Contract Ref.: AFCD/SQ/22/11

Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2011 - 12

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

Summer 2011 Report

Submitted by
The Hong Kong Bird Watching Society
Approved Charitable Institution of a Public Character

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

January 2012

Contract Ref.: AFCD/SQ/19/10
Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site
2011-12

Waterbird Count Coordinator
YU Yat Tung
The Hong Kong Bird Watching Society

Report Writing and Data Contributors
Josephine, Y. P. WONG, Captain L.C. WONG, Lousie, C. L. FUNG,
Luke, C.K. WOO and TAM Yip Shing
Egret Research Group,
The Hong Kong Bird Watching Society

Report is available for public information at
The Hong Kong Bird Watching Society
14/F., Ruby Commercial Building, 480 Nathan Road, Kowloon, Hong Kong
E-mail: hkbws@hkbws.org.hk Website: www.hkbws.org.hk

And

Agriculture, Fisheries and Conservation Department
Hong Kong SAR Government
7/F, Cheung Sha Wan Government Offices,
303 Cheung Sha Wan Road, Kowloon, Hong Kong
Website: www.afcd.gov.hk

This publication should be cited as
Anon, 2012. Summer 2011 Report: Egretry 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

Summer 2011 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site

Report

The Hong Kong Bird Watching Society

Agriculture, Fisheries and Conservation Department

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

SUMMER 2011 REPORT

Summary

In the 2011 breeding season (April to July), a total of 287 nests of two ardeid species (Little Egret (*Egretta garzetta*) and Chinese Pond Heron (*Ardeola bacchus*)) were recorded in seven egretries (hereafter 'colonies') in the Deep Bay area. The number of nests in the Deep Bay area accounted for 36% of the total number of nests in Hong Kong in 2011. The Chinese Pond Heron (*Ardeola bacchus*) was the dominant species in the Deep Bay area accounting for 67% of the total number of nests. The total number of nests in Hong Kong in 2011 was 799 with five species in 21 colonies. Three new colonies, including Sha Kiu Village, Sha Chau and Ocean Park were discovered. Little Egret (*Egretta garzetta*, 43%) was the dominant species in Hong Kong, while Cattle Egret (*Bubulcus ibis*, 4%) was the least abundant breeding ardeids. Comparing with the records in 2010 (248 nests in the Deep Bay area and 734 nests in Hong Kong), there was a 16% and a 9% increase in the number of nests in the Deep Bay area and Hong Kong as a whole, respectively. Such increase could be natural fluctuation.

1 INTRODUCTION

Breeding activity is an important aspect of population dynamics. Nesting populations of colonial waterbirds are recorded as part of the 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 only been conducted in Hong Kong and Vietnam (Lansdown *et al*. 2000). Reporting of the number of nesting pairs of ardeids in Hong Kong has started in as early as 1958 by The Hong Kong Bird Watching Society (HKBWS), but was suspended between 1975 and 1989 (Young and Cha 1995). A review of the trends of numbers of nests of five ardeid species between 1989 and 2004 in Hong Kong and the influence of weather on such trends was published in 2006 (Wong and Young 2006). With the establishment of the Mai Po Inner Deep Bay Ramsar Site, a long-term waterbird monitoring programme has been developed since 1998 which was coordinated by the HKBWS with support rendered by the Agriculture, Fisheries and Conservation Department (AFCD) of the Hong Kong SAR Government. At present, the egretry counts are conducted to record the population of nesting ardeids, in terms of the

number of nests in the Deep Bay area and other parts of Hong Kong, as a part of the waterbird monitoring programme.

2 METHODS

Active and abandoned colonies identified in the past two years (2009 and 2010) were surveyed once a month between April and July 2011 (Table 1, Figure 1, Appendix 1). Additional surveys were conducted at three colonies in August to confirm whether the sites were continually occupied as adult birds were observed incubating eggs in July. A nesting colony of egrets and herons is defined as an area in which more than one pair of these birds is recorded for building nests, laying eggs and raising young. Active nests, determined by the presence of incubating adults or chicks, are counted directly from vantage points or along the edge of a colony with 10x binoculars or naked-eye, depending on the proximity between the surveyor and the colony. Estimation of the number of nests will also be made if nests are hidden in vegetation. At the Little Green Island, A Chau, Sha Chau and Yeung Chau colonies, as most nests were hidden in vegetation, landing locations were marked on a sketch and repeated landings around the same location were also considered as one nest. As each colony was surveyed at least once a month, the highest count of the number of nests of each species was taken as the result of the egretry count. Apart from the number of nests, the nesting substratum in each colony was also identified.

