

**Contract Ref.: AFCD/SQ/49/14/C**

**Mai Po Inner Deep Bay Ramsar Site  
Waterbird Monitoring Programme  
2014 - 15**

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

**Summer 2014 Report**



Submitted by  
**The Hong Kong Bird Watching Society**

to Agriculture, Fisheries and Conservation Department,  
Hong Kong SAR Government

October 2014



*Printed on Recycled Paper*

**Contract Ref.: AFCD/SQ/49/14/C**  
**Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site 2014-15**

---

**Waterbird Count Coordinator**

YU Yat Tung  
The Hong Kong Bird Watching Society

**Report Writing and Data Contributors**

TAM Yip Shing, Captain L.C. WONG, Josephine Y.P. WONG,  
Luke, C.K. WOO, Louis, C. L. FUNG and CHEUNG MOK, Jose Alberto  
Egret Research Group,  
The Hong Kong Bird Watching Society

**Copyright**

The project is part of the  
“Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2014-15” of  
Agriculture, Fisheries and Conservation Department,  
Hong Kong SAR Government.

All the data shall be the property of the Government with full copyright

**Report is available for public information at**

Agriculture, Fisheries and Conservation Department  
Hong Kong SAR Government  
7/F, Cheung Sha Wan Government Offices  
303 Cheung Sha Wan Road  
Kowloon, Hong Kong

Email: faunaenq@afcd.gov.hk Website: www.afcd.gov.hk

and

The Hong Kong Bird Watching Society  
7C, V Ga Building, 532 Castle Peak Road  
Lai Chi Kwok, Kowloon, Hong Kong  
E-mail: hkbws@hkbws.org.hk Website: www.hkbws.org.hk

**This publication should be cited as**

Anon, 2014. Summer 2014 Report: Egret Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.

## TABLE OF CONTENTS

### REPORT

Summary .....	4
1. Introduction .....	4
2. Method.....	5
3. Results and Discussion.....	6
3.1 Breeding population in the 2014 breeding season.....	6
3.2 Colonies in the Deep Bay area.....	10
3.3 Comparison of the number of nests with that in the 2013 records .....	11
3.4 Nesting substrates.....	12
3.5 Training workshop for ardeid nesting colony monitoring .....	14
3.6 Recommendations.....	14
4. Conclusion .....	15
5. Acknowledgements .....	15
6. References .....	16

### TABLES

Table 1. Number of nests at surveyed colonies in Hong Kong in 2014.....	9
Table 2. Relative importance of the Deep Bay colonies compared to the other colonies in Hong Kong in 2014 .....	10
Table 3. Number of nests recorded at the Deep Bay area from 2005 to 2014.....	11
Table 4. Comparison of the number of nests in 2014 with that in the 2013 records .....	12
Table 5. Plant species utilized by ardeids as nesting substrates in 2014.....	13

### FIGURES

Figure 1. Location of colonies in Hong Kong in 2014.....	18
Figure 2. Total number of ardeid nests in Hong Kong with reference to the number of nests in the Deep Bay area from 2005 to 2014.....	19

### APPENDICES

Appendix 1. Survey date(s) of nesting colonies and additional sites in 2014 .....	21
Appendix 2. Number of nests recorded in each count of the 22 colonies in 2014 .....	22

# EGRETRY COUNTS IN HONG KONG, WITH PARTICULAR REFERENCE TO THE MAI PO INNER DEEP BAY RAMSAR SITE

## SUMMER 2014 REPORT

### Summary

In the 2014 breeding season (April to July 2014), a total of 418 nests of three ardeid species, the Great Egret (*Ardea alba*), Little Egret (*Egretta garzetta*) and Chinese Pond Heron (*Ardeola bacchus*), were recorded in nine egretries (hereinafter referred to as 'colonies') in the Deep Bay area. The number of nests in this area accounted for 43.5% of the total number of nests in Hong Kong. The Chinese Pond Heron was the dominant species in the Deep Bay area, accounting for 65.6% of the total number of nests. There were a total of 960 nests in Hong Kong in 2014, with five species in 22 colonies. The Sha Kiu Village colony had split into two locations, the original site and a new site along the road. Three new colonies were found at Ma Wan, Shenzhen Bay Bridge and Tai Tong (Pak Sha Tsuen), and two colonies at Ngau Hom Sha and Tai Tong had been abandoned. The Ngau Hom Shek colony was re-established after one year of abandonment. A colony was spotted near the abandoned Pak Nai 2 colony, and it subsequently shifted from the original site to a new location (within 500m) near the coast. The Little Egret (37.6%) was the dominant species in Hong Kong, while the Eastern Cattle Egret (1.9%) was the least abundant breeding ardeid. Compared with the 2013 records (259 nests in the Deep Bay area and 758 nests in Hong Kong), there was an increase of 61.4% and 26.6% in the number of nests in the Deep Bay area and Hong Kong overall, respectively.

