Contract Ref.: AFCD/SQ/18/09/C

Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2009 - 10

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

Summer 2009 Report

Submitted by

The Hong Kong Bird Watching Society Ltd.
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to Agriculture, Fisheries and Conservation Department, Hong Kong SAR Government

September 2009

Contract Ref.: AFCD/SQ/18/09/C
Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site

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Report

The Hong Kong Bird Watching Society Limited

Agriculture, Fisheries and Conservation Department

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

SUMMER 2009 REPORT

Summary

In the 2009 breeding season, a total of 308 nests of three ardeid species in six egretries (hereafter colonies) were recorded in the Deep Bay area. Chinese Pond Heron (*Ardeola bacchus*) and Little Egret (*Egretta garzetta*) were the dominant species (69% and 31% of the total number of nests respectively). The number of nests in the Deep Bay area accounted for 38 % of the total in Hong Kong in 2009. These two species were also dominant in Hong Kong (Chinese Pond Heron: 37% and Little Egret: 28% of the total number of nests in Hong Kong), while the least abundant of the regularly breeding ardeids was Cattle Egret (*Bubulcus ibis*, 8%). The total number of nests in Hong Kong in 2009 was 809 nests of five species in 19 colonies. New colonies were established at Man Kam To Road and Ping Che, but those at Tam Kon Chau and Ma On Kong were abandoned. Compared with 2008 totals of 234 nests in the Deep Bay area and 664 nests in Hong Kong, there has been a 32% increase in the Deep Bay area and 22% increase in Hong Kong as a whole. The increase in nesting population may relate to undetermined change of abiotic and biotic factors, for instance food supply and wetland management regime, as there is no significant change in the wetland area.

1 INTRODUCTION

Breeding activity is an important aspect of population dynamics. Nesting populations of colonial waterbirds are counted 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 records of breeding populations of colonial nesting ardeids only exist in Hong Kong and Vietnam (Lansdown *et al*. 2000). Reporting of the number of nesting pairs in Hong Kong, organized by the Hong Kong Bird Watching Society, started as early as 1958, but was suspended between 1975 and 1989 (Young and Cha 1995). Recording was far from complete, and on many occasions only breeding species were recorded with no count of nesting pairs made. In addition, not all colonies were counted each year. The recording of numbers of nests in the Deep Bay area, as part of the long-term monitoring of waterbird abundance in the Mai Po Inner Deep Bay Ramsar Site, started in 1998. Both breeding species and the number of nesting pairs in the Deep Bay area and elsewhere in Hong Kong are recorded. 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 the trends was published in 2006 (Wong and Young 2006).

2 METHODS

Active and abandoned colonies identified in the past two years (i.e. 2007 and 2008), were surveyed once a month between April and July 2009 (Table 1, Figure 1, Appendix 1). A nesting colony of egrets and herons is defined as an area in which more than a pair of these birds was 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 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 nest numbers was also made if nests were hidden in vegetation. At the Little Green Island colony, as most nests were hidden in vegetation, landing locations were marked on a sketch and repeated landings around the same location were considered as one nest. The number of nests in colonies surveyed more than once was taken to be the sum of the highest count of the number of nests of each species. Apart from the number of nests, the nesting substratum was also identified.

In addition to existing colonies, potential new nesting sites were also visited; these potential new colonies were located by personal observations and information from birdwatchers, environmentalists and the public. A new nesting site is considered as a new nesting colony if it is at least 500 m away from an existing colony, because the lowest foraging range of a colony is usually about 500 m (L. C. Wong unpublished data), thus overlapping of feeding habitats of nesting sites within 500 m is expected to be high and combining breeding birds in locations within 500 m would avoid defining numerous small nesting sites in the same area.

