

Contract Ref.: AFCD/SQ/43/15/C

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme
2015 - 16**

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

Summer 2015 Report



Submitted by
The Hong Kong Bird Watching Society

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

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TABLE OF CONTENTS

REPORT

| | |
|--|----|
| Summary..... | 4 |
| 1. Introduction | 4 |
| 2. Methods | 4 |
| 3. Results and Discussion..... | 5 |
| 3.1 Breeding population in the 2015 breeding season..... | 5 |
| 3.2 Colonies in the Deep Bay area..... | 7 |
| 3.3 Comparison of the number of nests with that of the previous year | 9 |
| 3.4 Nesting substrates | 10 |
| 3.5 Training workshop for ardeid nesting colony monitoring | 11 |
| 4. Conclusion..... | 11 |
| 5. Acknowledgements | 12 |
| 6. References..... | 12 |

TABLES

| | | |
|----------|--|----|
| Table 1. | Number of nests at surveyed colonies in Hong Kong in 2015..... | 6 |
| Table 2. | Relative importance of the Deep Bay colonies compared to the other colonies in Hong Kong in 2015 | 8 |
| Table 3. | Number of nests recorded in the Deep Bay from 2006 to 2015..... | 8 |
| Table 4. | Comparison of the number of nests in 2015 with that in 2014..... | 9 |
| Table 5. | Comparison of the number of nests of individual colonies in 2014 and 2015..... | 9 |
| Table 6. | Plant species utilized by ardeids as nesting substrates in 2015 | 10 |

FIGURES

| | | |
|-----------|---|----|
| Figure 1. | Location of colonies in Hong Kong in 2015..... | 14 |
| Figure 2. | Ten-year summary of the total number of ardeid nests in Hong Kong with reference to the number of nests in the Deep Bay area from 2006 to 2015..... | 15 |

APPENDICES

| | | |
|-------------|---|----|
| Appendix 1. | Survey date(s) of nesting colonies and abandoned sites in 2015..... | 17 |
| Appendix 2. | Survey dates and number of nests recorded in each count of the 23 colonies in 2015..... | 19 |

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

SUMMER 2015 REPORT

Summary

In the 2015 breeding season (April to July), a total of 802 nests of five ardeid species, i.e. the Great Egret (*Ardea alba*), Little Egret (*Egretta garzetta*), Black-crowned Night Heron (*Nycticorax nycticorax*), Chinese Pond Heron (*Ardeola bacchus*) and Eastern Cattle Egret (*Bubulcus coromandus*), were recorded in 10 egrettries (hereinafter referred to as 'colonies') in the Deep Bay area. The number of nests in this area accounted for 56.6% of the total number of nests in Hong Kong. The Chinese Pond Heron was the dominant species in the Deep Bay area, accounting for 36.8% of the total number of nests in this area. A total of 1,418 nests of five species in 23 colonies were recorded in Hong Kong in 2015. The Little Egret (32.3%) was the dominant species in Hong Kong, while the Eastern Cattle Egret (3.8%) was the least abundant one. Compared with the 2014 records (418 nests in the Deep Bay area and 960 nests in Hong Kong), there was a 91.9% and 47.7% increase in the number of nests recorded in the Deep Bay area and Hong Kong, respectively. Two new colonies were found in the Deep Bay area (Mai Po Marshes Nature Reserve and Tsim Bei Tsui), while the Pak Nai colony was abandoned.

1 INTRODUCTION

Following the establishment of the Mai Po Inner Deep Bay Ramsar Site, a long-term waterbird monitoring programme has been carried out since 1998, which is coordinated by the Hong Kong Bird Watching Society (HKBWS), with support from the Agriculture, Fisheries and Conservation Department (AFCD) of the Hong Kong SAR Government. Under the Waterbird Monitoring Programme, egrettry 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. The present report focuses on the results of the egrettry count between April and July, 2015. A review of the nesting ardeids in Hong Kong between the 1950s and 1990s can be viewed in Young and Cha (1995), while the trends and their relationship with weather can be viewed in Wong and Young (2006).

2 METHODS

Active and abandoned colonies identified in the past three years (2012 - 2014) were surveyed once a month between April and July 2015 (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 or raising young. Active nests, determined by the presence of incubating adults or chicks, were counted directly from vantage points along the edge of the colony with the use of 10x binoculars or by the naked eye, depending on the proximity of the surveyor to the colony. In cases where the nests were hidden in vegetation which made the counting difficult, their numbers were

estimated. In this connection, landing locations were marked on a sketch and repeated landings around the same location were considered as 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 egret count. In addition to the number of nests, the nesting substratum was examined in most of the colonies that were accessible. The nomenclature for egrets and herons follows the annotated checklist of birds of Hong Kong (HKBWS, 2015).

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 could avoid having to define too many small nesting sites in the same area.