## 1 INTRODUCTION

Breeding activity is an important aspect of population dynamics. Nesting populations of colonial waterbirds are recorded as part of long-term monitoring studies in Mediterranean Europe (Tourenq *et al.* 2000), Australia (McKilligan 2001) and the United States (Gawlik *et al.* 1998). In east and southeast Asia, long-term monitoring of breeding populations of colonial nesting ardeids has been conducted only in Hong Kong and Vietnam (Lansdown *et al.* 2000). Reporting on the number of nesting pairs of ardeids in Hong Kong started as early as 1958 by

the Hong Kong Bird Watching Society (HKBWS), but was suspended from 1975 to 1989 (Young and Cha 1995). A review of the trend in the number of nests of five ardeid species between 1989 and 2004 and the influence of weather on this trend was published in 2006 (Wong and Young 2006). Following the establishment of the Mai Po Inner Deep Bay Ramsar Site, a long-term waterbird monitoring programme has been carried out since 1998, coordinated by the HKBWS with support from the Agriculture, Fisheries and Conservation Department (AFCD) of the Hong Kong SAR Government. Under the Waterbird Monitoring Programme, egretty counts are conducted with a view to recording the population of tree-nesting ardeids in terms of the number of nests in the Deep Bay area and elsewhere in Hong Kong.

## **2 METHOD**

Active and abandoned colonies identified in the past three years (2011, 2012 and 2013) were surveyed once a month between April and July 2014 (Table 1, Figure 1, Appendix 1). A nesting colony of egrets and herons is defined as an area in which more than one pair of these birds are recorded building nests, laying eggs and raising young. Active nests, determined by the presence of incubating adults or chicks, were counted directly from vantage points along the edge of a colony with the use of 10x binoculars or by the naked eye, depending on the distance between the surveyor and the colony. Where nests were hidden in vegetation, making the counting difficult, their number was estimated. In this connection, landing locations were marked on a sketch, and repeated landings around the same location were considered to be a nest. This methodology was adopted for the Little Green Island, A Chau, Sha Chau and Ma Wan colonies, where most of the nests were hidden in vegetation. As each colony was surveyed at least once a month, the highest count of the number of nests of each species was used for the egretty count. In addition to the number of nests, the nesting substratum was examined in most of the colonies that were accessible.

Both existing colonies and new nesting sites were monitored. The new nesting sites were identified by the personal observations of the surveyors or through

information provided by birdwatchers, the general public or the AFCD. A nesting site was considered to be a new nesting colony if it was at least 500 m away from an existing colony, since the lowest foraging range of a colony is usually about 500 m (L. C. Wong, unpublished data). Combining breeding birds in locations within 500 m avoids having to define too many small nesting sites in the same area.

### **3. RESULTS and DISCUSSION**

#### **3.1 Breeding population in the 2014 breeding season**

A total of 960 nests were recorded in 22 colonies in Hong Kong (Table 1, Figure 1, Appendix 2). The names of the various species of egrets and herons were in accordance with the annotated checklist of birds of Hong Kong (Hong Kong Bird Watching Society, 2014). Highlights of the egretty counts in the 2014 breeding season were as follows:

- The colony at Mai Po Village was the largest in Hong Kong, with 202 nests, about 21.0% of the total number of nests in Hong Kong.
- As reported by a birdwatcher, a new colony on Ma Wan was discovered during this breeding season. This colony, includes Little Egrets and Black-crowned Night Herons, is situated in a coastal woodland facing southwest. The potential feeding habitats would be the fishing rafts at Ma Wan and intertidal rocky areas along the nearby shoreline.
- A new colony was found around Shenzhen Bay Bridge, where bamboo was utilized by the ardeids as a nesting substrate.
- At Tai Tong (Pak Sha Tsuen), a new colony with three ardeids (Chinese Pond Herons, Little Egrets and Eastern Cattle Egrets) was found.
- Some previous active and important colonies in Tam Kon Chau, Shuen Wan, Ho Sheung Heung 2, Yeung Chau, Lam Tsuen and Tai Shue Wan (Ocean Park) were revisited in the early breeding stage or throughout the breeding season. However, no breeding activity was found at the sites. Two colonies in Ngau Hom Sha and Tai Tong were active in 2013 but were found abandoned this year.

- The Sha Kiu Village colony was split into two locations, one at the original site and one at a new site in vegetation along the road. Fewer nests were found at the original location, which might be due to the noise disturbance of nearby construction. The colony at Pak Lai 2 had moved to a new location near the coast, and no nests were observed at the original location, but since the distance was less than 500 m, the site still named Pak Nai 2 this year.
- The Tai Po Market colony was disturbed by slope stabilization works undertaken at the beginning of this breeding season (late March to early April 2014). The works may adversely affect the breeding birds, resulting in abandonment of the colony if such works persist. After discussing with the project proponent (the Civil Engineering and Development Department) concerns about the disturbance to the egret, the work was re-scheduled and suspended from April to August 2014. During the suspension, the site continued to be used by ardeids, and reached a peak of 125 nests in May.
- No Eastern Cattle Egrets bred on A Chau this year. A Chau was once the key breeding site of Cattle Egrets in Hong Kong. This was the first time they had been absent since the monitoring started in 1998. The reasons are uncertain, but it is suspected that their absence may be related to the loss of foraging habitats, such as loss of abandoned farmlands with short grasses, and the absence of feral cattle activities in the Luk Keng freshwater marsh. A previous study on the foraging flights of the ardeids in the A Chau colony found that the prime foraging habitats of the Eastern Cattle Egrets were freshwater marshes and abandoned farmlands with short grasses (Wong *et al* 1999). Causal observations in the 2014 breeding season indicated that the Luk Keng freshwater marsh, which was one of the key foraging sites of Cattle Egrets nesting on A Chau (Wong *et al* 1999), appears to be undisturbed. However, due to natural succession, the short grasses on some abandoned farmlands near Starling Inlet, such as those near the Luk Keng freshwater marsh, had been progressively replaced by shrubs and trees, which do not serve as a favourable habitat for the Eastern Cattle Egrets. Moreover, it appears that feral cattle activities were absent at the marsh because the marsh