3. RESULTS and DISCUSSION

3.1 Breeding population in the 2009 breeding season

A total of 809 nests were recorded at 19 colonies in Hong Kong (Table 1, Figure 1-22, Appendix 2). Underestimation of the number of nests at A Chau, Yeung Chau and Little Green Island colonies may have occurred as some nests were built in dense vegetation, and were thus invisible. Two new colonies at Man Kam To Road and Ping Che were recorded in June and July, respectively. Under-estimation of the number of nests in these two colonies is likely as

they were discovered in the late breeding season. Colonies at Tam Kon Chau and Ma On Kong were abandoned this year, while Ha Mei San Tsuen and Tai O were abandoned again this year. No colony was noted to relocate at area in close proximity to the original location. Although the Tam Kon Chau colony was abandoned, breeding birds at this colony appeared to re-establish at the Mai Po Village colony, which was about 1.35 km away from the original location (see Section 3.5). Visits to Centre Island, Ocean Park Park, Tsing Yi Park and Heung Yip Road (Aberdeen) were made, but no breeding was noted.

Table 1. The number of nests at surveyed colonies in the Hong Kong in 2009

	Great Egret	Little Egret	Black-crowned Night Heron	Chinese Pond Heron	Cattle Egret	Total	%
Deep Bay Area							
1. Mai Po Village		8		135		143	17.7
2. Mai Po Lung Village		3		6		9	1.1
3. Tung Shing Lane		39		41	1	81	10.0
4. Pak Nai				5		5	0.6
5. Pak Nai 2		40		10		50	6.2
6. Ngau Hom Shek		5		15		20	2.5
Elsewhere in New Territories							
7. Ho Sheung Heung		34		23	14	71	8.8
8. Man Kam To Road				15		15	1.9
9. Ping Che				5		5	0.6
10. A Chau	40	7	73		35	155	19.2
11. Tai Po Market	2	14	11		1	28	3.5
12. Yeung Chau (Tai Po)	44	6	15		2	67	8.3
13. Shuen Wan				3		3	0.4
14. Lam Tsuen		1		7		8	1.0
15. Ha Che		2		24		26	3.2
16. Tai Tong				5	11	16	2.0
17. Tuen Mun		17				17	2.1
18. Penfold Park	15	12	10	3		40	4.9
Hong Kong Island District							
19. Little Green Island		36	14			50	6.2
Total	101	224	123	297	64	809	100.0
%	12.5	27.7	15.2	36.7	7.9	100.0	

The highest number of nests was recorded at the A Chau colony (155 nests, 19% of total nests in Hong Kong), while the smallest was at the Shuen Wan colony (3 nests, <1% of total nests in Hong Kong, Table 1). A Chau contained the highest number of nests of Black-crowned Night Herons (73 nests, 59% of the total number of nests of this species) and Cattle Egret (*Bubulcus ibis*, 35 nests, 55% the total number of nests of this species). Yeung Chau contained the highest number of nests of Great Egret (44 nests, 44% of the total number of nests of this species). With regard to Little Egret (*Egretta garzetta*), the Pak Nai 2 colony (40 nests, 18% of

total number of Little Egret nests) is the most important site, while the Mai Po Village colony is the main nesting site of Chinese Pond Heron (135 nests, 46% of the total number of Chinese Pond Heron nests).

In terms of the number of nests, Chinese Pond Heron and Little Egret (CPH: 297 nests, 37% of the total number of nests; LE: 224 nests, 28% of the total number of nests; Table 1) were the most abundant, while Cattle Egret was the least numerous (64 nests, 8%). Chinese Pond Heron and Little Egret were also the two most widespread species, with both recorded at 14 colonies.

3.2 Colonies in the Deep Bay area

A total of 308 nests of three species was recorded in six colonies in the Deep Bay area in the 2009 breeding season (Table 2). No breeding of Great Egrets (*Egretta alba*) and Black-crowned Night Herons (*Nycticorax nycticorax*) was noted in Deep Bay in 2009; these two species bred in the Deep Bay area until 2006 and 2003, respectively. The Chinese Pond Heron and the Little Egret were the two dominant breeding ardeids in the Deep Bay area (CPH: 69% of the total nests in the Deep Bay area; LE: 31%), while only one nest of the Cattle Egret was recorded (<1%). The total number of nests in the Deep Bay colonies comprised 38% of the Hong Kong total.