3. RESULTS and DISCUSSION

3.1 Breeding population in the 2015 breeding season

A total of 1418 nests were recorded in 23 colonies in Hong Kong (Table 1, Figure 1, Appendix 2). Highlights of the present breeding season are as follows:

- The colony in Mai Po Village was the largest in Hong Kong, with 236 nests, about 16.6% of the total number of nests in Hong Kong.
- New colonies were discovered in the Mai Po Marshes Nature Reserve and Tsim Bei Tsui. Both were sighted in mangroves.
- The Tsim Bei Tsui colony is the only one in which nests of all five ardeid species were present.
- In Deep Bay, the Black-crowned Night Heron and Eastern Cattle Egret were recorded breeding again for the first time since the last breeding records in 2002 and 2009, respectively.
- The Pak Nai colony was found abandoned in this year.
- The boundary of Tai Po Market Colony shifted westward and extended to two trees adjacent to Kwong Fuk Road. No other significant change in boundaries was noted in the other colonies.
- Surveyors visited abandoned colonies in Tam Kon Chau, Ngau Hom Sha, Tai Tong, Shuen Wan, Ho Sheung Heung 2, Yeung Chau, Lam Tsuen and Tai Shue Wan (Ocean Park) but found no breeding activities.
- The Tai Po Market colony was disturbed by photographers seen taking photos along a maintenance access to a slope inside the colony between April and June. No adults were observed returning to the nests when

photographers were present. Some affected areas were abandoned in May, but the rest of the area was still used by breeding ardeids. The AFCD stepped up patrols and installed signs reminding the public not to disturb breeding birds. The Highways Department will block the maintenance access to the colony after the breeding season in 2015 to prevent public access to the maintenance slope.

The largest colony in Hong Kong was the Mai Po Village colony (236 nests, 16.6% of the total nests recorded in Hong Kong), which supported the highest number of nests of Chinese Pond Herons (131 nests, 32.0% of the total number of nests of this species) and Little Egrets (104 nests, 22.7% of the total number of Little Egret nests) in Hong Kong. The second largest colony was the Mai Po Marshes Nature Reserve colony (204 nests, 14.4% of the total number of nests in Hong Kong), which supported the highest number of nests of Great Egrets (123 nests, 43.5% of the total number of Great Egret nests). The third largest colony was the Tai Po Market colony (152 nests, 10.7% of the total number of nests in Hong Kong), which supported the highest number of nests of Black-crowned Night Herons (64 nests, 29.9% of the total number of nests of this species). The lowest number of nests was recorded in the San Sang San Tsuen colony (4 nests, 0.3% of the total number of nests in Hong Kong). The Ho Sheung Heung colony supported the highest number of nests of Eastern Cattle Egrets (30 nests, 55.6% of the total number of nests of this species).

Table 1. Number of nests in surveyed colonies in Hong Kong in 2015.

| | Great Egret (<i>Egretta alba</i>) | Little Egret (<i>Egretta garzetta</i>) | Black-crowned Night Heron (<i>Nycticorax nycticorax</i>) | Chinese Pond Heron (<i>Ardeola bacchus</i>) | Eastern Cattle Egret (<i>Bubulcus coromandus</i>) | Total | % | Rank |
|----------------------------------|--|---|---|--|--|-------|------|------|
| Deep Bay area | | | | | | | | |
| Mai Po Village | | 104 | | 131 | 1 | 236 | 16.6 | 1 |
| Mai Po Marshes Nature Reserve | 123 | 10 | 62 | | 9 | 204 | 14.4 | 2 |
| Mai Po Lung Village | | 5 | | 68 | | 73 | 5.1 | 7 |
| Tung Shing Lane | | 30 | | 47 | | 77 | 5.4 | 5 |
| Ngau Hom Shek | | 2 | | 6 | | 8 | 0.6 | 20 |
| Tsim Bei Tsui | 40 | 4 | 10 | 1 | 2 | 57 | 4.0 | 10 |
| Pak Nai 2 | | 5 | | 2 | | 7 | 0.5 | 21 |
| Shenzhen Bay Bridge | | 22 | | 8 | | 30 | 2.1 | 15 |
| Sha Kiu Village | | 75 | | 31 | | 106 | 7.5 | 4 |
| San Sang San Tsuen | | 3 | | 1 | | 4 | 0.3 | 23 |
| Elsewhere in the New Territories | | | | | | | | |

| | Great Egret (<i>Egretta alba</i>) | Little Egret (<i>Egretta garzetta</i>) | Black-crowned Night Heron (<i>Nycticorax nycticorax</i>) | Chinese Pond Heron (<i>Ardeola bacchus</i>) | Eastern Cattle Egret (<i>Bubulcus coromandus</i>) | Total | % | Rank |
|--------------------------|--|---|---|--|--|--------------|--------------|------|
| Ho Sheung Heung | | 28 | | 16 | 30 | 74 | 5.2 | 6 |
| Man Kam To Road | | 6 | | 25 | | 31 | 2.2 | 14 |
| Ping Che | | | | 6 | | 6 | 0.4 | 22 |
| A Chau* | 52 | 4 | 10 | | | 66 | 4.7 | 8 |
| Tai Tong (Pak Sha Tsuen) | | 7 | | 16 | 11 | 34 | 2.4 | 13 |
| Ha Che | | | | 24 | | 24 | 1.7 | 17 |
| Lam Tsuen 2 | | | | 24 | | 24 | 1.7 | 17 |
| Tai Po Market | 35 | 52 | 64 | | 1 | 152 | 10.7 | 3 |
| Tuen Mun | | 21 | | | | 21 | 1.5 | 19 |
| Penfold Park | 24 | 20 | 17 | 3 | | 64 | 4.5 | 9 |
| Sha Chau* | 4 | 18 | 20 | | | 42 | 3.0 | 12 |
| Ma Wan* | 1 | 26 | 21 | | | 48 | 3.4 | 11 |
| Hong Kong Island | | | | | | | | |
| Little Green Island* | 4 | 16 | 10 | | | 30 | 2.1 | 16 |
| Total | 283 | 458 | 214 | 409 | 54 | 1418 | 100.0 | |
| % | 20.0 | 32.3 | 15.1 | 28.8 | 3.8 | 100.0 | | |