In addition to the existing colonies, new nesting sites were also visited. These new nesting sites were located by personal observations, information from birdwatchers or the general public and by information provided by AFCD. A nesting site is considered as a new nesting colony if it is at least 500m away from an existing colony, because the lowest foraging range of a colony is usually about 500m (L. C. Wong unpublished data), therefore, combining breeding birds in locations within 500m could avoid defining too many small nesting sites in the same area.

3. RESULTS and DISCUSSION

3.1 Breeding population in the 2011 breeding season

A total of 803 nests were recorded at 21 colonies in Hong Kong (Table 1, Figure 1-22, Appendix 2). Highlights of the egretry count in 2011 are as follows:

- The colony at Mai Po Village was the largest in Hong Kong with 153 nests, about 19% of the total number of nests in Hong Kong.
- The colony at Ngau Hom Shek was relocated to about 1.5km southwest to the original one;
- Three new colonies at Sha Kiu Village, Sha Chau and Ocean Park were discovered in 2011. The Ocean Park colony in Tai Shue Wan was the first documented ardeid nesting colony on Hong Kong Island. The Sha Chau colony was recorded within the boundary of Sha Chau and Lung Kwu Chau Marine Park, which was zoned as "Site of Special Scientific Interest".

Table 1. Number of nests at surveyed colonies in the Hong Kong in 2011

	Great Egret	Little Egret	Black-crowned Night Heron	Chinese Pond Heron	Cattle Egret	**Total**	**%**
Deep Bay area							
1. Mai Po Village		34		114		148	18.5
2. Ngau Hom Shek		1		2		3	0.4
3. Pak Nai				1		1	0.1
4. Pak Nai 2		41		12		53	6.6
5. Mai Po Lung Village		1		4		5	0.6
6. Tung Shing Lane		40		21		61	7.6
7. Sha Kiu Village		16				16	2.0
Elsewhere in the New Territories							
8. Ho Sheung Heung		36		2	12	50	6.3
9. Tai Po Market	18	35	18			71	8.9
10. Ping Che				7		7	0.9
11. Penfold Park	19	12	5	6		42	5.3
12. A Chau*[#]	55	5	15		12	87	10.9
13. Lam Tsuen				11		11	1.4
14. Ha Che		3		25		28	3.5
15. Tai Tong				4	5	9	1.1
16. Tuen Mun		19				19	2.4
17. Yeung Chau (Tai Po)*	30	5	15		3	53	6.6
18. Man Kam To Road		3		20		23	2.9
19. Sha Chau*[#]	2	56	6			64	8.0
Hong Kong Island							
20. Little Green Island*		35	10			45	5.6
21. Tai Shue Wan, Ocean Park		3				3	0.4
Total	124	345	69	229	32	799	100
%	15.5	43.2	8.6	28.7	4.0	100.00	

Note: * Nests at A Chau, Sha Chau, Yeung Chau and Little Green Island were built in dense vegetation and often out of side. It is possible that the number of nests was underestimated.
[#] Site of Special Scientific Interest (SSSI)

The highest number of nests was recorded at the Mai Po Village colony (148 nests, 19% of total nests in Hong Kong, Table 1) which contained the highest number of Chinese Pond Herons (*Ardeola bacchus*, 114 nests, 50% of the total number of nests of this species), where as the lowest was at the Pak Nai colony (1 nest, 0.1% of total nests in Hong Kong). The A Chau colony supported the highest number of nests of Great Egret (*Egretta alba*, 55 nests, 44% of the total number of nests of this species), while the Tai Po Market colony supported the highest number of nests of Black-crowned Night Herons (18 nests, 26% of the total number of nests of this species). Ho Sheung Heung and A Chau supported the highest number of nests of Cattle Egrets (*Bubulcus ibis*, 12 nests, 38% of the total number of nests of this species) and Sha Chau supported the highest number of nests of Little Egrets (*Egretta garzetta*) (56 nests, 16% of total number of Little Egret nests).