Table 2. The relative importance of Deep Bay colonies to the others in Hong Kong in 2009. Colonies in the Deep Bay area are Mai Po Village, Mai Po Lung Village, Tung Shing Lane Pak Nai, Pak Nai 2 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		101	0.0
Little Egret	95	224	42.4
Black-crowned Night Heron		123	0.0
Chinese Pond Heron	212	297	71.4
Cattle Egret	1	64	2.0
Total	308	809	38.0

3.3 A comparison of the number of nests with the previous years

After the decline in the number of nests in 2007 and a further decline in 2008, there were 22% and 32% increases in the overall number of nests in Hong Kong and Deep Bay respectively (Table 3). All species, except Great Egret, increased in a range of 9-45%. As there was neither significant change in wetland area nor any dramatic weather event, it is believed that the population increase is associated with other undetermined abiotic and biotic factors, for

instance food supply and management regime, as there is no significant change in the wetland area. Although the timing did not match, geiwais (shrimp ponds) at Mai Po Nature Reserve was drained down in June, which provided more food to the nesting ardeids, in particular those had second brood.

Table 3. A comparison of nests in 2009 with the previous year

	2008	2009	Percentage change (%)
Great Egret	101	101	0.0
Little Egret	205	224	9.3
Black-crowned Night Heron	95	123	29.5
Chinese Pond Heron	205	297	44.9
Cattle Egret	58	64	10.3
Sub-total in Deep Bay	234	308	31.6
Total in Hong Kong	664	809	21.8

3.4 Population increase in the Mai Po Village colony

Perhaps the most noteworthy phenomenon in 2009 was a sudden increase in the number of nests of Chinese Pond Herons at the Mai Po Village Colony. As the Tam Kon Chau colony was abandoned this year and there was a sharp decline in nests at the Mai Po Lung Village colony (Table 4), it appears that breeding birds from these two colonies moved to the Mai Po Village colony. The abandonment of the Tam Kon Chau colony is though to be associated with increase human activities underneath the colony. In this colony, an abandoned hut underneath Banyan trees have been occupied by attendants of a nearby public toilet, causing a considerable disturbance. The Tam Kon Chau and Mai Po Lung Village colonies are about 1.4 km and 0.63 km away from the Mai Po Village colony, respectively. Therefore, their feeding range should overlap to a certain extent and they are likely to be influenced by similar abiotic and biotic factors, for instance food supply in fishponds in Inner Deep Bay. Thus, movement of these breeding birds within this part of Inner Deep Bay is to be expected. Also, the abundance of nests of Chinese Pond Herons appears to have reached a peak in 2006.

Table 4. The number of nests of Chinese Pond Herons recorded at Mai Po Village, Mai Po Lung Village and Tam Kon Chau between 2006 and 2009.

Colonies	2006	2007	2008	2009
Mai Po Village	50	30	55	135
Mai Po Lung	74	31	21	6
Tam Kon Chau	37	26	23	abandoned
Total	161	87	99	141

3.5 Protection of colonies against minor construction and maintenance works

Disturbance recorded at various colonies during the present monitoring is summarized in the table below:

Table 5. Disturbances recorded in colonies in Hong Kong during the monitoring in 2009

Colonies	Type of disturbance	Nature of disturbance	Outcome
Mai Po Village	Roadwork (Water supplies Department)	Construction work impacts	Re-scheduled the work after the breeding season
Tam Kon Chau	Human activities	Smoke and human movement associated with a hut occupied by attendants of a nearby public toilet	After investigation by Food, Environmental Hygiene Department, the worker was only invited to have lunch in the hut by the owner.
Lam Tsuen	Roadwork (Water Supplies Department)	Construction work impacts and open stockpiling area in close proximity to the colony	Completed the work as quick as possible and relocated the stockpiling area
Ngau Hom Shek	Roadwork (China Light and Power Ltd)	Construction work impacts	Completed the work as quick as possible
Tung Shing Lane	BB gun shooting	Shooting of chicks by a resident of a hut underneath the colony	Advice was given to the resident
Penfold Park	Pond drain down in the colony island (HK Jockey Club)	Disturbance to the juveniles during drain down	Recommendation on the time of drain down was given

In order to minimize disturbance to the nesting birds by the roadworks in the future, it is recommended that communication between the Government and project proponent regarding minor works at nesting colonies should be strengthened.