Note: * Some nests on A Chau, Sha Chau, Ma Wan and Little Green Island were located in dense vegetation and might have been overlooked, so the number of nests might have been underestimated.

Of the overall numbers of nests recorded, Little Egret and Chinese Pond Heron were the two most abundant (Little Egret: 458 nests, 32.3% of the total number of nests; Chinese Pond Heron: 409 nests, 28.8% of the total number of nests) and widespread species (Little Egret: 20 out of 23 colonies; Chinese Pond Heron: 16 out of 23 colonies). The Eastern Cattle Egret was the least abundant species (54 nests, 3.8%).

3.2 Colonies in the Deep Bay area

A total of 802 nests of the five ardeid species were recorded in 10 colonies in the Deep Bay area in the 2015 breeding season (Table 2), the highest number since the monitoring began in 1998. The number of nests in the Deep Bay area comprised 56.6% of the total number of nests in Hong Kong. The colonies in Deep Bay also supported more than half the breeding Great Egrets, Little Egrets and Chinese Pond Herons, in terms of the number of nests. The Chinese Pond Heron was the dominant species, with 36.8% of the total number of nests in the Deep Bay area.

Table 2. Relative importance of the Deep Bay colonies compared to the other colonies in Hong Kong in 2015. (The colonies in the Deep Bay area include Mai Po Village, the Mai Po Marshes Nature Reserve, Mai Po Lung Village, Tsim Bei Tsui, Tung Shing Lane, Ngau Hom Shek, Pak Nai 2, Shenzhen Bay Bridge, Sha Kiu Village, and San Sang San Tsuen)

| Species | No. of nests in Deep Bay | No. of nests in Hong Kong | Deep Bay nests as a % of all nests in Hong Kong |
|---------------------------|--------------------------|---------------------------|---|
| Great Egret | 163 | 283 | 57.6% |
| Little Egret | 260 | 458 | 56.8% |
| Black-crowned Night Heron | 72 | 214 | 33.6% |
| Chinese Pond Heron | 295 | 409 | 72.1% |
| Eastern Cattle Egret | 12 | 54 | 22.2% |
| Total | 802 | 1418 | 56.6% |

A summary of the number of nests of the five ardeid species recorded in the Deep Bay area in the last decade (i.e. from 2006 to 2015) is shown in Table 3 (Anon 2014). The number of nests of Little Egrets and Chinese Pond Herons recorded this year was the highest in the past decade. The Great Egrets bred in 2006 and 2014, while the Eastern Cattle Egrets bred between 2006 and 2009. Both species increased sharply in 2015. Black-crowned Night Herons had not been recorded breeding in the Deep Bay area for more than a decade since 2002, when nine nests were recorded in the Mai Po Village colony, but they were recorded breeding again this year in the two new colonies in the Mai Po Marshes Nature Reserve and Tsim Bei Tsui.

Table 3. Number of nests recorded in the Deep Bay area from 2006 to 2015.

| | Great Egret | Little Egret | Black-crowned Night Heron | Chinese Pond Heron | Eastern Cattle Egret | Total no. of nests in Deep Bay |
|------|-------------|--------------|---------------------------|--------------------|----------------------|--------------------------------|
| 2006 | 3 | 165 | | 235 | 3 | 406 |
| 2007 | | 119 | | 152 | 4 | 275 |
| 2008 | | 96 | | 137 | 1 | 234 |
| 2009 | | 95 | | 212 | 1 | 308 |
| 2010 | | 85 | | 163 | | 248 |
| 2011 | | 133 | | 154 | | 287 |
| 2012 | | 97 | | 176 | | 273 |
| 2013 | | 91 | | 168 | | 259 |
| 2014 | 1 | 190 | | 227 | | 418 |
| 2015 | 163 | 260 | 72 | 295 | 12 | 802 |

3.3 Comparison of the number of nests with that of the previous year

There was an increase in the number of nests of all five ardeid species recorded in 2015 compared to that of 2014 (Table 4), including twice as many Great Egret nests and three times as many Cattle Egret nests. There was also a sharp increase (47.7%) in the total number of nests recorded in 2015 compared to that of the previous year. This was primarily due to the establishment of two new colonies in the Deep Bay Area (Mai Po Marshes Nature Reserve and Tsim Bei Tsui), where a total of 261 nests were recorded. The establishment of these two new colonies may have been associated with food availability and disturbances in their original locations.

