

**MAI PO INNER DEEP BAY RAMSAR SITE**  
**WATERBIRD MONITORING PROGRAMME**

**Monthly Waterbird Counts**

**Winter 2001-2002 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 2001 to March 2002.

Coordinated mid-monthly counts of wintering waterbirds in Hong Kong were carried out by members of the Hong Kong Bird Watching Society on 14 October 2001, 18 November 2001, 16 December 2001, 20 January 2002, 17 February 2002 and 17 March 2002. 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 were dropped from the list of sites counted last winter. 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. For other sites in the Deep Bay Area as a whole, the following shortfalls occurred: November and December at San Tin, and in February and March at Shenzhen River B (Ma Tso Lung) and San Tin.

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

**Table 1. Deep Bay Area Waterbird Counts Winter 2001-2002: totals by group and area.**

group	site	Oct.	Nov.*	Dec.	Jan.	Feb.#	Mar.#
Cormorants	Ramsar Site	4	4524	3486	6230	4202	164
	Deep Bay Area	45	4950	4391	6230	4307	451
	SI/SW	29	1	253	194	137	41
Ardeids	Ramsar Site	1359	1570	2124	2660	1951	1539
	Deep Bay Area	3023	3404	3736	4400	2860	2374
	SI/SW	587	238	596	418	448	658
Ducks and grebes	Ramsar Site	852	6785	10,160	7102	6241	3735
	Deep Bay Area	1859	11,092	18,987	16,964	11,014	3933
	SI/SW	11	0	6	24	18	11
Rails, Coot etc.	Ramsar Site	34	128	100	110	57	125
	Deep Bay Area	55	168	175	195	76	256
	SI/SW	1	3	7	19	12	13
Waders	Ramsar Site	614	3144	4305	9845	3477	6635
	Deep Bay Area	2563	3758	5251	10,242	3511	6758
	SI/SW	34	10	15	80	17	6
Gulls and terns	Ramsar Site	14	1229	4954	13,302	7825	185
	Deep Bay Area	14	1229	5917	13,302	7864	185
	SI/SW	0	0	66	0	0	0
Totals	Ramsar Site	2877	17,380	25,129	39,249	23,753	12,383
	Deep Bay Area	7559	24,601	38,457	51,333	29,632	13,957
	SI/SW	661	252	943	735	632	729

\* Starling Inlet not counted

# Shuen Wan not counted

Peak waterbird numbers in Deep Bay usually occur in January, and this winter a total of 51,333 waterbirds of 52 species were recorded in the Deep Bay Area; for the Ramsar Site alone this figure is 39,249. Figure 1 illustrates the totals for all January counts since the first, in 1979, both for the Deep Bay area and for the intertidal areas of Deep Bay. It can be seen that this year's January total lies within the range of the previous four years (49,708 – 55,132), and probably indicates no significant change in overall numbers. The overall pattern since January 1998 is one of stabilisation after a relatively sharp fall in numbers between January 1996 and January 1998.

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 54,720 birds of 58 species, an increase over the January count of 3387, or approximately 6.6%. The January count thus comprises 93.8% of the total winter count, which is in line with most previous winter periods since 1992-93. This and the equivalent figures since winter 1992-93, when counts from November to March were first carried out, are plotted in Figure 2. While the January 2002 count alone lay within the range established during the previous four winters, it can be seen that the figure for peak waterbird numbers this winter is slightly lower (2822, or 5.1%) than the lowest count during the four previous winters.

### *Species of conservation significance*

A number of species that occur in the Deep Bay Area are of conservation significance due to their being listed as threatened in BirdLife International (2000), 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. In this report, 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, as is the 1% threshold level of each species.

### **Great Cormorant**

The peak winter count of 6230 constitutes nearly 1% of the northern hemisphere population and about 6% of the flyway population. If the southern hemisphere taxa are regarded as separate species, in which case Deep Bay supports over 1% of the world population.

### **Dalmatian Pelican**

A total of 16 were present, the same as was present last winter. This 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 from a peak in the early 1990s until winter 1999-2000, and the peak count last winter of 297 reversed that trend. This winter's peak count of 283 is very similar. However, it is still only approximately 52% 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 1434, which is 300 above the previous five-winter mean; this probably constitutes 1% of the regional population.

### **Great Egret**

The peak winter count was 1239, which is the highest on record in Hong Kong, and is even higher than the relatively high numbers recorded last winter.

### **Grey Heron**

The peak winter count was 1297, which is slightly higher than the recent five-year mean; this may constitute 1% of the regional population.

### **Black-faced Spoonbill**

A total of 183 was present in December, approximately 19% of the world population.