was overgrown with tall grasses, and no feral cattle or sign of grazing activities was observed during the 2014 breeding season.

The highest number of nests was recorded in the Mai Po Village colony (202 nests, 21.0% of total nests in Hong Kong), which also had the highest number of nests of Chinese Pond Herons (*Ardeola bacchus*, 122 nests, 35.3% of total nests of this species) and Little Egrets (*Egretta garzetta*) (80 nests, 22.2% of total Little Egret nests). The second largest colony was the Tai Po Market colony (125 nests, 13.0% of total nests in Hong Kong), which had the highest number of nests of Black-crowned Night Herons (*Nycticorax nycticorax*) (50 nests, 41.0% of total nests of this species). The third largest colony was the Tung Shing Lane colony (82 nests, 8.5% of total nests in Hong Kong). The fourth largest colony was the Ho Sheung Heung colony (70 nests, 7.3% of total nests in Hong Kong), which also had the highest number of nests of Eastern Cattle Egrets (*Bubulcus coromandus*, 16 nests, 88.9% of total nests of this species). The lowest number of nests was recorded in the Pak Nai colony (1 nest, 0.1% of total nests in Hong Kong). The A Chau colony had the highest number of nests of Great Egrets (*Egretta alba*, 53 nests, 46.9% of total nests of this species).

In terms of the number of nests, the Little Egret and Chinese Pond Heron were the two most abundant (Little Egret: 361 nests, 37.6% of the total number of nests; Chinese Pond Heron: 346 nests, 36.0% of the total number of nests) and widespread species (Little Egret: 20 out of 22 colonies; Chinese Pond Heron: 16 out of 22 colonies), while the Eastern Cattle Egret was the least abundant species (18 nests, 1.9%).



**Table 1. Number of nests at surveyed colonies in Hong Kong in 2014.**

	Great Egret	Little Egret	Black-crowned Night Heron	Chinese Pond Heron	Eastern Cattle Egret	Total	%	Rank
Deep Bay area								
Mai Po Village		80		122		202	21.0	1
Mai Po Lung Village		3		33		36	3.8	9
Tung Shing Lane		36		46		82	8.5	3
Ngau Hom Shek		2		2		4	0.4	21
Pak Nai		1				1	0.1	22
Pak Nai 2	1	13		2		16	1.7	18
Shenzhen Bay Bridge		10		9		19	2.0	14
Sha Kiu Village		41		11		52	5.4	6
San Sang Sun Tsuen		4		2		6	0.6	20
Elsewhere in the New Territories								
Ho Sheung Heung		36		18	16	70	7.3	4
Man Kam To Road		5		27		32	3.3	11
Ping Che				10		10	1.0	19
A Chau*	53	6	10			69	7.2	5
Tai Tong (Pak Sha Tsuen)		3		12	2	17	1.8	17
Ha Che		4		31		35	3.6	10
Lam Tsuen 2				18		18	1.9	15
Tai Po Market	42	32	50	1		125	13.0	2
Tuen Mun		18				18	1.9	15
Penfold Park	13	15	17	2		47	4.9	8
Sha Chau*	2	35	15			52	5.4	6
Ma Wan*#		5	20			25	2.6	12
Hong Kong Island								
Little Green Island*	2	12	10			24	2.5	13
<b>Total</b>	<b>113</b>	<b>361</b>	<b>122</b>	<b>346</b>	<b>18</b>	<b>960</b>	<b>100.0</b>	
<b>%</b>	<b>11.8</b>	<b>37.6</b>	<b>12.7</b>	<b>36.0</b>	<b>1.9</b>	<b>100.0</b>		

Note: \* The nests on A Chau, Sha Chau, Ma Wan and Little Green Island were built in dense tree canopies and were often out of sight, so the number of nests might have been underestimated.

# A pair of Pacific Reef Herons also nested near the colony.

### 3.2 Colonies in the Deep Bay area

A total of 418 nests in nine colonies were recorded in the Deep Bay area in the 2014 breeding season (Table 2), comprising 43.5% of the total number of nests in Hong Kong. There were three ardeid species, the Great Egret, Little Egret and Chinese Pond Heron, nesting in the Deep Bay area in the 2014 breeding season. The Chinese Pond Heron was the dominant species, with 65.6% of the total number of nests in the Deep Bay area.