Table 4. Comparison of the number of nests in 2015 with that in 2014.

| | 2015 | 2014 | Percentage change (%) |
|---------------------------|------|------|-----------------------|
| Great Egret | 283 | 113 | +150.4% |
| Little Egret | 458 | 361 | +26.9% |
| Black-crowned Night Heron | 214 | 122 | +75.4% |
| Chinese Pond Heron | 409 | 346 | +18.2% |
| Eastern Cattle Egret | 54 | 18 | +200.0% |
| Sub-total in Deep Bay | 802 | 418 | +91.9% |
| Total in Hong Kong | 1418 | 960 | +47.7% |

Regarding individual colonies, there were 12 colonies with more nests recorded in 2015 than in 2014 (Mai Po Village, Mai Po Lung Village, Shenzhen Bay Bridge, Sha Kiu Tsuen, Ho Sheung Heung, Tai Tong (Pak Sha Tsuen), Lam Tsuen 2, Tai Po Market, Tuen Mun, Penfold Park, Ma Wan and Little Green Island), while there were eight colonies with fewer nests recorded in 2015 than in 2014 (Tung Shing Lane, Pak Nai 2, San Sang San Tsuen, Man Kam To, Ping Che, A Chau, Ha Che and Sha Chau). The details are listed in Table 5.

Table 5. Comparison of the number of nests of individual colonies in 2014 and 2015 (The Mai Po Marshes Nature Reserve and Tsim Bei Tsui colonies were first recorded in 2015).

| | 2014 | 2015 | | 2014 | 2015 |
|---------------------|------|------|--------------------------|------|------|
| Mai Po Village | 202 | 236 | Man Kam To Road | 32 | 31 |
| Mai Po Marshes NR | - | 204 | Ping Che | 10 | 6 |
| Mai Po Lung Village | 36 | 73 | A Chau | 69 | 66 |
| Tung Shing Lane | 82 | 77 | Tai Tong (Pak Sha Tsuen) | 17 | 34 |
| Ngau Hom Shek | 4 | 8 | Ha Che | 35 | 24 |
| Tsim Bei Tsui | - | 57 | Lam Tsuen 2 | 18 | 24 |
| Pak Nai | 1 | - | Tai Po Market | 125 | 152 |

| | | | | | |
|---------------------|----|-----|---------------------|----|----|
| Pak Nai 2 | 16 | 7 | Tuen Mun | 18 | 21 |
| Shenzhen Bay Bridge | 19 | 30 | Penfold Park | 47 | 64 |
| Sha Kiu Village | 52 | 106 | Little Green Island | 24 | 30 |
| San Sang Sun Tsuen | 6 | 4 | Sha Chau | 52 | 42 |
| Ho Sheung Heung | 70 | 74 | Ma Wan | 25 | 48 |

3.4 Nesting substrates

Bamboo was the main nesting substrate for egrets and herons nesting in the north and northwest New Territories. It was used in 13 out of the 23 colonies (Table 5). The mangrove species *Kandelia obovata* was the main nesting substrate for the two new colonies in Deep Bay (Mai Po Marshes Nature Reserve and Tsim Bei Tsui). The birds in the Penfold Park colony built their nests in Banyan trees (*Ficus microcarpa*). The exotic tree *Acacia auriculiformis* was used as nesting substrate by the ardeids in the Tuen Mun colony. Most of the nests in Mai Po Village were built in Chinese Hackberry (*Celtis sinensis*) and Banyan trees (*Ficus microcarpa*). The majority of the nests in the A Chau colony were built in Cuban Bast (*Hibiscus tiliaceus*) and mangroves (*Kandelia obovata*).

Table 6. Plant species utilized by ardeids as nesting substrates in 2015

| Site | Site | Bamboo | Tree species | Remarks |
|------|-------------------------------|--------|--|---------|
| 1 | Mai Po Village | + | <i>Albizia lebbek</i> <i>Aleurites moluccana</i> <i>Celtis sinensis</i> <i>Ficus microcarpa</i> <i>Melia azedarach</i> | |
| 2 | Mai Po Marshes Nature Reserve | | <i>Kandelia obovata</i> | |
| 3 | Tsim Bei Tsui | | <i>Kandelia obovata</i> | |
| 4 | Mai Po Lung Village | + | <i>Ficus microcarpa</i> <i>Litchi chinensis</i> <i>Dimocarpus longan</i> | |
| 5 | Tung Shing Lane | + | <i>Litchi chinensis</i> <i>Dimocarpus longan</i> <i>Celtis sinensis</i> | |
| 6 | Pak Nai 2 | + | | |
| 7 | Shenzhen Bay Bridge | + | | |
| 8 | Ngau Hom Shek | + | | |
| 9 | Sha Kiu Village | + | <i>Celtis sinensis</i> | |
| 10 | San Sang San Tsuen | + | | |