### **Common Shelduck**

The peak winter count of 268 is relatively low, and over 1000 below the recent five-year mean. This continues the low numbers recorded last year. Historically, Common Shelduck numbers have been very variable, and this may be part of that phenomenon.

### **Eurasian Wigeon**

The peak winter count of 4752, recorded in January, while relatively high, is approximately 2000 below the record high made the previous winter. Approximately 70% of these were recorded on the Fu Tian side of the bay.

### **Common Teal**

With a peak winter count of 3147, numbers of this species have fallen from the high levels seen in recent years. This figure is a little over 1000 below the recent five-year mean.

### **Northern Pintail and Northern Shoveler**

Due to viewing conditions on the day of each count, no count considered to be truly representative of either species was made during the course of the winter. However, the total number of Anatidae peaked at 18,987 in December.

### **Eurasian Coot**

The peak winter count of 54 is extremely low, approximately 90% lower than last five years count, and even more below the recent five-year mean of 824. Although numbers of this species have generally fallen each winter since 1995-96, it remains to be seen whether this particularly low figure is an accurate indication of the numbers of Eurasian Coot using the bay this winter, or was instead a one-off count. .

### **Pied Avocet**

The peak winter count of 1957 is slightly 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**

No representative count of this species was made during the course of the winter. A total count of 4000 Kentish Plovers and Dunlin was made, however. The five-year mean of 2418 constitutes from 0.24% to 2.4% of the regional population.

### **Grey Plover**

The peak winter count of 294 is slightly lower than that of last winter, and continues the largely 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**

No representative count of this species was made during the course of the winter. A total count of 4000 Kentish Plovers and Dunlin was made, however. The recent five-year mean peak winter count of 2968 constitutes from 0.31% to 12.4% of the regional population.

### **Black-tailed Godwit**

The peak winter count of 320 is very similar to the peak count last winter, and constitutes approximately 0.2% of the flyway population. The five-year mean is 298.

### **Eurasian Curlew**

The peak winter count of 558 is somewhat lower than the recent five-year mean of 666, and constitutes from 0.55% to 5.5% of the regional population.

### **Spotted Redshank**

The peak winter count of 2500 equals the highest count for Hong Kong, and is higher than the previous winter high of 1730, made in January 1995. The recent five-year mean is 746.

### **Marsh Sandpiper**

The peak winter count of 153 is very low, and almost certainly is not representative of the true numbers present. The recent five-year mean is 875.

### **Common Greenshank**

The peak winter count of 376 is slightly higher than the recent five-year mean of 303.

### **Saunders' Gulls**

The peak winter count was 60 in February. Peak winter numbers since 1992-93 are as follows:

1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
107	172	131	113	127	91	73	58	43	60

It can be seen that there has been a general decline in the peak winter count since the peak of 172 in 1993-94.

### **Black-headed Gull**

The peak winter count of 13,009 is slightly lower than that obtained last year, but similar to the recent five-year mean of 13,601. This constitutes approximately 1.4% to 13.6% of the regional population.

#### *Other notable counts*

### **Falcated Duck**

For the second winter running, no Falcated Ducks were recorded during waterbird counts this winter. 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*

### **Mudskipper collectors**

Illegal mudskipper collectors continued to be seen operating on the mudflats on the Hong Kong side of Deep Bay in February and March. Their presence causes significant disturbance to foraging and roosting waterbirds.

#### *Other disturbance*

The number of birds present on the Fu Tian side of the bay is continues to remain higher than it was formerly. 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 enforcement action (Wang Yong Jun pers. comm.). Such controls are warmly welcomed.

### **Conclusion**

As of winter 2000-01, the total number of waterbirds utilising Deep Bay for at least some part of the winter appeared to have stabilised in the range 57,000 to 64,500 (mean 60,633), after a fall

from the high of 77,227 in winter 1995-96. This winter's count of 54,720 lies slightly below that range, and about 6000 below the mean for that period. However, it remains to be seen whether this is evidence of a further decline, or whether it is simply natural variation. However, there have been recent declines in the numbers of two species that may be a cause for concern; these are Falcated Duck and Saunders's Gull.

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### **References**

- Carey, G.J. and Young, L. 1999. The importance to waterfowl of the Mai Po Marshes and Inner Deep Bay Ramsar Site. *Hong Kong Bird Report* 1997:141-149.
- Collar, N.J., Crosby, M.J. and Stattersfield, A.J. 1994. *Birds to Watch 2. The world list of threatened birds.* BirdLife Conservation Series No. 4, BirdLife International, Cambridge.
- Rose, P.M. and Scott, D.A. 1997. *Waterbird Population Estimates*, 2nd ed. Wetlands International Publication 44, Wageningen, Netherlands.