The Little Egret and Chinese Pond Heron (LE: 345 nests, 43% of the total number of nests; CPH: 229 nests, 29% of the total number of nests; Table 1) were the two most abundant and widespread species, in terms of the number of nests, while the Cattle Egret was the least numerous (32 nests, 4%). The Little Egret was recorded in 16 colonies, while the Chinese Pond Heron was recorded in 13 colonies.

3.2 Colonies in the Deep Bay area

A total of 287 nests were recorded in 7 colonies in the Deep Bay area in the 2011 breeding season (Table 2), and they comprised 36% of the total number of nests in Hong Kong. Only two ardeid species, the Little Egret and the Chinese Pond Heron, nested in the Deep Bay area. The Chinese Pond Heron was the dominant species with 67.3% of the total number of nests in the Deep Bay area (Table 2). A new colony of the Little Egret was found in Sha Kiu Village near Tsim Bei Tsui in this breeding season (Table 1).

A summary of the number of nests of five ardeid species in the Deep Bay area from 2002 to 2011 is shown in Table 3. A small number of nests of Great Egrets and Black-crowned Night Herons were recorded in the Deep Bay area until 2006 and 2002, respectively. The last pair of Cattle Egret breeding in the Deep Bay area was observed and recorded at Tung Shing Lane in 2009. With the exceptionally high number in 2005 and 2006, the number of nests for Chinese Pond Heron fluctuated between 150 and 200 in recent years. Although the number of nests of the Little Egret in 2002 and 2011 is similar, it reached the highest in 2006 and lowest in 2003 and 2010. It appears that Little Egrets exhibited no obvious increasing or decreasing trend during such period.

Table 2. Relative importance of the Deep Bay colonies comparing to the others in Hong Kong in 2011. (Colonies in the Deep Bay area include Mai Po Village, Mai Po Lung Village, Tung Shing Lane, Pak Nai, Pak Nai 2, Sha Kiu Village and Ngau Hom Shek.)

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		124	
Little Egret	133	345	38.6
Black-crowned Night Heron		69	
Chinese Pond Heron	154	229	67.3
Cattle Egret		32	
Total	287	799	35.9

Table 3. Number of nests in Deep Bay from 2002 to 2011

	Great Egrets	Little Egret	Black-crowned Night Heron	Chinese Pond Heron	Cattle Egret	Total no. of nests in Deep Bay
2002	15	135	9	111	19	289
2003	2	85		119	3	209
2004		100		133	9	242
2005		126		203	4	333
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

3.3 Comparison on the number of nests with previous year

The population increase in the 2011 breeding season was contributed by the three newly discovered colonies in Sha Kiu Village, Sha Chau and Ocean Park (Tai Shue Wan), which added 83 nests to the count result. In addition, there were increases in the number of nests between 2010 and 2011 in Mai Po Village (+21 nests), Pak Nai (+10 nests), Tai Po (+37 nests), Tung Shing Lane (+11 nests), Yeung Chau (+8 nests), Penfold Park (+6 nests), and Tuen Mun (+3 nests) that further increased the total count by about 100 nests.

However, the number of nests in some colonies decreased in large extent. They included Ngau Hom Shek (-15 nests); Ping Che (-9 nests), Tai Tong (-10 nests), Ho Sheung Heung (-36 nests) and A Chau (-32 nests), which resulted in a decline of about 120 nests.

Comparing to the number of nests of 2010, more nests of Great Egrets and Little Egrets were observed in 2011, while fewer nests of Cattle Egrets, Black-crowned Night Herons and Chinese Pond Herons were observed. Wong and Young (2006) pointed out that the number of nests of Cattle Egrets in Hong Kong was positively correlated to the quantity of rainfall during the breeding season. Since the weather was rather dry during the breeding season, for instance April and May 2011 (HKO 2011a and 2011b), that might have had negative impact on the breeding population of Cattle Egrets. The reason for the population change of other species was not known as no significant change in the area of feeding habitats was observed during the egretry count. The population change might be associated with unidentified factors such as prey availability.