Table 3 provides a summary of the number of nests of five ardeid species recorded in the Deep Bay area in the last decade (i.e. from 2005 to 2014). One Great Egret nest was found in the Pak Nai 2 colony, marking the first time that this species had bred in the Deep Bay area since the last record in 2006. The number of Chinese Pond Heron nests recorded this year (227 nests) was the second highest since 2005. The highest count was 235 nests in 2006. The Little Egret nests (190 nests) recorded this year was the highest in the last 10 years. The second highest count was 165 nests in 2006.

**Table 2. Relative importance of the Deep Bay colonies compared to the other colonies in Hong Kong in 2014** (The colonies in the Deep Bay area include those at Mai Po Village, Mai Po Lung Village, Tung Shing Lane, Ngau Hom Shek, Pak Nai, Pak Nai 2, Shenzhen Bay Bridge, Sha Kiu Village and San Sang Sun Tsuen)

Species	No. of nests in Deep Bay	No. of nests in Hong Kong	Deep Bay nests as % of all nests in Hong Kong
Great Egret	1	113	1.0%
Little Egret	190	361	52.6%
Black-crowned Night Heron	0	122	0.0%
Chinese Pond Heron	227	346	65.6%
Eastern Cattle Egret	0	18	0.0%
<b>Total</b>	<b>418</b>	<b>960</b>	<b>43.5%</b>

**Table 3. Number of nests recorded in the Deep Bay area from 2005 to 2014.**

	Great Egrets	Little Egret	Black-crowned Night Heron	Chinese Pond Heron	Eastern Cattle Egret	Total no. of nests in Deep Bay
2005	0	126	0	203	4	333
2006	3	165	0	235	3	406
2007	0	119	0	152	4	275
2008	0	96	0	137	1	234
2009	0	95	0	212	1	308
2010	0	85	0	163	0	248
2011	0	133	0	154	0	287
2012	0	97	0	176	0	273
2013	0	91	0	168	0	259
2014	1	190	0	227	0	418

### 3.3 Comparison of the number of nests with that in the 2013 records

Though there was an increase in the total number of nests recorded in 2014 compared to that recorded in 2013, the number of nests recorded on Sha Chau dropped significantly from 83 nests in 2013 to 52 nests in 2014. There was a decrease in number of nests recorded in the colonies at Pak Nai (-12 nests), Little Green Island (-12 nests), Ho Sheung Heung (-10 nests), Ha Che (-10 nests), San Sang Sun Tsuen (-9 nests), Penfold Park (-3), Ping Che (-1) and Tuen Mun (-1), while two sites at Ngau Hom Sha (-4) and Tai Tong (-2) had been abandoned. These resulted in an overall reduction of 95 nests year on year.

Three new colonies were discovered at Ma Wan, Shenzhen Bay Bridge and Tai Tong (Pak Sha Tsuen), which added 25, 19, 17 nests, respectively. The Ngau Hom Shek colony had been re-established, with four nests found after one year of abandonment. Sixteen nests were spotted near the abandoned Pak Nai 2 colony, which had shifted from the original site to a new location (within 500 m) near the coastal area. The number of nests in some colonies increased over that of the previous year: in Mai Po Village (+56), Tai Po Market (+48), Sha Kiu Village (+38), Tung Shing Lane (+27), Mai Po Lung Village (+24), Man Kam To Road (+12), Lam Tsuen 2 (+7) and A Chau (+4). This led to an increase of 297 nests in total.

In comparison with the number of nests in the 2013 breeding season (Anon., 2013), there were more nests of Great Egrets, Little Egrets, Black-crowned Night Herons and Chinese Pond Herons in 2014, while there were fewer Eastern Cattle Egret nests. The reason for the change in population for the ardeid species is uncertain. One possible reason was the absence of severe tropical cyclones before and during the peak breeding period (the first tropical cyclone in the region was in mid-June 2014), which may have improved breeding success and reduced damage to nests. Other reasons might be related to the condition of feeding habitats, availability of food, nesting substrate or human disturbance.

**Table 4. Comparison of the number of nests in 2014 with that in the 2013 records.**

	2013	2014	Percentage change (%)
Great Egret	83	113	+36.1%
Little Egret	240	361	+50.4%
Black-crowned Night Heron	114	122	+7.0%
Chinese Pond Heron	271	346	+27.7%
Eastern Cattle Egret	50	18	-64.0%
Sub-total in Deep Bay	259	418	+61.4%
Total in Hong Kong	758	960	+26.6%

### 3.4 Nesting substrates

Bamboo, the main nesting substrate for egrets and herons nesting in the north and northwest New Territories, was used in 14 out of the 22 colonies (Table 5). Birds in the Penfold Park colony built their nests in Banyan trees (*Ficus microcarpa*). Ardeids in the Tuen Mun colony used the exotic tree *Acacia auriculiformis* for nesting. Most nests in Mai Po Village were in Chinese Hackberry (*Celtis sinensis*). The majority of nests in the A Chau colony were built in Cuban Bast (*Hibiscus tiliaceus*).

