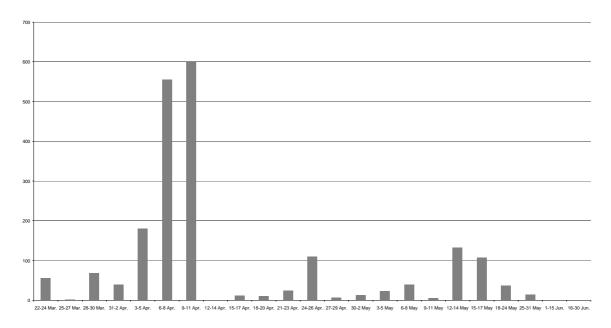
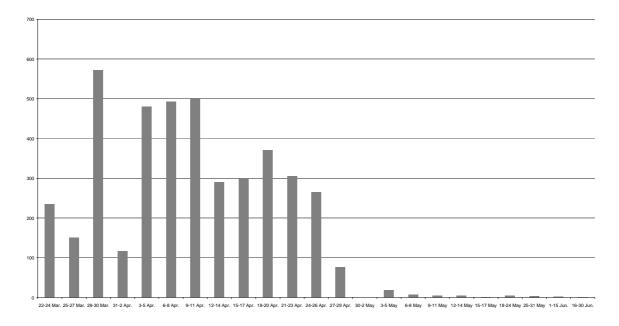


Figure 24. Counts of Black-tailed Godwit at Mai Po Inner Deep Bay Ramsar Site, spring 2002





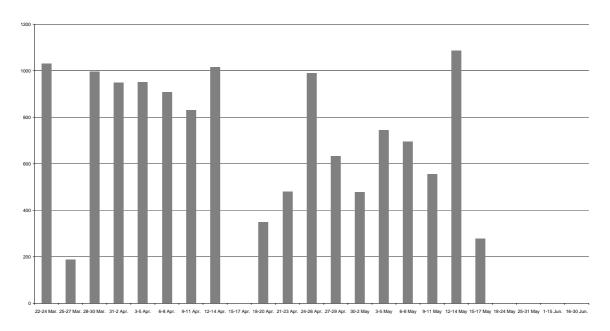
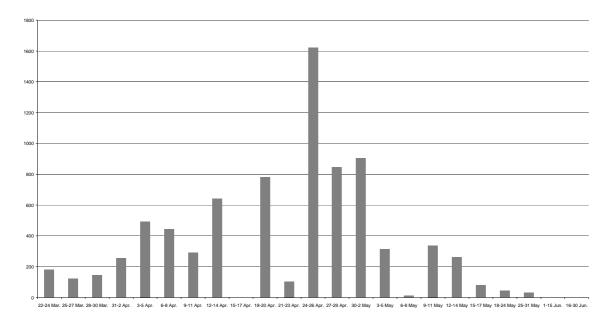
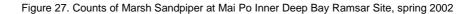


Figure 26. Counts of Common Redshank at Mai Po Inner Deep Bay Ramsar Site, spring 2002





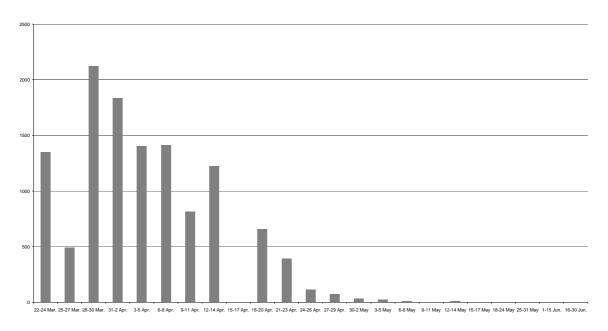
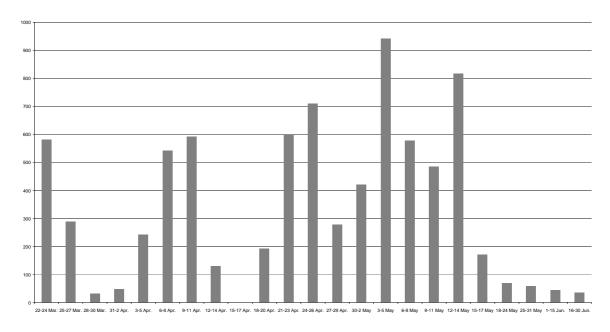
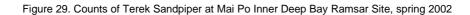