3.6 Monitoring of feeding habitat use pattern of important colonies

An AFCD funded flight-line study investigating foraging habitat use pattern by breeding birds was conducted at four colonies (A Chau, Yeung Chau, Ho Sheung Heung and Mai Po Lung) in the 2008 breeding season by the HKBWS. It is recommended that such studies should be extended to other key colonies, for instance Pak Nai 2, Penfold Park, Tai Po Market and Tung Shing Lane in the upcoming breeding seasons. This information will help us to understand the use of nearby feeding habitats by nesting ardeids, so that protection of these habitats can be enhanced. Also, it is hoped that a generalized model of the minimum area of feeding habitats needed to support a viable nesting population could be worked out.

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

The post-fledging dispersal pattern of newly-fledged ardeid juveniles in Hong Kong is still unknown. Experience in north America indicates that the dispersal range is about 300-500 km from the colony (Erwin *et al*. 1996). No such information is available and thus it is not known whether juveniles will disperse within the territory of Hong Kong or other areas in South China. Also, little is known about the location of wintering grounds of the summer visitors, i.e. Black-crowned Night Herons and Cattle Egrets. As the survival rate of juveniles in the wintering ground may affect recruitment and the nesting population in successive breeding seasons, it is crucial to understand the post-fledging dispersal pattern. Regarding the methodology, chicks are often rescued after adverse weather. Radio transmitters can be attached to the recovered birds in order to investigate their dispersal pattern.

3.8 Nesting habitats

Bamboo was the main nesting substrate of egrets and herons nesting in North and Northwest New Territories (Table 6). Birds at the Penfold Park colony built their nests in Banyan trees (*Ficus microcarpa*). The exotic tree *Lagerstroemia speciosa* was used by ardeids for nesting in 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*), while unidentified coastal plants were used by birds nesting on Little Green Island. On Yeung Chau, most nests were noted inside climbers, which may provide shelter against bad weather and sun exposure.

Table 6. Plant species utilized by ardeids as nesting habitats in 2009

	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		(i) Mainly on *Hibiscus tiliaceus,* (ii) *Mallotus mamiculatus*	
11. Tai Po Market			No detailed plant survey was conducted
12. Yeung Chau			No detailed plant survey was conducted

13. Shuen Wan		*Cinnamommum camphora*	
14. Lam Tsuen	+		
15. Ha Che		*Celtis sinensis*	
16. Tai Tong	+		
17. Tuen Mun		*Lagerstroemia speciosa*	
18. Penfold Park		*Ficus microcarpa*	
19. Little Green Island			No detailed plant survey was conducted

3.9 Training workshop for ardeid nesting colony monitoring

A training workshop was conducted during the breeding seasons of 2006 to 2009. Participants of the training workshop joined the subsequent counts in 2007 and 2008. In view of the success of this training workshop, it is recommended that this open training workshop should be conducted again in the future.

4. CONCLUSION

In 2009, a total of 809 nests of five species in 19 colonies were recorded in Hong Kong, including 308 nests of three species in six colonies in the Deep Bay area. Compared with 2008, there were 22% and 32% increases in the number of nests in Hong Kong and Deep Bay, respectively. The increase in nests may relate to the possible increase in food availability as there was no significant increase in wetland feeding habitats, nor any adverse natural factors. Also, the warmer winter in 2009 may have been favourable to the breeding of ardeids. Recommendations on the management of the local nesting population are:

(1) In order to avoid and minimize disturbance due to minor works, circulation of the latest location of colonies amongst government departments and public utilities is recommended,
(2) Continue the egretry count training workshop in 2009, and
(3) Monitoring of feeding habitat use by birds nesting at Pak Nai 2, Penfold Park, Tai Po Market and Tung Shing Lane.
(4) Investigating the post-fledging dispersal of juveniles that are recovered in rescue actions.