**Table 5. Plant species utilized by ardeids as nesting substrates in 2014**

Site	Site	Bamboo	Tree species	Remarks
1	Mai Po Village	+	<i>Albizia lebbeck</i> <i>Aleurites moluccana</i> <i>Celtis sinensis</i> <i>Ficus microcarpa</i> <i>Melia azedarach</i>	
2	Mai Po Lung Village	+	<i>Litchi chinensis</i> <i>Dimocarpus longan</i>	
3	Tung Shing Lane	+	<i>Litchi chinensis</i> <i>Dimocarpus longan</i> <i>Celtis sinensis</i>	
4	Pak Nai	+		
5	Pak Nai 2	+		
6	Shenzhen Bay Bridge	+		
7	Ngau Hom Sha	+		
8	Sha Kiu Village	+	<i>Celtis sinensis</i>	
9	San Sang Sun Tsuen	+		
10	Ho Sheung Heung	+		
11	Man Kam To Road	+	<i>Celtis sinensis</i> <i>Callistemon viminalis</i> <i>Ficus microcarpa</i> <i>Senna siamea</i>	
12	Ping Che	+		
13	A Chau		<i>Hibiscus tiliaceus</i> <i>Mallotus paniculatus</i>	
14	Tai Tong (Pak Sha Tsuen)	+		
15	Ha Che		<i>Celtis sinensis</i>	
16	Lam Tsuen 2	+		
17	Tai Po Market		<i>Ficus variegata</i> <i>Macaranga tanarius</i>	
18	Tuen Mun		<i>Acacia auriculiformis</i>	
19	Penfold Park		<i>Ficus microcarpa</i>	
20	Sha Chau			No plant

Site	Site	Bamboo	Tree species	Remarks
				survey was conducted
21	Ma Wan			No plant survey was conducted
22	Little Green Island			No plant survey was conducted

### 3.5 Training workshop for ardeid nesting colony monitoring

A training workshop was conducted during the breeding season on 4 May 2014. A total of 22 participants joined the workshop and also the following practical sessions on counting nests in the Tung Shing Lane and Mai Po Village colonies. It is recommended that similar workshops be conducted in the future.

### 3.6 Recommendations

With the absence of Eastern Cattle Egret nests observed on A Chau this year, the two remaining colonies of Eastern Cattle Egrets at Ho Sheung Heung and Tai Tong (Pak Sha Tsuen) have become particularly important in Hong Kong. More studies are needed to identify the foraging sites of breeding Eastern Cattle Egret in these two colonies. The flight line study in 2008 identified farmland, grassland and the Fanling golf course as key foraging sites for Eastern Cattle Egrets from the Ho Sheung Heung colony (Anon., 2009). There may have been changes in land use in these areas in the past six years. Therefore, it is suggested that a similar study be conducted again to provide latest information about their foraging sites around Ho Sheung Heung, as well as to identify the foraging sites of the birds in the new colony at Tai Tong. Identifying and protecting these key foraging sites may help secure a viable and sustainable nesting population of Eastern Cattle Egrets in Hong Kong.

Currently, the Hong Kong Bird Watching Society and the Conservancy Association are managing certain areas in Long Valley, under a Management Agreement funded by the Government. Some abandoned farmlands were re-

activated, which may provide a favourable habitat for Eastern Cattle Egrets. It may be beneficial to the breeding of Eastern Cattle Egret if more abandoned farmlands are managed through the scheme, by for example, cutting the grass in these abandoned farmlands.

It is known that abandoned short grassy farmlands in Lai Chi Wo and those near the Luk Keng freshwater marsh were foraging sites for Eastern Cattle Egrets in the past (Wong et al., 1999). However, due to natural succession, some of these abandoned farmlands were progressively replaced by shrubs and trees, which are not a favourable habitat for breeding Eastern Cattle Egrets. However, some organisations and farmers have re-started farming activities in Lai Chi Wo recently. It is hoped that these managed farmlands will provide favourable habitats for the breeding birds and will attract them to breed on A Chau again.

#### **4. CONCLUSION**

In 2014, a total of 960 nests of five species in 22 colonies were recorded in Hong Kong, including 418 nests of three species in nine colonies in the Deep Bay area. Compared to the results in 2013, there was a 61.4% and a 26.6% increase in the number of nests in the Deep Bay area and in Hong Kong overall, respectively. The Sha Kiu Village colony was found to have split into two locations. Two colonies in Ngau Hom Sha and Tai Tong had been abandoned, while three new colonies were found at Ma Wan, Shenzhen Bay Bridge, and Tai Tong (Pak Sha Tsuen). The Ngau Hom Shek colony had been re-established after one year of abandonment. A colony was spotted near the previously abandoned Pak Nai 2 colony, but it subsequently shifted from the original site to a new location (within 500 m) near the coastal area.

#### **5. ACKNOWLEDGEMENTS**

We would like to thank Rachel Poon, Fabian Pedrazzini and Stanley Chan, who assisted in the survey. We would also like to express our gratitude to Mrs Cheng, the owner of the land next to the Ha Che colony, and to Ocean Park for allowing

us to conduct the survey. We would also like to thank the Marine Parks Division of the AFCD for vessel arrangement for the surveys at Sha Chau.