Table 4. Comparison on the number of nests in 2011 with preceding breeding season

	2010	2011	Percentage change (%)
Great Egret	80	124	55
Little Egret	229	345	51
Cattle Egret	67	32	-52
Black-crowned Night Heron	91	69	-32
Chinese Pond Heron	267	229	-14
Sub-total in Deep Bay	248	287	16
Total in Hong Kong	734	799	9

3.4 Monitoring the post-fledging dispersal of newly-fledged juveniles

In order to investigate the post-dispersal pattern of local ardeid juveniles, the Egret Research Group of the HKBWS collaborated with the Kadoorie Farm and Botanic Garden (KFBG) to conduct a ringing programme of rescued chicks that were admitted to the Wild Animal Rehabilitation Centre at KFBG. However, no chick was admitted to KFBG in the 2011 breeding season and the ringing programme will be continued in the following breeding season.

3.5 Nesting substrates

Bamboo was the main nesting substrate of egrets and herons nesting in North and Northwest New Territories. It was used in 12 out of the 21 colonies (Table 5). Birds at the Penfold Park colony built their nests in Banyan trees (*Ficus microcarpa*). The exotic tree *Acacia auriculiformis* was used by ardeids for nesting at the Tuen Mun colony. Most nests at Mai Po Village were in Chinese Hackberry (*Celtis sinensis*). The majority of nests on the A Chau colony were built on Cuban Bast (*Hibiscus tiliaceus*). On Yeung Chau, most nests were found inside the tree canopy with climbers. In addition, palm species, *Caryota ochlandra*, was used by nesting birds at Ocean Park (Tai Shue Wan).

Table 5. Plant species utilized by ardeids as nesting substrates in 2011

	Bamboo	Tree species	Remarks
1. Mai Po Village	+	*Celtis sinensis*	
2. Mai Po Lung Village	+	Lychee and Longgan trees	
3. Tung Shing Lane	+	(i) Lychee and Longgan (ii) *Celtis sinensis*	
4. Pak Nai	+		
5. Pak Nai 2	+		
6. Ngau Hom Shek	+		
7. Ho Sheung Heung	+		
8. Man Kam To Road	+		
9. Ping Che	+		
10. A Chau		Mainly on (i) *Hibiscus tiliaceus,* and (ii) *Mallotus paniculatus*	
11. Tai Po Market		*Ficus variegata* and *Macaranga tanarius*	
12. Yeung Chau		*Hibiscus tiliaceus*, and unidentified climbers	
13. Lam Tsuen	+		
14. Ha Che		*Celtis sinensis*	
15. Tai Tong	+		
16. Tuen Mun		*Acacia auriculiformis*[1]	
17. Penfold Park		*Ficus microcarpa*	
18. Little Green Island			No plant survey was conducted
19. Shau Kiu Village	+		
20. Sha Chau			No plant survey was conducted
21. Tai Shue Wan, Ocean Park		*Caryota ochlandra*	

[1] : Previously misidentified as *Lagerstroemia speciosa*

3.6 Training workshop for ardeid nesting colony monitoring

A training workshop was conducted during the breeding seasons of 2011. About 20 participants joined the training workshop with subsequent practical sessions on counting nests at Man Kam To Road and Mai Po Village. Attendees were invited to join the counting at various colonies. In view of the success of this training workshop, it is recommended that similar workshops be conducted again in the future. (Figure 4)

3.7 Decline in the nesting population and way forward

The A Chau colony was the second largest in Hong Kong in summer 2011. With 87 nests, including Great Egret (18 nests), Little Egret (7 nests), Black-crowned Night Heron (15 nests) and Cattle Egret (12 nests), the colony accounted for about 10.8% of the total nests in Hong Kong. A Chau had supported the largest nesting population of Black-crowned Night Heron (70%) in the past decade. Since 2003, the number of nests of Black-crowned Night Herons had been declining and down to about 10% by 2011 (Table 6). During this period, other ardeids did not exhibit such a drastic decline within a decade.

In the Mediterranean region, decline in ardeid nesting population is usually associated with the area of wetland feeding habitats and food availability (Kushlan and Hafner 2000). In this study, there was no significant loss of wetland habitat including mangrove and fishponds in Starling Inlet (Wong *et a*l 1999) including A Chau, and there was no report of human disturbance in the area. The decline in the number of Black-crowned Night Heron could be related to the reduction of food availability caused by abandonment of fishponds, conversion of traditional fishponds to recreational ponds with steep slopes and change of fishpond management practice. All these would cause negative impacts on wildlife that utilizes fishponds as feeding and/or loafing habitats.