Figure 28. Counts of Common Greenshank at Mai Po Inner Deep Bay Ramsar Site, spring 2002





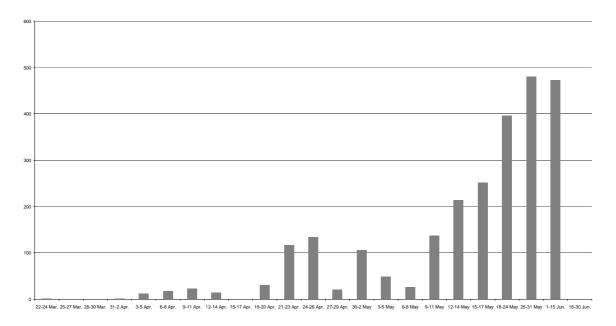
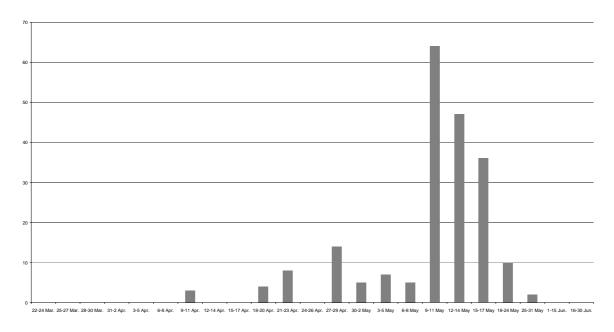


Figure 30. Counts of Grey-tailed Tattler at Mai Po Inner Deep Bay Ramsar Site, spring 2002





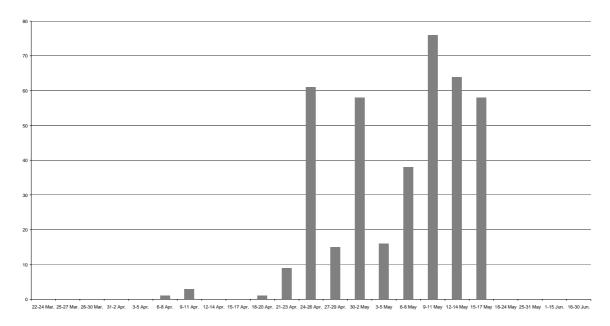
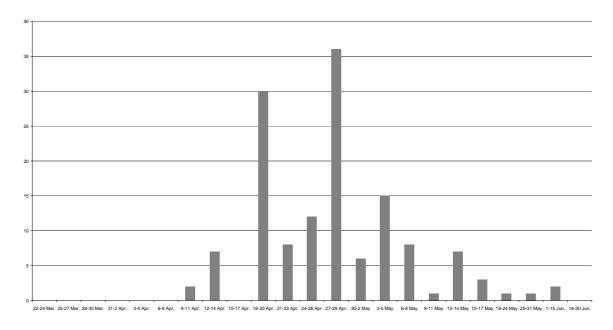
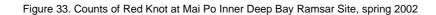


Figure 32. Counts of Asian Dowitcher at Mai Po Inner Deep Bay Ramsar Site, spring 2002





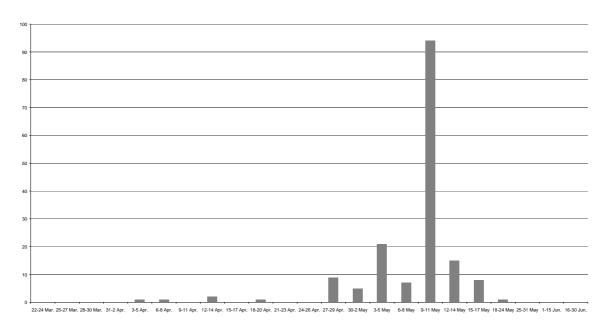
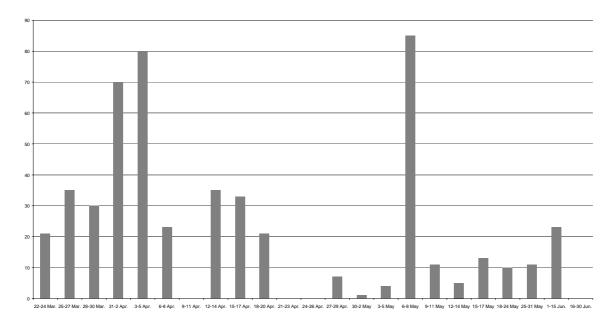