## 6. REFERENCES

- Anon, 2009. Study of feeding habitats and foraging flight lines of ardeids colonies in Hong Kong. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.
- Anon, 2013. Summer 2013 Report: Egretty Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.
- Gawlik, D.E., R.D. Slack, J.A. Thomas and D.N. Harpole. 1998. Long-term trends in population and community measures of colonial-nesting waterbirds in Galveston Bay Estuary. *Colonial Waterbirds* 21: 143-151.
- Hong Kong Bird Watching Society, 2014. 'HK\_List\_526\_香港鳥類名錄\_526\_20140609.pdf' [online]. Available from: <http://www.hkbws.org.hk/BBS/attachment.php?aid=18543> [Accessed 27 August 2014].
- Lansdown, R.V., T. Mundkur and L. Young. 2000. Herons in East and South-east Asia. pp 73-98, in (J. A. Kushlan and H. Hafner). *Heron Conservation*. Academic Press, Great Britain.
- McKilligan, N. 2001. Population dynamics of the Cattle Egret (*Ardea ibis*) in south-east Queensland: a 20-year study. *Emu* 101: 1-5.
- Tourenq, C., Bennetts, R.E., Sadoul, N., Mesleard, F., Kayser, Y. and H. Hafner. 2000. Long term population and colony patterns of four species of tree nesting herons in the Camargue, South France. *Colonial Waterbirds* 23: 236-245.
- Wong, L.C., R.T. Corlett, L. Young and J.S.Y. Lee. 1999. Foraging flights of nesting egrets and herons at a Hong Kong egretty, South China. *Waterbirds* 22: 424-434.
- Wong, L.C. and L. Young. 2006. Nest numbers of five ardeids in Hong Kong, South China, 1989 -2004: Does weather affect the trend? *Waterbirds* 29: 61-68.
- Young, L. and M.W. Cha. 1995. The history and status of egrettries in Hong Kong with notes on those in the Pearl River delta, Guangdong, China. *Hong Kong Bird Report* 1994: 196-215.



---

## Summer 2014 Report: Egretty Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site

### Figures



The Hong Kong Bird Watching Society



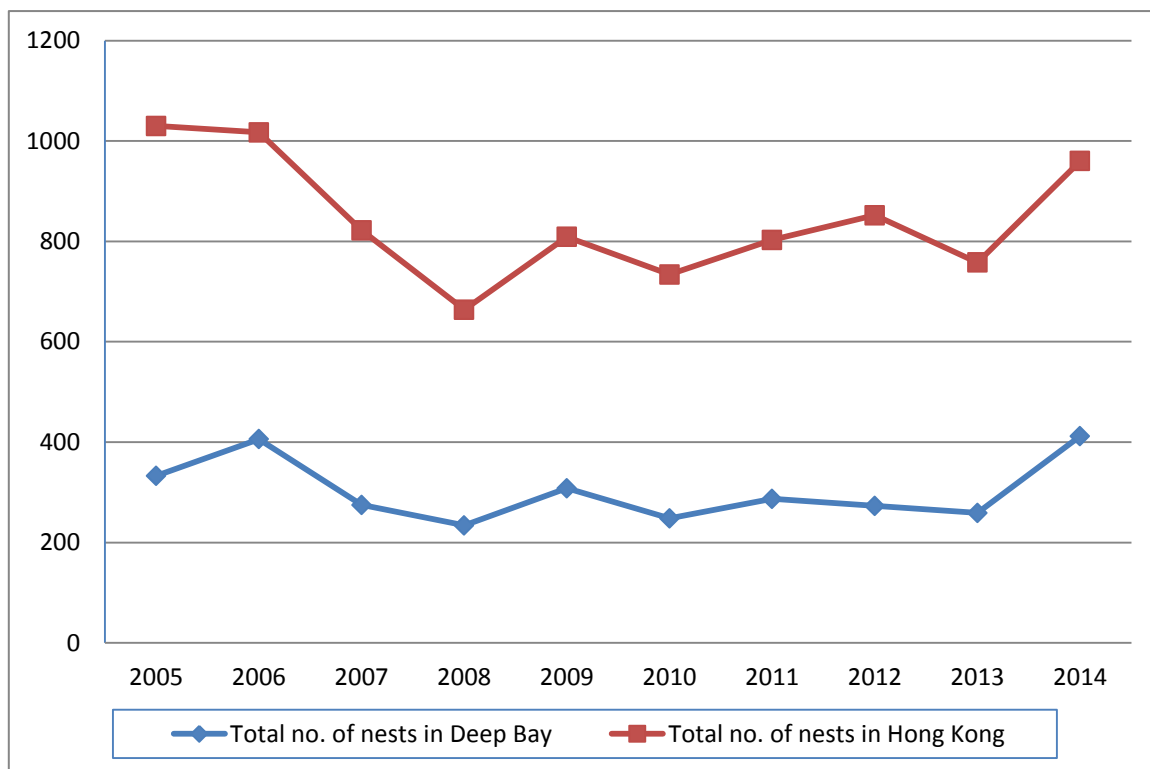
Agriculture, Fisheries and Conservation Department