Similar changes were also noted in the Deep Bay area. The draining period was shortened to allow more time for fish rearing or at times, draining was not conducted. The water conditions might not be as good comparing to the traditionally operated ponds as the pond substratum might not be regularly sun-dried or conditioned. Grass would not be maintained as artificial feed was used instead.

Apart from the investigation on whether there is persisting decline in the nesting population and possible causes in subsequent years, recommendations on the enhancement of the local nesting population are also made:

- Encourage fishpond management to regularly drain down the fishponds;
- Explore the possibility of keeping fishes and shrimps stock Deep Bay area and/or Starling Inlet area;
- Conduct studies to collect information on prey type and size of nesting egrets and herons;
- Conduct studies to collect information on colonies in or near Hong Kong (e.g. Shenzhen or other identified places in Guangdong Province). .

Table 6. Number of nests of Black-crowned Night Heron on the A Chau colony, Starling Inlet from 2002 to 2011.

Breeding season	Number of nests	Percentage change (comparing with preceding year)
2002	177	-
2003	115	-35.0%
2004	119	3.5%
2005	111	-6.7%
2006	78	-29.7%
2007	24	-69.2%
2008	50	100.8%
2009	73	46.0%
2010	40	-45.0%
2011	15	-62.5%

4. CONCLUSION

In 2011, a total of 799 nests of five species in 21 colonies were recorded in Hong Kong, including 287 nests of two species in 7 colonies in the Deep Bay area. Comparing with the results in 2010, there were a 9% and a 16% increase in the number of nests in Hong Kong and Deep Bay area respectively, and three new colonies were discovered in Hong Kong. It is concluded that the change in the number of nests could be a natural fluctuation.

5. ACKNOWLEDGEMENTS

We would like to thank Rachel Poon, Fabian Pedrazzini and Stanley Chan who assisted in the survey. Gratitude is also expressed to the landowners at the Ha Che colony, and the Ocean Park for allowing us to conduct counts on their sites.

6. REFERENCES

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.

The Hong Kong Observatory. 2011a. The weather of April 2011. (http://www.hko.gov.hk/wxinfo/pastwx/mws201104.htm)

The Hong Kong Observatory. 2011b. The weather of May 2011. (http://www.hko.gov.hk/wxinfo/pastwx/mws201105.htm)

Kushlan, J.A. and H. Hafner. 2000. Heron Conservation. Academic Press, Great Britain.

Landsdown, 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 egretry, 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 egretries in Hong Kong with notes on those in the Pearl River delta, Guangdong, China. Hong Kong Bird Report 1994: 196-215.