| | | | | |
|----|--------------------------|---|--|-------------------------|
| 11 | Ho Sheung Heung | + | | |
| 12 | Man Kam To Road | + | <i>Celtis sinensis</i> <i>Callistemon viminalis</i> <i>Ficus microcarpa</i> <i>Senna siamea</i> | |
| 13 | Ping Che | + | | |
| 14 | A Chau | | <i>Hibiscus tiliaceus</i> <i>Kandelia obovata</i> | |
| 15 | Tai Tong (Pak Sha Tsuen) | + | | |
| 16 | Ha Che | | <i>Celtis sinensis</i> <i>Ficus microcarpa</i> | |
| 17 | Lam Tsuen 2 | + | | |
| 18 | Tai Po Market | | <i>Ficus variegata</i> <i>Macaranga tanarius</i> , <i>Celtis siensis</i> | |
| 19 | Tuen Mun | | <i>Acacia auriculiformis</i> | |
| 20 | Penfold Park | | <i>Ficus microcarpa</i> | |
| 21 | Sha Chau | | | No observation was made |
| 22 | Ma Wan | | | No observation was made |
| 23 | Little Green Island | | | No observation was made |

3.5 Training workshop for ardeid nesting colony monitoring

A training workshop was conducted during the breeding season on 26 April 2015. A total of 22 participants joined the workshop and practical sessions on counting nests in the Tung Shing Lane and Mai Po Village colonies.

4. CONCLUSION

In 2015, a total of 1,418 nests of the five ardeid species in 23 colonies were recorded in Hong Kong, including 802 nests of five species in 10 colonies in the Deep Bay area. Compared with the results in 2014, there was a 91.9% increase in the number of nests in the Deep Bay area and a 47.7% increase in Hong Kong overall. Two new colonies in the Mai Po Marshes Nature Reserve and Tsim Bei Tsui were established, while the colony at Pak Nai was

abandoned. The increase in the number of nests in 2015 was mainly due to the two new colonies in the Deep Bay area.

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Summer 2015 Report: Egretty Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site

Figures



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Agriculture, Fisheries and Conservation Department

Figure 1. Location of colonies in Hong Kong in 2015.
 (The area enclosed with solid lines is the Deep Bay Area)

- | | | |
|---------------------------------|------------------------|--------------------------------|
| 1 Mai Po Village | 2 Mai Po Marshes | 3 Mai Po Lung Village |
| 4 Tung Shing Lane | 5 Ngau Hom Shek | 6 Tsim Bei Tsui |
| 7 Pak Nai 2 (Tin Hau Temple) | 8 Shenzhen Bay Bridge | 9 Sha Kiu Village |
| 10 San Sang San Tsuen | 11 Ho Sheung Heung | 12 Man Kam To Road |
| 13 Ping Che | 14 A Chau | 15 Tai Tong (Pak Sha Tsuen) |
| 16 Ha Che | 17 Lam Tsuen 2 | 18 Tai Po Market |
| 19 Tuen Mun | 20 Penfold Park | 21 Sha Chau |
| 22 Ma Wan | 23 Little Green Island | |