Figure 34. Counts of Great Knot at Mai Po Inner Deep Bay Ramsar Site, spring 2002





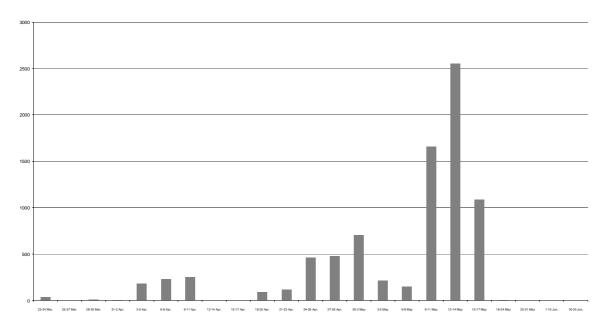
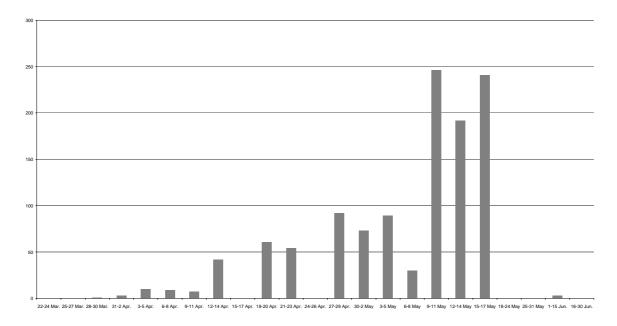


Figure 36. Counts of Sharp-tailed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002





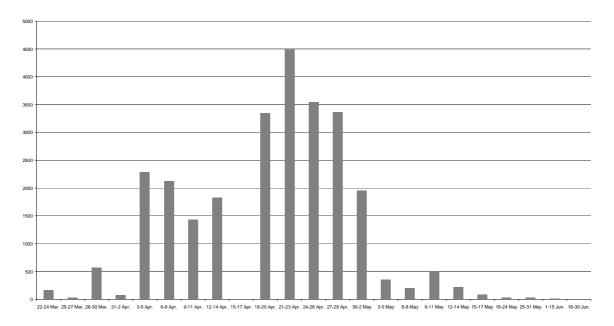
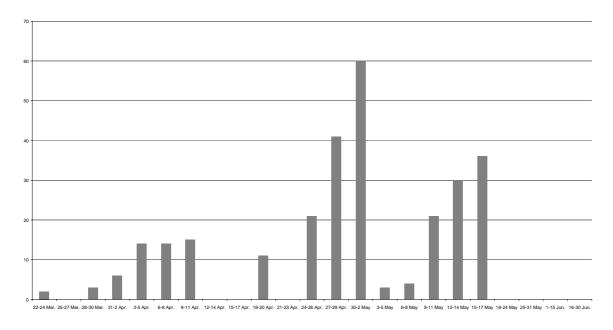


Figure 38. Counts of Broad-billed Sandpiper at Mai Po Inner Deep Bay Ramsar Site, spring 2002



