

# **WATERFOWL MONITORING AT THE MAI PO INNER DEEP BAY RAMSAR SITE**

## **Monthly Waterbird Counts Winter 2000-2001 Report**

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### **Introduction**

Long-term monitoring of waterbirds in the Mai Po Inner Deep Bay Ramsar Site is an important aspect of the management strategy for the Site, and provides an indication of the health of the Deep Bay ecosystem. This programme, which commenced in March 1998, is administered and executed by the Hong Kong Bird Watching Society (HKBWS) under subvention from the Agriculture, Fisheries and Conservation Department. Monthly counts of waterbirds form one part of this programme, the other components being counts of migrant shorebirds utilising the area and surveys of ardeid nesting colonies. This report concerns the waterbird monitoring component for the winter period from October 2000 to March 2001.

Coordinated mid-monthly counts of wintering waterbirds in Hong Kong were carried out by members of the Hong Kong Bird Watching Society on 15 October 2000, 12 November 2000, 10 December 2000, 14 January 2001, 11 February 2001 and 11 March 2001. The January count was carried out to coincide with the Asian Waterfowl Census organised by Wetlands International Asia-Pacific. Counts from November to March have been carried out each winter since 1992-93; counts in January were first carried out in 1979.

In accordance with guidelines provided by Wetlands International, other counts, if higher, are included from the one-week period either side of the coordinated count date. It should be noted that for the majority of species this means the single count must be higher than the total number provided by the coordinated count for it to be included. As in recent winters, the use of mobile phones at Tsim Bei Tsui and Mai Po boardwalk ensured that double-counting and, as far as possible, under-counting was avoided for birds in the intertidal areas on the Hong Kong side of Deep Bay ('Inner Deep Bay').

Due to habitat degradation and/or insufficient manpower, the areas of Nam Sang Wai, Tin Shui Wai and Chau Tau have now been dropped from the list of sites counted. These sites have only been counted irregularly in recent years, and due to habitat loss or degradation at Tin Shui Wai and Chau Tau the number of birds recorded was generally very low. It is considered more appropriate to devote manpower to sites that are regularly covered.

## **Results**

Coverage of the Ramsar Site was complete in all months with the exception of Mai Po San Tsuen in October. For other sites in the Deep Bay Area as a whole, the following shortfalls occurred: November: Nim Wan/Lau Fau Shan and San Tin; December – San Tin; February: Nim Wan/Lau Fau Shan; March: Nim Wan/Lau Fau Shan and San Tin.

The results of the six counts are summarised in Table 1; results in full are provided in Appendix 1.

Peak waterbird numbers in Deep Bay usually occur in January, and this winter a total of 55,477 waterbirds of 59 species were recorded in the Deep Bay Area; for the Ramsar Site alone this figure is 36,742. In order to gain a more accurate picture of the number of waterbirds that depend on Deep Bay for at least some part of the winter, and to counteract stochastic biases occurring as a result of using the January count alone, the sum of peak species counts for the midwinter period (here defined as December to February) can be summed. This winter the December to February total was 62,238 birds of 66 species, an increase over the January count of 7031, or approximately 14.3%. The equivalent figures since winter 1992-93 are plotted in Figure 1; the difference of 14.3% is at the upper end of the scale for this period, but is not the highest. This possibly reflects adverse circumstances of one sort or the other on the day of the January count, and this is borne out by the experience in the boardwalk hide where birds were difficult to count due largely to their distance from the hide.

On the basis of aggregate peak winter counts for each species there was an 8.75% increase on the 57,227 obtained in winter 1999-2000 to 62,238. The latter figure is approximately 15,000 below the highest such figure which occurred in winter 1995-96. However, it can also be seen from Figure 1 that in broad terms there has been a stabilisation of the number of wintering waterbirds in Deep Bay since 1997-98, and possibly a slight increase.

**Table 1. Deep Bay Area Waterbird Counts Winter 2000-2001: totals by group and site.**

group	site	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Cormorants	Ramsar Site	174	2848	4771	6506	1811	2920
	Deep Bay Area	224	4256	5671	7142	2299	3715
	SI/SW	21	326	367	487	386	557
Ardeids	Ramsar Site	1656	1951	2767	2092	2984	1474
	Deep Bay Area	5301	3430	4040	3604	4589	2811
	SI/SW	711	712	681	750	544	666
Ducks and grebes	Ramsar Site	2388	4341	10735	7442	5594	5643
	Deep Bay Area	3317	12686	22304	23667	14034	6439
	SI/SW	30	21	3	68	99	44
Rails, Coot etc.	Ramsar Site	35	151	160	577	42	87
	Deep Bay Area	65	188	430	617	108	176
	SI/SW	4	4	6	13	20	15
Waders	Ramsar Site	3911	6726	7110	6404	9043	5459
	Deep Bay Area	4170	7589	8022	6726	9183	5619
	SI/SW	46	85	49	52	33	34
Gulls and terns	Ramsar Site	19	1404	11207	13721	4653	2764
	Deep Bay Area	20	1404	12670	13721	5264	4036
	SI/SW	2	72	0	0	23	0
Totals	Ramsar Site	8183	17411	36750	36742	24127	18347
	Deep Bay Area	13097	29553	53137	55477	35477	22796
	SI/SW	814	2120	1106	1370	1105	1316