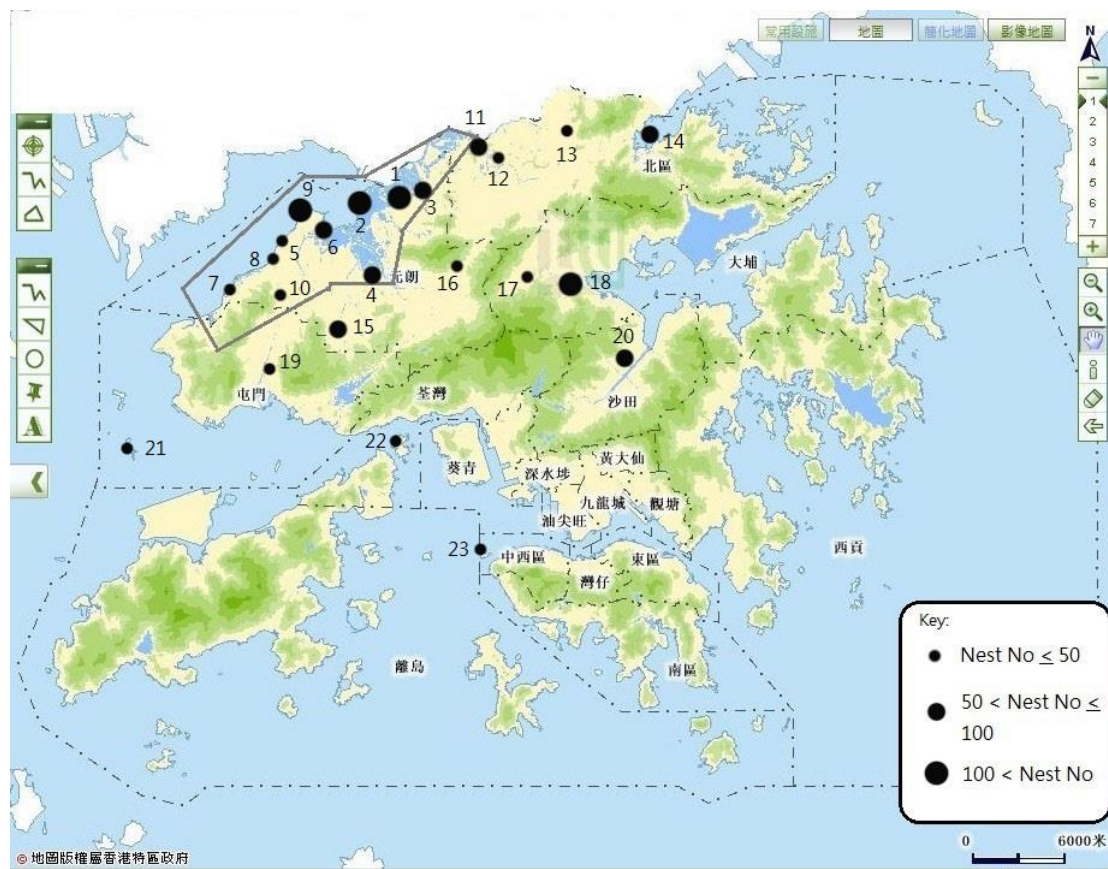
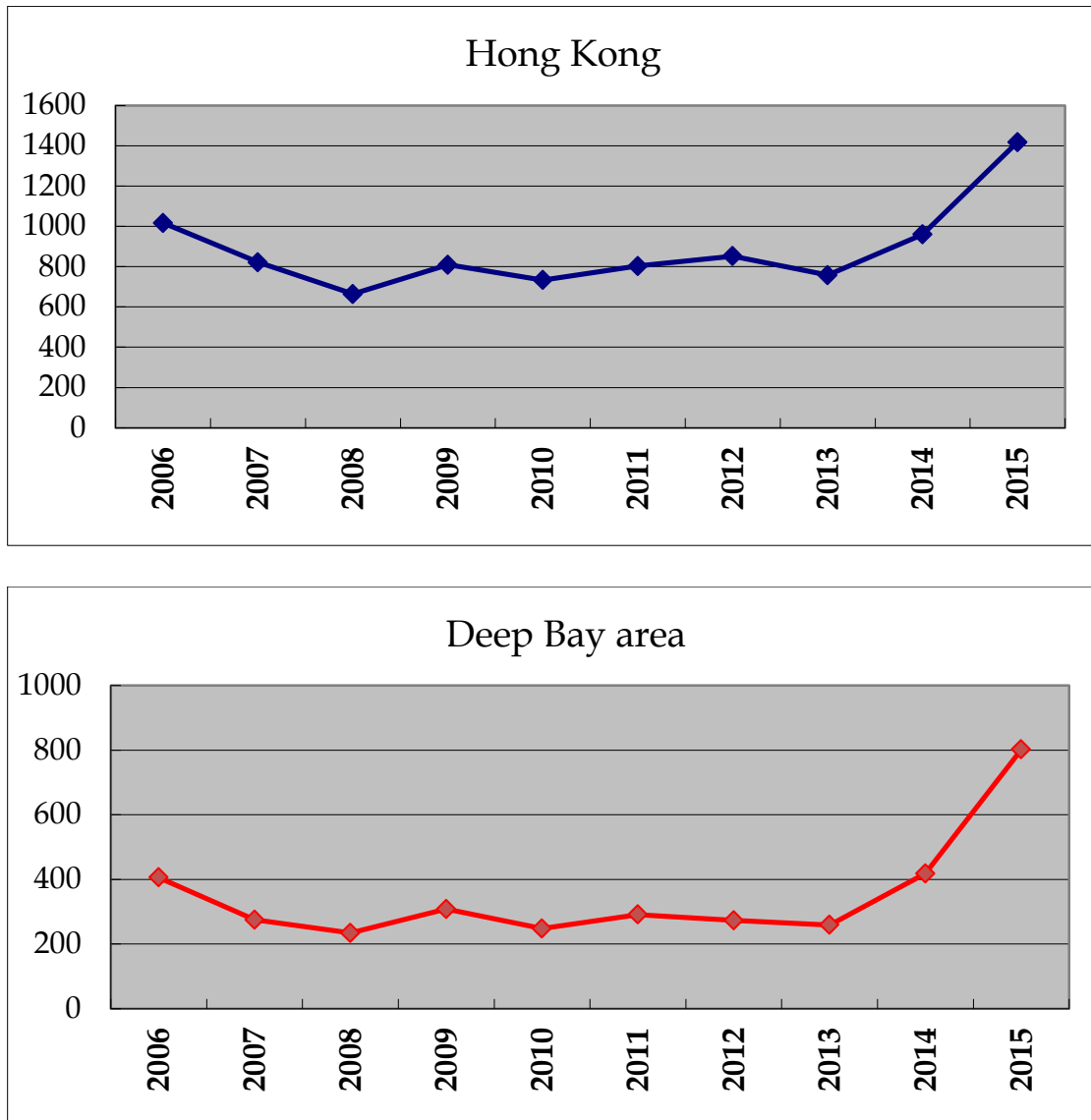


Figure 2. Ten-year summary of the total number of ardeid nests in Hong Kong with reference to the number of nests in the Deep Bay area from 2006 to 2015.