## 2001-2002 Report

G. J. Carey, Y. T. Yu and H. K. Ying

### **APPENDIX 4**





					RIGH	TLEG			LEFT	LEG		
Date	Observer	Species	Breeding plumage	Colour	Position	Colour	Position	Colour	Position	Colour	Position	Notes
2-Nov-01	Shirley Lam	Great Knot	piumage	white	above	yellow	below					
14-Nov-01	Shirley Lam	Red Knot		white	above	yellow	?					
17-Nov-01 17-Nov-01	Shirley Lam Shirley Lam	Great Knot Red Knot		white white	above above	yellow yellow	below ?					
20-Mar-02	Bruce Ferry	Curlew Sandpiper		orange	below	7						
20-Mar-02	Bruce Ferry	Great Knot		yellow	below							
31-Mar-02 1-Apr-02	Paul Leader Geoff Carey	Great Knot Curlew Sandpiper	5	yellow white	above	yellow	below					
1-Apr-02	Geoff Carey	Curlew Sandpiper	60	orange	below							
4-Apr-02	Pete Kennerley Geoff Carey	Curlew Sandpiper	25	orange	abava							
5-Apr-02 5-Apr-02	Geoff Carey	Curlew Sandpiper Curlew Sandpiper	25	orange yellow	above above							
5-Apr-02	Geoff Carey	Curlew Sandpiper	60	orange	above							
5-Apr-02	Geoff Carey	Curlew Sandpiper	50	orange	above							
5-Apr-02 5-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	50	orange yellow	above							
5-Apr-02	Geoff Carey	Curlew Sandpiper	5	white	above	yellow	below					
5-Apr-02	Geoff Carey	Greater Sandplover	100	yellow	above							
10-Apr-02 10-Apr-02	Pete Kennerley Pete Kennerley	Common Greenshank Curlew Sandpiper		white white	above above							
10-Apr-02	Ying Hak King	Curlew Sandpiper	0	yellow	above	white	below					
10-Apr-02	Ying Hak King	Curlew Sandpiper	0	orange	above							
10-Apr-02 10-Apr-02	Ying Hak King Ying Hak King	Curlew Sandpiper Curlew Sandpiper	75 0	orange white	above above	yellow	below					
10-Apr-02	Ying Hak King	Curlew Sandpiper	100	orange	above	, oo.	DOIGH					
11-Apr-02	Geoff Carey	Curlew Sandpiper		white	above	yellow	below					
11-Apr-02 12-Apr-02	Geoff Carey Pete Kennerley	Marsh Sandpiper Curlew Sandpiper	-	white white	above above	yellow	below		<del> </del>			
12-Apr-02 13-Apr-02	Tom Dahmer	Red-necked Stint		winte	above			blue	above	blue	above	Kau Sai Chau, Sai Kung
14-Apr-02	Geoff Carey	Curlew Sandpiper	100	white	above	yellow	below		ļ			×
14-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	100 70	yellow yellow	above				<b> </b>		-	
14-Apr-02 14-Apr-02	Geoff Carey	Curlew Sandpiper Curlew Sandpiper	60	orange	above above				<b></b>			
14-Apr-02	Geoff Carey	Marsh Sandpiper		white	above	yellow	below					
14-Apr-02 14-Apr-02	Geoff Carey Geoff Carey	Marsh Sandpiper Marsh Sandpiper	-	white	above	yellow	below	-	-			
14-Apr-02 14-Apr-02	Geoff Carey	Marsh Sandpiper  Marsh Sandpiper	-	white white	above	yellow yellow	below		<b></b>			
14-Apr-02	Tom Dahmer	Red-necked Stint						blue	above	blue	above	Kau Sai Chau, Sai Kung (same bird as above)
15-Apr-02 15-Apr-02	Ying Hak King Ying Hak King	Common Greenshank Curlew Sandpiper	100	white white	above above	yellow yellow	below					
15-Apr-02	Ying Hak King	Curlew Sandpiper	100	orange	above	yellow	Delow					
15-Apr-02	Ying Hak King	Curlew Sandpiper	50	orange	above							
17-Apr-02	Ying Hak King	Common Greenshank		white	above	yellow	below		ļ			
17-Apr-02 17-Apr-02	Ying Hak King Ying Hak King	Common Greenshank Curlew Sandpiper	25	white orange	above above	yellow	below					
20-Apr-02	Geoff Carey	Curlew Sandpiper	50	orange	above							
20-Apr-02	Geoff Carey	Curlew Sandpiper	05	yellow	above							
20-Apr-02 20-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Marsh Sandpiper	95	yellow white	above above	yellow	below					
20-Apr-02	Geoff Carey	Sanderling		orange	above	,						