Summer 2011 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site

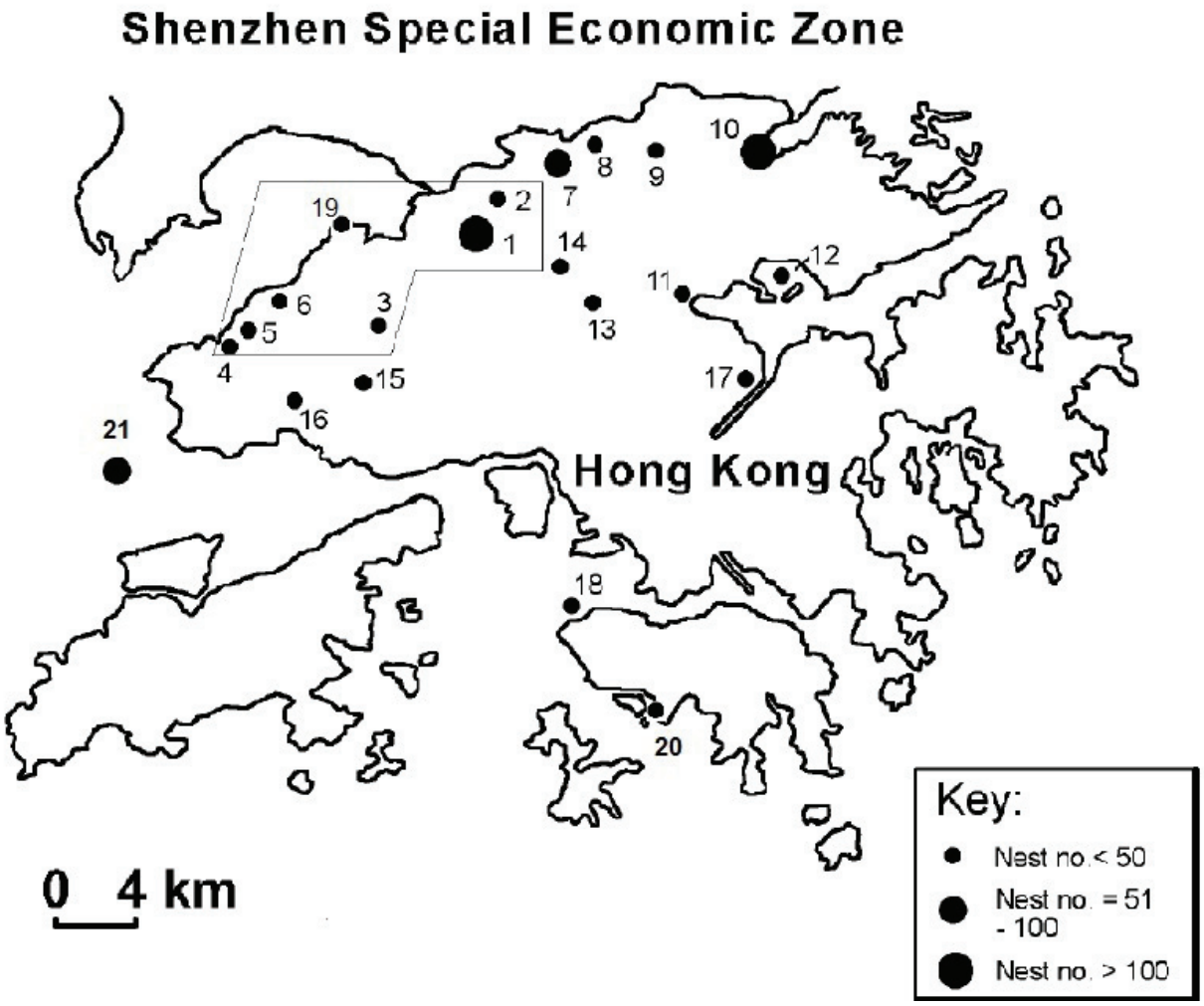
Figures

The Hong Kong Bird Watching Society

Agriculture, Fisheries and Conservation Department

Figure 1. Location of colonies in Hong Kong in 2011 (Nesting colonies in the Deep Bay area are attached.)

1	Mai Po Village	2	Mai Po Lung Village	3	Tung Shing Lane
4	Pak Nai	5	Pak Nai 2	6	Ngau Hom Shek
7	Ho Sheung Heung	8	Man Kam To Road	9	Ping Che
10	A Chau	11	Tai Po Market,	12	Yeung Chau
13	Lam Tsuen	14	Ha Che	15	Tai Tong
16	Tuen Mun	17	Penfold Park	18	Little Green Island
19	Sha Kiu Village	20	Ocean Park	21	Sha Chau.



Summer 2011 Report: Egretry 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 2011

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

* within the Deep Bay area

Appendix 2. Number of nests recorded in each count of the 21 colonies in 2011

Appendix 2.1. Mai Po Village

	24 Apr	21 May	19 June	16 July	14 Aug	**Max**
Little Egret	21	**34**	6	2	3	**34**
Chinese Pond Heron	59	**114**	58	76	44	**114**
Total	80	**148**	64	78	47	**148**

Appendix 2.2. Mai Po Lung Village

	24 Apr	21 May	19 June	16 July	**Max**
Little Egret		**1**			**1**
Chinese Pond Heron		3	**4**	3	**4**
Total	nil	4	4	3	**5**

Appendix 2.3. Tung Shing Lane

	24 Apr	21 May	19 June	16 July	14 Aug	**Max**
Little Egret	30	**40**	21	12	9	**40**
Chinese Pond Heron	**21**	9	14	14	8	**21**
Total	51	49	35	26	17	**61**

Appendix 2.4. Pak Nai

	24 Apr	21 May	19 June	16 July	**Max**
Chinese Pond Heron				1	**1**
Total	nil	nil	nil	1	**1**

Appendix 2.5. Pak Nai 2

	24 Apr	21 May	19 June	16 July	14 Aug	**Max**
Little Egret	**41**	32	6	3		**41**
Chinese Pond Heron	**12**	6	3	6	2	**12**
Total	53	38	9	9	2	**53**