Summer 2015 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



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Appendix 1. Survey date(s) of nesting colonies and abandoned sites in 2015.

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

- | | |
|-------------------------------|------------------------------------|
| 28. Lam Tsuen | 25 Apr |
| 29. Ngau Hom Sha* | 27 April, 24 May, 14 June, 12 July |
| 30. Tai Tong | 25 Apr |
| 31. Pak Nai * | 27 April, 24 May, 14 June, 12 July |
| 32. Tai Shue Wan (Ocean Park) | 8 May |
| 33. Tai O | 12 June |

* within the Deep Bay area

Appendix 2. Survey dates and number of nests recorded in each count of the 23 colonies in 2015.

Appendix 2.1. Mai Po Village

| | 25 April | 24 May | 20 June | 12 July | Max |
|--------------------|----------|------------|---------|---------|------------|
| Little Egret | 88 | 104 | 51 | 39 | 104 |
| Chinese Pond Heron | 108 | 131 | 103 | 28 | 131 |
| Cattle Egret | | 1 | | | 1 |
| Total | 196 | 236 | 154 | 67 | 236 |

Appendix 2.2. Mai Po Marshes Nature Reserve

| | 25 April | 24 May | 20 June | 12 July | Max |
|---------------------------|----------|------------|-----------|---------|------------|
| Great Egret | 71 | 123 | 97 | 48 | 123 |
| Little Egret | 6 | 5 | 10 | 8 | 10 |
| Black-crowned Night Heron | 43 | 62 | 39 | 24 | 62 |
| Eastern Cattle Egret | 4 | 9 | 6 | 3 | 9 |
| Total | 124 | 199 | 152 | 83 | 204 |

Appendix 2.3. Mai Po Lung Village

| | 25 April | 24 May | 20 June | 12 July | Max |
|--------------------|----------|-----------|----------|---------|-----------|
| Little Egret | 1 | 2 | 5 | 4 | 5 |
| Chinese Pond Heron | 33 | 68 | 37 | 28 | 68 |
| Total | 34 | 70 | 42 | 32 | 73 |

Appendix 2.4. Tung Shing Lane

| | 25 April | 24 May | 20 June | 12 July | Max |
|--------------------|----------|-----------|-----------|---------|-----------|
| Little Egret | 16 | 30 | 17 | 5 | 30 |
| Chinese Pond Heron | 30 | 42 | 47 | 27 | 47 |
| Total | 46 | 72 | 64 | 32 | 77 |

Appendix 2.5. Ngau Hom Shek

| | 27 April | 24 May | 14 June | 12 July | Max |
|--------------------|----------|----------|----------|---------|----------|
| Little Egret | 1 | | 2 | | 2 |
| Chinese Pond Heron | | 6 | 2 | 4 | 6 |
| Total | 1 | 6 | 4 | 4 | 8 |

Appendix 2.6. Tsim Bei Tsui

| | 24 May | 14 June | 12 July | Max |
|---------------------------|-----------|----------|----------|-----------|
| Great Egret | 40 | 22 | 16 | 40 |
| Little Egret | 3 | 4 | 3 | 4 |
| Black-crowned Night Heron | 10 | 6 | 5 | 10 |
| Chinese Pond Heron | | | 1 | 1 |
| Eastern Cattle Egret | | 2 | | 2 |
| Total | 53 | 34 | 25 | 57 |

Appendix 2.7. Pak Nai 2

| | 27 April | 24 May | 14 June | 12 July | Max |
|--------------------|----------|----------|---------|---------|----------|
| Little Egret | 5 | 5 | | | 5 |
| Chinese Pond Heron | 2 | 2 | | | 2 |
| Total | 7 | 7 | 0 | 0 | 7 |

Appendix 2.8. Shenzhen Bay Bridge

| | 27 April | 24 May | 14 June | 12 July | Max |
|--------------------|----------|-----------|---------|---------|-----------|
| Little Egret | 20 | 22 | 1 | 2 | 22 |
| Chinese Pond Heron | 7 | 8 | 2 | 2 | 8 |
| Total | 27 | 30 | 3 | 4 | 30 |

Appendix 2.9. Sha Kiu Village

| | 27 April | 24 May | 14 June | 12 July | Max |
|--------------------|----------|-----------|---------|---------|------------|
| Little Egret | 46 | 75 | 41 | 30 | 75 |
| Chinese Pond Heron | 24 | 31 | 16 | 20 | 31 |
| Total | 70 | 106 | 57 | 50 | 106 |

Appendix 2.10. San Sang San Tsuen

| | 27 April | 24 May | 14 June | 12 July | Max |
|--------------------|----------|----------|----------|----------|----------|
| Little Egret | | 3 | 2 | 3 | 3 |
| Chinese Pond Heron | | 1 | 1 | 1 | 1 |
| Total | 0 | 4 | 3 | 4 | 4 |

Appendix 2.11. Ho Sheung Heung

| | 25 April | 24 May | 20 June | 12 July | Max |
|----------------------|----------|-----------|---------|---------|-----------|
| Little Egret | 19 | 28 | 15 | 7 | 28 |
| Chinese Pond Heron | | 16 | 3 | 2 | 16 |
| Eastern Cattle Egret | 12 | 30 | 19 | 6 | 30 |
| Total | 31 | 74 | 37 | 15 | 74 |