21-Apr-02	Geoff Carey	Curlew Sandpiper	100	yellow	above							
21-Apr-02 21-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	90	yellow yellow	above							
21-Apr-02	Geoff Carey	Curlew Sandpiper	20	white	above	yellow	below					
21-Apr-02	Geoff Carey	Curlew Sandpiper	100	orange	above							
21-Apr-02 21-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	30 70	orange orange	above above							
21-Apr-02	Geoff Carey	Curlew Sandpiper	80	yellow	above							
21-Apr-02	Geoff Carey	Curlew Sandpiper	80	white	above	yellow	below					
21-Apr-02 21-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	70 95	orange orange	above above							
21-Apr-02	Geoff Carey	Curlew Sandpiper	70	yellow	above							
21-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper	80	orange	above							
21-Apr-02 21-Apr-02	Geoff Carey	Curlew Sandpiper Curlew Sandpiper	10	orange white	above	vellow	below					
21-Apr-02	Geoff Carey	Curlew Sandpiper	70	white	above	yellow	below					
21-Apr-02	Geoff Carey	Curlew Sandpiper	20	orange	above	velle	holo					
21-Apr-02 21-Apr-02	Geoff Carey Geoff Carey	Marsh Sandpiper Sanderling	-	white orange	above above	yellow	below		<b></b>			
22-Apr-02	David Melville	Great Knot		yellow								
22-Apr-02 25-Apr-02	David Melville Geoff Carey	Terek Sandpiper Curlew Sandpiper	90	yellow white	above	yellow	below		<u> </u>			
27-Apr-02	Ying Hak King	Curlew Sandpiper	100	orange	above	yonow	DEIUW		<b> </b>			
27-Apr-02	Ying Hak King	Curlew Sandpiper	100	orange	above				ļ			
27-Apr-02 27-Apr-02	Ying Hak King Ying Hak King	Curlew Sandpiper Curlew Sandpiper	75 75	yellow yellow	above above							
27-Apr-02 27-Apr-02	Ying Hak King	Curlew Sandpiper Curlew Sandpiper	100	white	above	yellow	below					
28-Apr-02	Geoff Carey	Curlew Sandpiper		white	above	yellow	above					
28-Apr-02 28-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	90	white white	above above	yellow yellow	below below					
28-Apr-02	Geoff Carey	Curlew Sandpiper Curlew Sandpiper	90	orange	above	yonow	DOIUW					
28-Apr-02	Geoff Carey	Curlew Sandpiper	40	yellow	above							
28-Apr-02 28-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Curlew Sandpiper	80 85	orange orange	above above				<b> </b>		-	
28-Apr-02	Geoff Carey	Curlew Sandpiper	95	orange	above							
28-Apr-02	Geoff Carey	Curlew Sandpiper	80	yellow	above							
28-Apr-02 28-Apr-02	Geoff Carey Geoff Carey	Curlew Sandpiper Marsh Sandpiper	20	orange white	above above	yellow	above		<b> </b>		-	
28-Apr-02	Geoff Carey	Marsh Sandpiper	<u> </u>	white	above	yellow	below		<b></b>			
1-May-02	Paul Leader	Common Redshank		white	above	yellow	below					
1-May-02	Paul Leader	Curlew Sandpiper	25	yellow	above	velle	holow	-	-			
1-May-02 1-May-02	Paul Leader Geoff Carey	Curlew Sandpiper Curlew Sandpiper	100	white yellow	above	yellow	below		<b></b>			
1-May-02	Geoff Carey	Curlew Sandpiper	100	white	above	yellow	above					
1-May-02	Geoff Carey	Curlew Sandpiper	100	white	above	yellow	above					
1-May-02 1-May-02	Geoff Carey Paul Leader	Curlew Sandpiper Marsh Sandpiper	100	yellow white	above above	yellow	below					
1-May-02	Geoff Carey	Marsh Sandpiper		white	above	yellow	above					
	Geoff Carey	Marsh Sandpiper Red-necked Stint	10	white	above	yellow	above					
1-May-02	0		10	orange	above			ļ	<b> </b>			
1-May-02	Geoff Carey Geoff Carey				above			1	1		1	
1-May-02 1-May-02 1-May-02	Geoff Carey Geoff Carey	Red-necked Stint Red-necked Stint	20 60	orange yellow	above above							
1-May-02 1-May-02	Geoff Carey	Red-necked Stint	20	orange		yellow	above					