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6. REFERENCES

Erwin, R.M., J. Haig, D. Stotts, J.S. Hatfield. 1996. Dispersal and habitat use by post-fledging juvenile Snowy Egrets and Black-crowned Night-Herons. Wilson Bulletin 108:342-356

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 Bird Watching Society. In press. Studies of feeding habitat use and foraging flight lines of four ardeid colonies in Hong Kong. Unpublished report to the Agriculture, Fisheries and Conservation Department.

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. 2002. A preliminary assessment of the food habits of the nesting Cattle Egrets and other egrets and herons in three Hong Kong egretries. Hong Kong Bird Report 1998: 110-119.

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. 2004. Notes on the breeding of Chinese Pond Herons in Hong Kong. Hong Kong Bird Report 1999 & 2000: 232-1247.

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.

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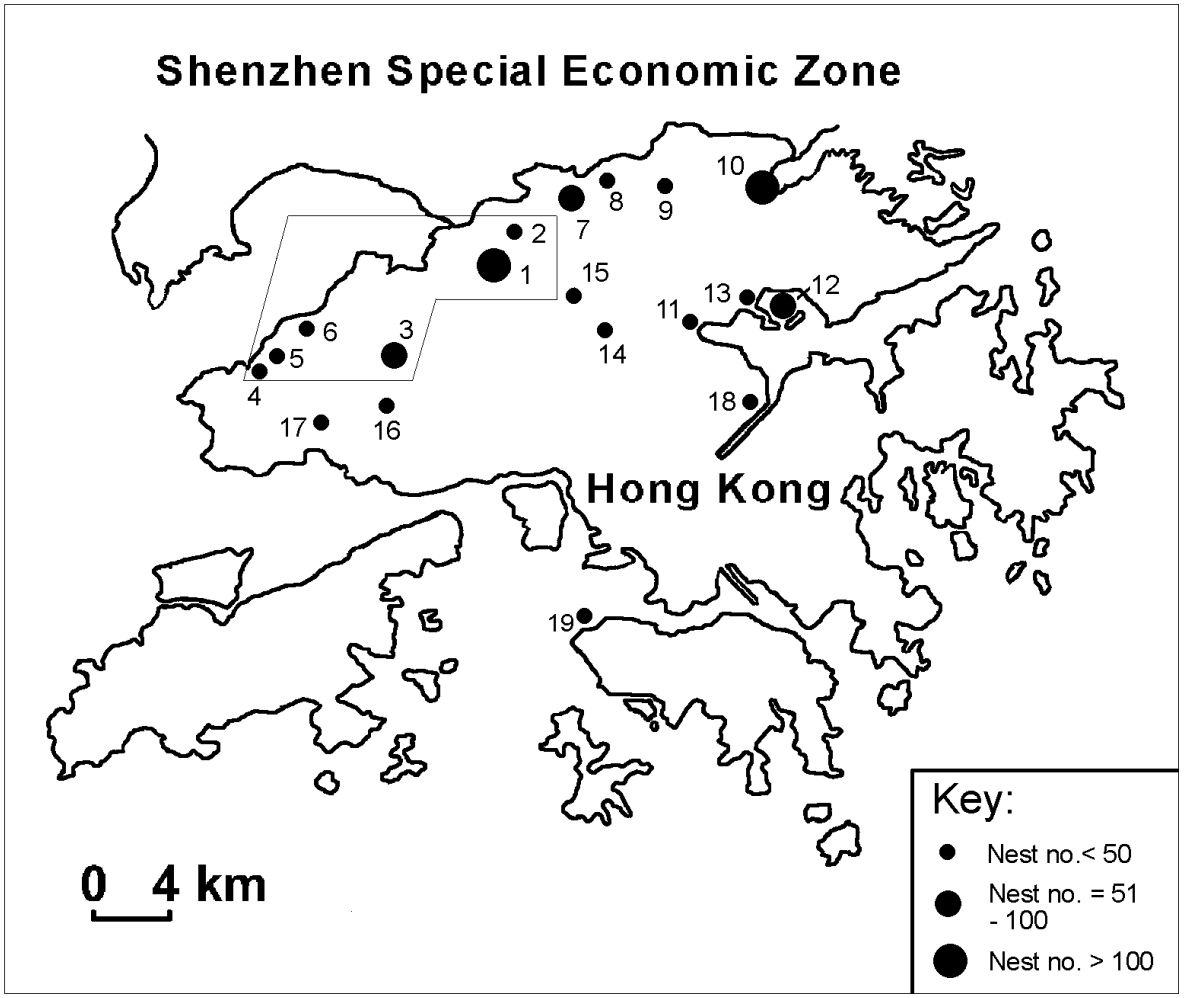
Figures