Appendix 2.6. Ngau Hom Shek (+ = present)

	24 Apr	21 May	19 June	16 July	**Max**
Little Egret				**1**	**1**
Chinese Pond Heron	**2**	1	+	1	**2**
Total	2	1	+	2	**3**

Appendix 2.7. Ho Sheung Heung

	17 Apr	21 May	19 June	16 July	**Max**
Little Egret	24	**36**	10	6	**36**
Cattle Egret	6	**12**	2	2	**12**
Chinese Pond Heron	1		**2**	2	**2**
Total	31	48	14	10	**50**

Appendix 2.8. Man Kam To Road

	30 Apr	21 May	19 June	16 July	**Max**
Little Egret	2	**3**	1		**3**
Chinese Pond Heron	14	**20**	13	5	**20**
Total	16	23	14	5	**23**

Appendix 2.9. Ping Che

	17 Apr	21 May	25 June	9 July	**Max**
Chinese Pond Heron		**7**	6	7	**7**
Total	nil	7	6	7	**7**

Appendix 2.10. A Chau

	13 Apr	5 May	18 June	9 July	**Max**
Great Egret	**55**	55	24		**55**
Little Egret	1	**5**	1	3	**5**
Cattle Egret		**12**	5		**12**
Black-crowned Night Heron		**15**	**15**	3	**15**
Total	56	87	45	6	**87**

Appendix 2.11. Tai Po Market (Wan Tau Kok Lane)

	17 Apr	21 May	25 June	9 July	**Max**
Great Egret	10	**18**	3		**18**
Little Egret	**35**	16	11	10	**35**
Black-crowned Night Heron	**18**	13	6	1	**18**
Total	63	47	20	11	**71**

Appendix 2.12. Yeung Chau, Plover Cove (+: present)

	17 Apr	21 May	25 June	9 July	**Max**
Great Egret	11	25	**30**	3	**30**
Little Egret	**5**	**5**	**5**	1	**5**
Cattle Egret	1	2	**3**		**3**
Black-crowned Night Heron	3	5	**15**	1	**15**
Total	20	37	53	5	**53**

Appendix 2.13. Lam Tsuen

	17 Apr	21 May	25 June	9 July	**Max**
Chinese Pond Heron	6	**11**	**11**	8	**11**
Total	6	11	11	8	**11**

Appendix 2.14. Ha Che

	17 Apr	21 May	25 June	9 July	**Max**
Little Egret	1	2	**3**	2	**3**
Chinese Pond Heron	4	17	**25**	11	**25**
Total	5	19	**28**	13	**28**

Appendix 2.15. Tai Tong

	24 Apr	21 May	19 June	16 July	**Max**
Cattle Egret	1	**5**	1	1	**5**
Chinese Pond Heron			1	**4**	**4**
Total	1	5	2	5	**9**

Appendix 2.16. Tuen Mun

	26 Apr	27 May	27 June	31 July	**Max**
Little Egret	13	**19**	8	9	**19**
Total	13	**19**	8	9	**19**

Appendix 2.17. Penfold Park

	29 Apr	26 May	25 June	9 July	**Max**
Great Egret	13	**19**	2		**19**
Little Egret	5	8	**12**	5	**12**
Black-crowned Night Heron	5	**5**	5	1	**5**
Chinese Pond Heron	3	1	**6**	1	**6**
Total	26	33	25	7	**42**

Appendix 2.18. Little Green Island

	26 Apr	27 May	27 June	25 July	**Max**
Little Egret	**35**	**35**	10	12	**35**
Black-crowned Night Heron	**10**	**10**	5		**10**
Total	45	45	15	12	**45**

Appendix 2.19. Sha Chau

	22 May*	19 June	**Max**
Great Egret	-	2	**2**
Little Egret	-	**56**	**56**
Black-crowned Night Heron	-	6	**6**
Total	-	64	**64**

* boat trip was cancelled due to thunderstorm warning

Appendix 2.20. Sha Kiu Village, Tsim Bei Tsui, Yuen Long

	21 May	19 June	16 July	**Max**
Little Egret	**16**	1		**16**
Total	**16**	1	nil	**16**

Appendix 2.21. Tai Shue Wan, Ocean Park, Aberdeen

	16 July	**Max**
Little Egret	**3**	**3**
Total	**3**	**3**