**Figure 1. Location of colonies in Hong Kong in 2014 (The enclosed is the Deep Bay Area)**

- |    |                     |    |                          |    |                     |
|----|---------------------|----|--------------------------|----|---------------------|
| 1  | Mai Po Village      | 2  | Mai Po Lung Village      | 3  | Tung Shing Lane     |
| 4  | Pak Nai             | 5  | Pak Nai 2                | 6  | Shenzhen Bay Bridge |
| 7  | Ngau Hom Shek       | 8  | Sha Kiu Village          | 9  | San Sang Sun Tsuen  |
| 10 | Ho Sheung Heung     | 11 | Man Kam To Road          | 12 | Ping Che            |
| 13 | A Chau              | 14 | Tai Tong (Pak Sha Tsuen) | 15 | Ha Che              |
| 16 | Lam Tsuen 2         | 17 | Tai Po Market            | 18 | Tuen Mun            |
| 19 | Penfold Park        | 20 | Sha Chau                 | 21 | Ma Wan              |
| 22 | Little Green Island |    |                          |    |                     |



**Figure 2. Total number of ardeid nests in Hong Kong with reference to the number of nests in the Deep Bay area from 2005 to 2014.**



---

## **Summer 2014 Report: Egretty Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site**

### **Appendices**



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

## Appendix 1. Survey date(s) of nesting colonies and additional sites in 2014

Colony	Date
<b>Active colonies</b>	
1. Mai Po Village*	19 April, 18 May, 15 June, 6 July
2. Mai Po Lung Village*	19 April, 18 May, 15 June, 6 July
3. Tung Shing Lane*	18 April, 18 May, 6 June, 9 July
4. Pak Nai *	18 April, 18 May, 6 June, 9 July
5. Pak Nai 2*	18 April, 18 May, 6 June, 9 July
6. Shenzhen Bay Bridge*	18 April, 18 May, 6 June, 9 July
7. Ngau Hom Shek*	18 April, 18 May, 6 June, 9 July
8. Sha Kiu Village*	18 April, 18 May, 6 June, 9 July
9. San Sang Sun Tsuen*	18 April, 18 May, 6 June, 9 July
10. Ho Sheung Heung	19 April, 18 May, 15 June, 6 July
11. Man Kam To Road	19 April, 18 May, 15 June, 6 July
12. Ping Che	21 April, 24 May, 21 June, 12 July
13. A Chau	19 April, 17 & 24 May, 21 June, 12 July
14. Tai Tong (Pak Sha Tsuen)	19 April, 18 May, 15 June, 6 July
15. Ha Che	21 April, 24 May, 21 June, 12 July
16. Lam Tsuen 2	21 April, 24 May, 21 June, 12 July
17. Tai Po Market	21 April, 24 May, 21 June, 12 July
18. Tuen Mun	25 April, 18 May, 8 June, 6 July
19. Penfold Park	27 April, 24 May, 21 June, 12 July
20. Sha Chau	25 April, 31 May, 14 June, 5 July
21. Ma Wan	10 May, 2 June, 5 July
22. Little Green Island	23 April, 22 May, 19 June, 17 July
<b>Additional sites</b>	
23. Tam Kon Chau*	19 April
24. Shuen Wan	24 May
25. Ho Sheung Heung 2	19 April, 18 May, 15 June, 6 July
26. Yeung Chau	21 April, 24 May, 21 June, 12 July
27. Lam Tsuen	21 April
28. Ngau Hom Sha*	18 April, 18 May, 6 June, 9 July
29. Tai Tong	19 April, 18 May, 15 June, 6 July
30. Tai Shue Wan (Ocean Park)	21 May

\* within the Deep Bay area

## Appendix 2. Number of nests recorded in each count of the 22 colonies in 2014

### Appendix 2.1. Mai Po Village

	19 April	18 May	15 June	6 July	Max
Little Egret	62	<b>80</b>	38	38	<b>80</b>
Chinese Pond Heron	79	<b>122</b>	80	89	<b>122</b>
Total	141	202	118	127	<b>202</b>

### Appendix 2.2. Mai Po Lung Village

	19 April	18 May	15 June	6 July	Max
Little Egret	0	0	0	<b>3</b>	<b>3</b>
Chinese Pond Heron	10	20	29	<b>33</b>	<b>33</b>
Total	10	20	29	36	<b>36</b>

### Appendix 2.3. Tung Shing Lane

	18 April	18 May	6 June	9 July	Max
Little Egret	23	<b>36</b>	25	17	<b>36</b>
Chinese Pond Heron	19	40	<b>46</b>	27	<b>46</b>
Total	42	76	71	44	<b>82</b>

### Appendix 2.4. Pak Nai

	18 April	18 May	6 June	9 July	Max
Little Egret	<b>1</b>	<b>1</b>	<b>1</b>	0	<b>1</b>
Total	1	1	1	0	<b>1</b>

### Appendix 2.5. Pak Nai 2

	18 April	18 May	6 June	9 July	Max
Great Egret	0	1	0	0	<b>1</b>
Little Egret	<b>13</b>	<b>13</b>	8	3	<b>13</b>
Chinese Pond Heron	0	0	1	<b>2</b>	<b>2</b>
Total	13	14	9	5	<b>16</b>