The Hong Kong Bird Watching Society Limited

Agriculture, Fisheries and Conservation Department

Figure 1. Locations of colonies in Hong Kong in 2009. Nesting colonies in the Deep Bay area are enclosed. (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: Shuen Wan; 14: Lam Tsuen, 15: Ha Che, 16: Tai Tong, 17: Tuen Mun, 18: Penfold Park and 19: Little Green Island).



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Appendices

The Hong Kong Bird Watching Society Limited

Agriculture, Fisheries and Conservation Department

Appendix 1. Survey dates of nesting colonies and additional sites in 2009 (*: Deep Bay colonies).

Colony	Date
Mai Po Village*	25 Apr, 30 May, 20 June, 12 July
Tam Kon Chau*	25 Apr, 30 May, 20 June, 12 July
Mai Po Lung Village*	25 Apr, 30 May, 20 June, 12 July
Tung Shing Lane*	25 Apr, 30 May, 20 June, 12 July
Ha Mei San Tsuen*	25 Apr, 30 May, 20 June, 12 July
Pak Nai*	14 April, 22 May, 17 June, 12 July
Pak Nai 2*	14 April, 22 May, 17 June, 12 July
Ngau Hom Shek*	14 April, 22 May, 17 June, 12 July
Ho Sheung Heung	25 Apr, 30 May, 20 June, 12 July
A Chau	11 April, 10 May, 7 June, 12 July
Tai Po Market	17 April, 20 May, 29 June, 18 July
Penfold Park	25 Apr, 30 May, 20 June, 18 July
Yeung Chau (Plover Cove)	28 April, 27 May, 20 June, 18 July
Shuen Wan	28 April, 27 May, 20 June, 18 July
Lam Tsuen	17 April, 30 May, 22 June, 15 July
Ma On Kong	25 April, 30 May, 25 June, 12 July
Ha Che	30 April, 29 May, 25 June, 17 July
Tai Tong	25 Apr, 30 May, 20 June, 12 July
Tuen Mun	24 April, 10 May, 30 June, 20 July
Little Green Island	26 April, 11 and 28 May, 8 and 30 June, 27 July
Tai O	11 May
Heung Yip Road, Aberdeen	16 May
Ocean Park	16 May
Centre Island	28 April, 27 May
Tsing Yi Park	20 June
Man Kam To Road	25 June, 17 July
Ping Che	12 July

Appendix 2. The number of nests recorded in each count of the 19 colonies in 2009.

Appendix 2.1. Number of nests at Mai Po Village.

	25 Apr	30 May	20 June	12 July	Max
Little Egret	7	5	**8**	1	**8**
Chinese Pond Heron	69	**135**	103	35	**135**
Total	76	140	111	36	**143**

Appendix 2.2. Number of nests at Mai Po Lung Village

	25 April	30 May	20 June	12 July	Max
Little Egret			1	**3**	**3**
Chinese Pond Heron	5	**6**	4	1	**6**
Total	5	6	5	4	**9**

Appendix 2.3. Number of nests at Tung Shing Lane

	25 April	30 May	20 June	12 July	Max
Little Egret	20	**32 + 7***	29	11	**39**
Cattle Egret	**1**				**1**
Chinese Pond Heron	20	33 + 4**	**41**	20	**41**
Total	41	76	70	31	**81**

Remark: *: 7 nests of LE were overlooked in the May count
**: 4 nests of CPH were overlooked in the May count