1-May-02	Geoff Carey	Terek Sandpiper		yellow	above				
12-May-02	Yu Yat Tung	Curlew Sandpiper	75	white	above	yellow			
12-May-02	Yu Yat Tung	Red-necked Stint	75	orange	above				
12-May-02	Yu Yat Tung	Red-necked Stint	75	yellow	above				
12-May-02	Yu Yat Tung	Red-necked Stint	100	orange	above				
12-May-02	Yu Yat Tung	Red-necked Stint	50	orange	above				
12-May-02	Yu Yat Tung	Terek Sandpiper	100	yellow	above				
16-May-02	Yu Yat Tung	Red-necked Stint	50	orange	above				
16-May-02	Yu Yat Tung	Red-necked Stint	50	orange	above				
16-May-02	Yu Yat Tung	Spotted Redshank	100	white	above	yellow			
20-May-02	Wong Lun Cheong	Grey-rumped Sandpiper		yellow					Sam Mun Tsai, Tolo Harbour
24-May-02	Geoff Carey	Grey-rumped Sandpiper		yellow	above				

## 2001-2002 Report

G. J. Carey, Y. T. Yu and H. K. Ying

### **APPENDIX 5**





Species	Date	Total count	3
Greater Sand Plover	8-Aug-01	41	2 juveniles, 1 non-juvenile
Great Knot	15-Sep-01	2	2 juveniles
Oreat Kilot	19-Sep-01	52	41 juveniles
	14-Oct-01	4	4 juveniles
	18-Oct-01	2	1 non-juvenile
	10-00:-01		1 Hon-juverine
Red Knot	19-Sep-01	2	2 juveniles
	30-Sep-01	1	1 juvenile
	14-Oct-01	1	1 juvenile
	28-Oct-01	2	2 juveniles
Curlew Sandpiper	27-Jul-01	69	69 non-juveniles
Curiew Sanapiper	2-Aug-01	61	61 non-juveniles
	8-Aug-01	54	54 non-juveniles
	15-Sep-01	2	2 juveniles
	19-Sep-01	2	2 juveniles
	30-Sep-01	3	3 juveniles
	30-Sep-01	3	3 juverilles
Sharp-tailed Sandpiper	8-Aug-01	2	1 adult, 1 juvenile
Red-necked Stint	8-Aug-01	1	1 juvenile
iteu-neckeu Stillt	15-Sep-01	8	8 juveniles
	19-Sep-01	2	2 juveniles
	19-3ep-01	2	2 juverilles
Broad-billed Sandpiper	19-Sep-01	9	9 juveniles
	30-Sep-01	1	1 non-juvenile
Ruff	2-Aug-01	1	1 adult
	30-Sep-01	1	juvenile male
Asian Dowitcher	15-Sep-01	1	1 juvenile
Asian Downlone	10 000 01		1 javeime
Black-tailed Godwit	21-Jul-01	8	4 non-juveniles
	8-Aug-01	9	8 non-juveniles
	19-Sep-01	118	5 juveniles, 8 non-juveniles
Bar-tailed Godwit	19-Sep-01	3	2 juveniles, 1 non-juvenile
Dar-tailed Couwit	14-Oct-01	1	1 juvenile
Common Redshank	21-Jul-01	280	great majority non-juvenile
	27-Jul-01	390	great majority non-juvenile
	2-Aug-01	360	great majority non-juvenile
	8-Aug-01	344	great majority non-juvenile
Marsh Sandpiper	27-Jul-01	2	2 non-juveniles
maran vanupiper	2-Aug-01	1	1 non-juvenile
	8-Aug-01	1	1 non-juvenile
	6-Aug-01	<u> </u>	i non-juvenile
Common Greenshank	21-Jul-01	233	great majority non-juvenile
	27-Jul-01	381	great majority non-juvenile
	2-Aug-01	400	great majority non-juvenile
	8-Aug-01	526	great majority non-juvenile
Nordmann's Greenshank	14-Oct-01	1	1 iuvonilo
INOTUINATIII S GTEENSNANK	18-Oct-01	1 1	1 juvenile 1 adult female
	10-001-01	l l	i adult iciliaic
Terek Sandpiper	27-Jul-01	1	1 non-juvenile
	2-Aug-01	1	1 non-juvenile
Grey-tailed Tattler	15-Sep-01	1	1 juvenile