### Appendix 2.6. Shenzhen Bay Bridge

	18 April	18 May	6 June	9 July	Max
Little Egret	<b>10</b>	7	5	6	<b>10</b>
Chinese Pond Heron	0	5	<b>9</b>	5	<b>9</b>
Total	10	12	14	11	<b>19</b>

### Appendix 2.7. Ngau Hom Shek

	18 April	18 May	6 June	9 July	Max
Little Egret	1	<b>2</b>	1	1	<b>2</b>
Chinese Pond Heron	1	<b>2</b>	1	<b>2</b>	<b>2</b>
Total	2	4	2	3	<b>4</b>

Appendix 2.8. Sha Kiu Village

	18 April	18 May	6 June	9 July	Max
Little Egret	14	24	<b>41</b>	23	<b>41</b>
Chinese Pond Heron	7	8	3	<b>11</b>	<b>11</b>
Total	21	32	44	34	<b>52</b>

Appendix 2.9. San Sang Sun Tsuen

	18 April	18 May	6 June	9 July	Max
Little Egret	0	3	<b>4</b>	3	<b>4</b>
Chinese Pond Heron	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Total	2	5	6	5	<b>6</b>

Appendix 2.10. Ho Sheung Heung

	19 April	18 May	15 June	6 July	Max
Little Egret	<b>36</b>	31	21	7	<b>36</b>
Eastern Cattle Egret	13	<b>16</b>	5	6	<b>16</b>
Chinese Pond Heron	4	15	<b>18</b>	4	<b>18</b>
Total	53	62	44	17	<b>70</b>

Appendix 2.11. Man Kam To Road

	19 April	18 May	15 June	6 July	Max
Little Egret	3	1	<b>5</b>	4	<b>5</b>
Chinese Pond Heron	7	24	<b>27</b>	25	<b>27</b>
Total	10	25	32	29	<b>32</b>

Appendix 2.12. Ping Che

	21 April	24 May	21 June	12 July	Max
Chinese Pond Heron	5	<b>10</b>	7	1	<b>10</b>
Total	5	10	7	1	<b>10</b>

Appendix 2.13. A Chau

	19 April	17 & 24 May	21 June	12 July	Max
Great Egret	52	<b>53</b>	33	20	<b>53</b>
Little Egret	0	1	<b>6</b>	2	<b>6</b>
Black-crowned Night Heron	0	<b>10</b>	<b>10</b>	5	<b>10</b>
Total	52	64	49	27	<b>69</b>

Appendix 2.14. Tai Tong (Pak Sha Tsuen)

	19 April	18 May	15 June	6 July	Max
Little Egret	3	2	2	3	3
Eastern Cattle Egret	0	0	2	1	2
Chinese Pond Heron	2	7	12	7	12
Total	5	9	16	11	17

Appendix 2.15. Ha Che

	21 April	24 May	21 June	12 July	Max
Little Egret	4	1	4	0	4
Chinese Pond Heron	18	31	22	20	31
Total	22	32	26	20	35

Appendix 2.16. Lam Tsuen 2

	21 April	24 May	21 June	12 July	Max
Chinese Pond Heron	10	18	12	8	18
Total	10	18	12	8	18

Appendix 2.17. Tai Po Market

	21 April	24 May	21 June	12 July	Max
Great Egret	29	42	31	10	42
Little Egret	31	32	23	21	32
Black-crowned Night Heron	21	47	50	28	50
Chinese Pond Heron	0	1	1	0	1
Total	81	122	105	59	125

Appendix 2.18. Tuen Mun

	18 April	18 May	6 June	9 July	Max
Little Egret	13	18	13	6	18
Total	13	18	13	6	18

Appendix 2.19. Penfold Park

	27 April	24 May	21 June	12 July	Max
Great Egret	10	12	13	4	13
Little Egret	4	15	10	9	15
Black-crowned Night Heron	8	17	11	7	17
Chinese Pond Heron	0	2	2	2	2
Total	22	46	36	22	47



Appendix 2.20. Sha Chau

	25 April	31 May	14 June	5 July	Max
Great Egret	0	<b>2</b>	1	0	<b>2</b>
Little Egret	21	<b>35</b>	10	4	<b>35</b>
Black-crowned Night Heron	<b>15</b>	10	4	2	<b>15</b>
Total	36	47	15	6	<b>52</b>

Appendix 2.21. Ma Wan

	10 May	2 June	5 July	Max
Little Egret	<b>5</b>	<b>5</b>	3	<b>5</b>
Black-crowned Night Heron	<b>20</b>	10	0	<b>20</b>
Total	25	15	3	<b>25</b>

Appendix 2.22. Little Green Island

	23 April	22 May	19 June	17 July	Max
Great Egret	<b>2</b>	<b>2</b>	0	0	<b>2</b>
Little Egret	9	<b>12</b>	8	3	<b>12</b>
Black-crowned Night Heron	4	<b>10</b>	5	0	<b>10</b>
Total	15	24	13	3	<b>24</b>