Appendix 2.4. Number of nests at Pak Nai

	14 April	22 May	17 June	12 July	Max
Chinese Pond Heron	2	**5**	4	0	**5**

Appendix 2.5. Number of nests at Pak Nai 2

	14 April	22 May	17 June	12 July	Max
Little Egret	17	**40**	25	6	**40**
Chinese Pond Heron	2	**10**	5	6	**10**
Sub-total	19	50	30	12	**50**

Appendix 2.6. Number of nests at Ngau Hom Shek

	14 April	22 May	17 June	12 July	Max
Little Egret	5	5	**5**	1	**5**
Chinese Pond Heron		11	**15**	9	**15**
Total	5	16	20	10	**20**

Appendix 2.7. Number of nests at Ho Sheung Heung

	25 April	30 May	20 June	12 July	Max
Little Egret	24	**34**	16	15	**34**
Cattle Egret	12	**14**	8		**14**
Chinese Pond Heron	15	**23**	23	8	**23**
Total	51	71	47	23	**71**

Appendix 2.8. Number of nests at Man Kam To Road. This colony was first noted in June

	25 June	17 July	Max
Chinese Pond Heron	**15**	5	**15**
Total	15	5	**15**

Appendix 2.9. Number of nests at Ping Che. This colony was first noted in July

	12 July	Max
Chinese Pond Heron	**5**	**5**
Total	5	**5**

Appendix 2.10. Number of nests at A Chau

	11 April	10 May	7 June	12 July	Max
Great Egret	34	**40**	13	1	**40**
Little Egret	4	**7**			**7**
Cattle Egret	15	33	**35**	10	**35**
Black-crowned Night Heron	48	66	**73**	30	**73**
Total	101	146	121	41	**155**

Appendix 2.11. Number of nests at Tai Po Market (Wan Tau Kok Lane)

	17 April	20 May	29 June	18 July	Max
Great Egret		1	**2**		**2**
Little Egret	7	**14**	4	2	**14**
Black-crowned Night Heron	3	**11**	5	5	**11**
Cattle Egret		**1**			**1**
Total	10	27	11	7	**28**

Appendix 2.12. Number of nests on Yeung Chau, Plover Cove (+: present)

	28 April	27 May	20 June	18 July	Max
Great Egret	**44**	30	30	8	**44**
Little Egret	5	**6**	1	1	**6**
Cattle Egret		**2**	2	1	**2**
Black-crowned Night Heron	+	13	**15**	+	**15**
Total	49	51	48	10	**67**

Appendix 2.13. Number of nests at Shuen Wan

	28 April	27 May	20 June	18 July	Max
Chinese Pond Heron	**3**	2	2	0	**3**

Appendix 2.14. Number of nests at Lam Tsuen.

	17 April	30 May	22 June	15 July	Max
Little Egret			**1**		**1**
Chinese Pond Heron	3	**7**	7	3	**7**
Total	3	7	8	3	**8**

Appendix 2.15. Number of nests at Ha Che

	30 April	29 May	25 June	17 July	Max
Little Egret	**2**	1	2		**2**
Chinese Pond Heron	18	**24**	19	5	**24**
Total	20	25	21	5	**26**

Appendix 2.16. Number of nests at Tai Tong

	25 April	30 May	20 June	12 July	Max
Cattle Egret	7	**11**	7	1	**11**
Chinese Pond Heron	3	**5**	4	5	**5**
Total	10	16	11	6	**16**

Appendix 2.17. Number of nests at Tuen Mun

	24 Apr	10 May	30 June	20 July	Max
Little Egret	**17**	17	8	7	**17**

Appendix 2.18. Number of nests at Penfold Park (+: present)

	25 April	30 May	20 June	18 July	Max
Great Egret	**15**	10	7	+	**15**
Little Egret	**12**	10	9		**12**
Black-crowned Night Heron	8	**10**	7	+	**10**
Chinese Pond Heron	**3**	3	3	1	**3**
Total	38	33	26		**40**

Appendix 2.19. Number of nests on Little Green Island

	26 April	11 and 28 May	8 and 30 June	27 July	Max
Little Egret	21	**16* +20****	35	14	**36**
Black-crowned Night Heron	**14**	14	10	9	**14**
Total	35	50	45	23	**50**

Remarks
*: southern part of the island
**: northern part of the island