*Species of conservation significance*

There are a number of species occurring in the Deep Bay Area which are of conservation significance due to their being listed as threatened in Collar *et al.* (1994), or because they are species for which Deep Bay supports, or may support, at least 1% of the regional or flyway population as used for implementing the Ramsar Convention criterion 3c. The 1% threshold level has been calculated with reference to Rose and Scott (1997), and the figures quoted below are from that work. Species relevant to the 1% threshold, which derive from Carey and Young (1999), are listed below, with the addition of Great Crested Grebe. Comparisons are generally made with the trend since 1992-93, when counts for the whole winter period were first carried out.

Appendix 2 illustrates the peak winter counts since 1992-93 of the 24 most numerous waterbird species in Deep Bay in winter; these species have constituted at least 90% of the total number of waterbirds since 1992-93. In addition, the five-winter mean of these peak winter counts is also listed.

### **Great Cormorant**

The peak winter count of 7142 is approximately 1000 below the highest on record in Hong Kong. This constitutes nearly 1.1% of the northern hemisphere population. It is possible that the southern hemisphere taxa are separate species, in which case Deep Bay supports over 1% of the world population.

### **Dalmatian Pelican**

A total of 16 were present, which appears to be at least 15% of the regional, East Asian population (Carey and Young 1999).

### **Chinese Pond Heron**

Numbers of this species trended downward until last winter, and the peak winter count this winter of 297 is a reversal of this trend. However, it is still only 55% of the peak count of 545 obtained in 1990. This decline is of concern because the population of Chinese Pond Heron, unlike those of other ardeids, appears to depend largely on the area of fish ponds (specifically the accumulated perimeter of fish pond bunds). They are not recorded in numbers on the intertidal mudflats or at drained down ponds where they give way to larger ardeids.

### **Little Egret**

The peak winter count was 1631, which is 500 above the recent five-year mean; this probably constitutes 1% of the regional population.

### **Great Egret**

The peak winter count was 1150, which is one of the highest winter counts since 1992-93, and is almost double the high numbers recorded last winter. This is also the highest winter count of this species on record in Hong Kong.

### **Grey Heron**

The peak winter count was 1064, which is very close to the recent five-year mean; this may constitute 1% of the regional population.

### **Black-faced Spoonbill**

A total of 179 were present in December, approximately 25% of the world population.

### **Common Shelduck**

The peak winter count of 373 is relatively low, and is over 1000 below the recent five-year mean. Historically, Common Shelduck numbers have been very variable, and this may part of that phenomenon.

### **Eurasian Wigeon**

The peak winter count of 6705, recorded in January, is over 2000 higher than the previous highest species count for Deep Bay (4184 in winter 1995-96). Approximately 54% of these were recorded on the Fu Tian side of the bay.

### **Common Teal**

With a peak winter count of 2509, numbers of this species have fallen from the high levels seen in recent years. This figure is nearly 2000 below the recent five-year mean.

### **Northern Pintail**

The peak winter count of 3435 is relatively low, and significantly below the recent five-year mean of 7403.

### **Northern Shoveler**

The peak winter count of 6414 is only slightly lower than the recent five-year mean of 6574. This figure constitutes from 0.6% to 6.0% of the regional population.

### **Eurasian Coot**

The peak winter count of 534 is somewhat lower than the recent five-year mean of 824, and numbers of this species have generally fallen each winter since 1995-96.

### **Pied Avocet**

The peak winter count of 1926 is higher than that recorded last winter, and numbers of this species are again approaching the very high levels recorded in the mid 1990s. This winter's peak count constitutes a minimum of 6.7% of the regional east Asian population.

### **Kentish Plover**

The peak winter count of 2372 is in line with the recent five-year mean, and constitutes from 0.24% to 2.4% of the regional population.

### **Grey Plover**

The peak winter count of 312 is very similar to that of last winter, but does not reverse the generally downward trend in totals since winter 1995-96. The recent five-year mean is 405. This winter's peak count constitutes 0.3% to 1.2% of the regional population.

### **Dunlin**

The peak winter count of 3100 is only slightly above average compared with the recent five-year mean, and constitutes from 0.31% to 12.4% of the regional population.

### **Black-tailed Godwit**

The peak winter count of 317 is somewhat below the highest winter count on record (454) made last winter, but still higher than any other winter high. This constitutes approximately 0.2% of the flyway population.

### **Eurasian Curlew**

The peak winter count of 810 is higher than the recent five-year mean of 666, and constitutes from 0.8% to 8.0% of the regional population.

### **Spotted Redshank**

The peak winter count of 512 is slightly lower than the recent five-year mean of 746, though there were difficulties in counting the whole flock at the same time.

### **Marsh Sandpiper**

The peak winter count of 1171 is very similar to the number recorded last winter, and constitutes 1.1% of the regional population. This is the highest winter count of this species; the recent five-year mean is 875.