Appendix 2.12. Man Kam To Road

| | 25 April | 24 May | 20 June | 12 July | Max |
|--------------------|----------|--------|---------|---------|-----|
| Little Egret | 4 | 4 | 4 | 6 | 6 |
| Chinese Pond Heron | 22 | 25 | 23 | 9 | 25 |
| Total | 26 | 29 | 27 | 15 | 31 |

Appendix 2.13. Ping Che

| | 25 April | 30 May | 20 June | 4 July | Max |
|--------------------|----------|--------|---------|--------|-----|
| Chinese Pond Heron | 2 | 6 | 5 | 5 | 6 |
| Total | 2 | 6 | 5 | 5 | 6 |

Appendix 2.14. A Chau

| | 18 & 25 April | 17 & 24 May | 13 & 20 June | 4 July | Max |
|------------------------------|------------------|----------------|-----------------|--------|-----|
| Great Egret | 52 | 48 | 30 | 10 | 52 |
| Little Egret | | 1 | 4 | 2 | 4 |
| Black-crowned Night Heron | 1 | 10 | 10 | 4 | 10 |
| Total | 53 | 59 | 44 | 16 | 66 |

Appendix 2.15. Tai Tong (Pak Sha Tsuen)

| | 25 April | 24 May | 20 June | 12 July | Max |
|----------------------|----------|--------|---------|---------|-----|
| Little Egret | 7 | 2 | 3 | | 7 |
| Chinese Pond Heron | 8 | 16 | 14 | 4 | 16 |
| Eastern Cattle Egret | 4 | 11 | 7 | 4 | 11 |
| Total | 19 | 29 | 24 | 8 | 34 |

Appendix 2.16. Ha Che

| | 25 April | 30 May | 20 June | 4 July | Max |
|--------------------|----------|--------|---------|--------|-----|
| Chinese Pond Heron | 15 | 22 | 24 | 24 | 24 |
| Total | 15 | 22 | 24 | 24 | 24 |

Appendix 2.17. Lam Tsuen 2

| | 25 April | 30 May | 20 June | 4 July | Max |
|--------------------|----------|--------|---------|--------|-----|
| Chinese Pond Heron | 14 | 24 | 15 | 14 | 24 |
| Total | 14 | 24 | 15 | 14 | 24 |

Appendix 2.18. Tai Po Market

| | 25 April | 30 May | 20 June | 4 July | Max |
|---------------------------|-----------|--------|-----------|----------|------------|
| Great Egret | 35 | 32 | 19 | 7 | 35 |
| Little Egret | 52 | 32 | 33 | 28 | 52 |
| Black-crowned Night Heron | 40 | 57 | 64 | 61 | 64 |
| Eastern Cattle Egret | | | | 1 | 1 |
| Total | 127 | 121 | 116 | 97 | 152 |

Appendix 2.19. Tuen Mun

| | 30 April | 29 May | 16 June | 18 July | Max |
|--------------|-----------|--------|---------|---------|-----------|
| Little Egret | 21 | 18 | 13 | 2 | 21 |
| Total | 21 | 18 | 13 | 2 | 21 |

Appendix 2.20. Penfold Park

| | 25 April | 30 May | 20 June | 4 July | Max |
|---------------------------|-----------|-----------|----------|--------|-----------|
| Great Egret | 24 | 13 | 13 | 12 | 24 |
| Little Egret | 20 | 20 | 13 | 5 | 20 |
| Black-crowned Night Heron | 14 | 17 | 15 | 4 | 17 |
| Chinese Pond Heron | | 2 | 3 | 1 | 3 |
| Total | 58 | 52 | 44 | 22 | 64 |

Appendix 2.21. Sha Chau

| | 20 April | 29 May | 6 June | 18 July | Max |
|---------------------------|-----------|--------|--------|---------|-----------|
| Great Egret | 4 | 1 | 3 | 2 | 4 |
| Little Egret | 18 | 11 | 1 | 16 | 18 |
| Black-crowned Night Heron | 20 | 1 | 11 | 5 | 20 |
| Total | 42 | 13 | 15 | 23 | 42 |

Appendix 2.22. Ma Wan

| | 25 April | 24 May | 21 June | 4 July | Max |
|---------------------------|----------|-----------|-----------|--------|-----------|
| Great Egret | 1 | | | | 1 |
| Little Egret | 17 | 26 | 10 | 6 | 26 |
| Black-crowned Night Heron | 10 | 10 | 21 | 4 | 21 |
| Total | 28 | 36 | 31 | 10 | 48 |

Appendix 2.23. Little Green Island

| | 30 April | 25 May | 22 June | 1 July | Max |
|------------------------------|-----------|-----------|-----------|-----------|------------|
| Great Egret | | 4 | 3 | 1 | 4 |
| Little Egret | 16 | 14 | 16 | 8 | 16 |
| Black-crowned Night Heron | 3 | 5 | 10 | 6 | 10 |
| Total | 19 | 23 | 29 | 15 | 30 |