### **Common Greenshank**

The peak winter count of 290 is very similar to the recent five-year mean of 303.

### **Saunders' Gulls**

The peak winter count was 43 in December. This lies at the low end of the normal range; numbers in the past three winters have all been lower than average.

## **Black-headed Gull**

The peak winter count of 13,500 is somewhat higher than that obtained last year, and very similar to the recent five-year mean of 13,601. This constitutes 1.4% to 13.6% of the regional population.

### *Other notable counts*

## **Falcated Duck**

No Falcated Ducks were recorded during waterbird counts this winter, though a very small number were present in the Deep Bay area (less than ten). Average peak winter counts have declined greatly since winter 1990-91 when 237 were recorded, and the almost complete disappearance from Hong Kong in recent winters may be a cause for significant concern.

## **Other observations**

### *Nets*

On the Fu Tian side of the Shenzhen River, bird-catching nets were present, though apparently not in such numbers as has been noted in recent winters.

### *Mudskipper collectors*

Illegal mudskipper collectors continued to be seen operating on the mudflats on the Hong Kong side of Deep Bay.

### *Other disturbance*

The number of birds present on the Fu Tian side of the bay is greater this year than it has been in the past. This may be related to a decline in the number of people using the mudflats in front of Fu Tian National Nature Reserve as a result of preventive activities by the reserve staff there (Wang Yong Jun pers. comm.). Such controls are warmly welcomed.

## Conclusion

The total number of waterbirds utilising Deep Bay for at least some part of the winter appears to have stabilised since winter 1997-98 in the range 57,000 to 64,500, after a fall from the high of 77,227 in winter 1995-96. This stabilisation is a welcome development, and is hopefully evidence that the 'crash' that was feared to be taking place has not developed.

Evidence to suggest that decreased disturbance on the Fu Tian side of Deep Bay has contributed to increased numbers of waterbirds there is also welcome. This indicates the desirability of reducing human activity on all parts of the mudflats to the minimum level possible.

## Acknowledgements

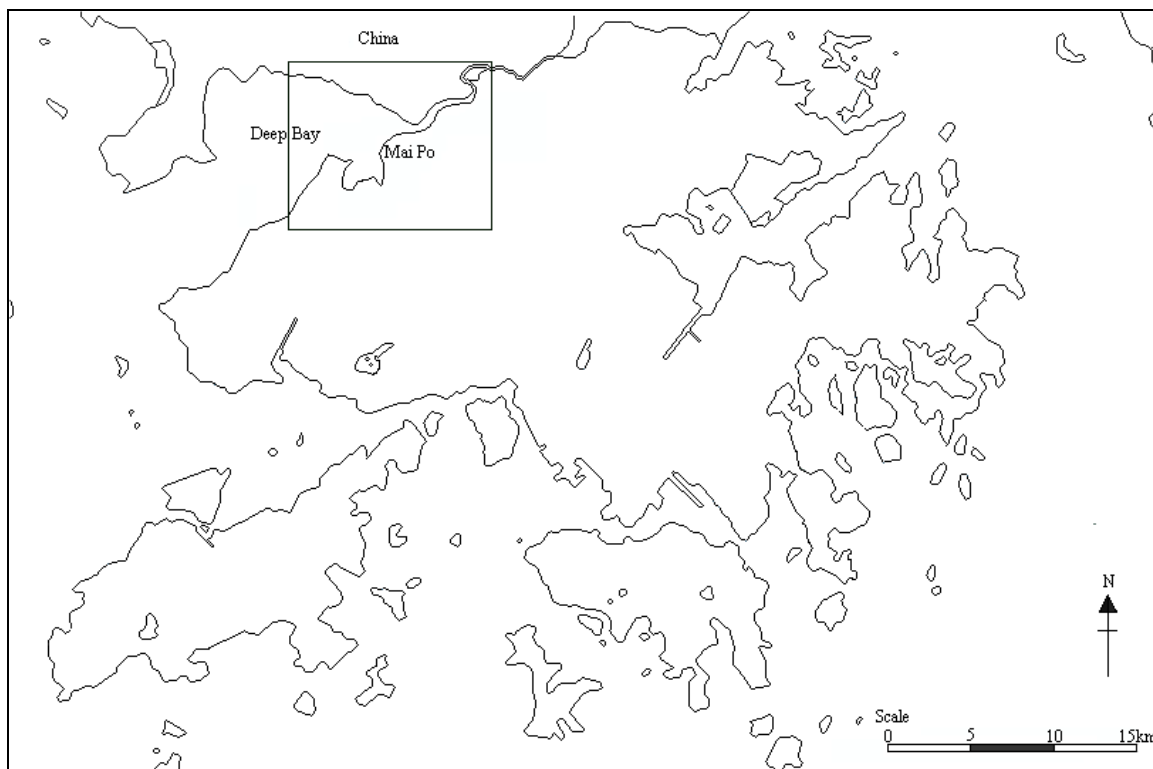
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Map 1. Map of Hong Kong showing location of the Mai Po Inner Deep Bay Ramsar Site



Map 2. Locations of count sites of the Waterfowl Monitoring Programme

