

Contract Reference No. AFCD/SQ/43/15/C

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

Monthly Waterbird Monitoring

Biannual Report 2

October 2015 to March 2016



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

August 2016



This report is printed on recycled paper

Contract Reference No. AFCD/SQ/43/15/C

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

Waterbird Count Coordinator

Yat-tung YU

The Hong Kong Bird Watching Society

Data Contributors

Geoff CAREY, Bonnie CHAN, CHAN Ka-ho, Gary CHOW, Camille CHUNG, Johnson CHUNG, CHEUNG Ka-chung, Forrest and Emily FONG, Helen FONG, Vivian FU, Michael LEVEN, Martin HALE, John and Jemi HOLMES, HO Pui-lam, HUNG Wai-ming, Aaron KEUNG, Alan LAM, Paul LEADER, Roger LEE, LEE Shing-yiu, Richard LEWTHWAITE, LO Wing-fung, Austin NG, SO Ying-kin, Graham TALBOT, Ivan TSE, WAN Chun-hin, Captain WONG, Haley YEUNG, YING hak-king, YU Yat-tung, The Hong Kong Bird Watching Society, Shenzhen Bird Watching Society, Agriculture, Fisheries and Conservation Department.

Copyright

The project is part of the “Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2015-16” of Agriculture, Fisheries and Conservation Department, Hong Kong SAR Government.

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

Report available for public information

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 Kok, Kowloon, Hong Kong

E-mail: hkbws@hkbws.org.hk Website: www.hkbws.org.hk

This publication should be cited as

Anon. 2016. Monthly Waterbird Monitoring Biannual Report 2 (October 2015 to March 2016), Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2015-16. 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

1. Introduction.....	6
2. Methodology	6
3. Results and discussion.....	8
3.1. Result of winter waterbird count.....	8
3.2. Species of conservation significance.....	13
3.3. Other notable counts	17
3.4. Other information collected.....	19
4. Conclusion.....	20
5. Acknowledgements.....	21
6. References.....	21

TABLE

Table 1. Comparison of the number of waterbirds recorded at the Deep Bay area and the Ramsar Site from winter 2011-12 to winter 2015-16.....	9
Table 2. Number of waterbird groups recorded in the Deep Bay area during low-tide counts in mid-winter 2015-16.....	9
Table 3. Number of waterbirds counted in winter 2015-2016 by groups and sites..	10
Table 4. Peak number of different waterbird groups in the Deep Bay area during the mid-winter period from 2002-03 to 2015-16.....	11
Table 5. Total peak counts in the winters of past five years.....	12
Table 6. The 10 most numerous wintering waterbird species recorded in the Deep Bay area of Hong Kong and Shenzhen in mid-winter.	13
Table 7. Number of wired fishponds and managed fishponds	20

FIGURE

Figure 1. Total winter peak counts and January (mid-winter) counts from 2000-01 to 2015-16.....	24
---	----

Map

Map 1. Map of Hong Kong showing location of the Mai Po Inner Deep Bay Ramsar Site	26
Map 2. Boundary of Mai Po Inner Deep Bay Ramsar Site	26
Map 3. Location of survey sites of the Waterbird Monitoring Programme	27
Map 4. Distribution of wired ponds in the Deep Bay area	28
Map 5. Distribution of managed ponds in the Deep Bay area	28

APPENDIX

Appendix 1. Summary of Waterbird Count, October 2015

Summary of Waterbird Count, November 2015

Summary of Waterbird Count, December 2015

Summary of Waterbird Count, January 2016

Summary of Waterbird Count, February 2016

Summary of Waterbird Count, March 2016

Appendix 2. Low-tide Count, December 2015

Low-tide Count, January 2016

Low-tide Count, February 2016

Appendix 3. Peak count of each waterbird species, mid-winter period 2015-16

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Report



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme

Monthly Waterbird Monitoring Biannual Report 2

1. Introduction

Long-term monitoring of waterbirds provides an insight into the health of wetlands; it concerns not only the waterbird community, but also the entire ecosystem in the Deep Bay area. The Waterbird Monitoring Programme provides important baseline information for the management of the Mai Po Inner Deep Bay Ramsar Site (the 'Ramsar Site'). From December 1997 to March 2004, the programme was administered and executed by the Hong Kong Bird Watching Society (HKBWS) under a subvention from the Agriculture, Fisheries and Conservation Department (AFCD). Since April 2004, the programme has been arranged under service contracts funded by the AFCD.

The Waterbird Monitoring Programme comprises three major components: monthly waterbird counts, shorebird counts and egret counts. The monthly waterbird counts are conducted in the Deep Bay area, including the Mai Po Inner Deep Bay Ramsar Site, fishpond areas and mudflat adjacent to the Ramsar Site; the shorebird counts are conducted at the key feeding and loafing sites in the Mai Po Marshes Nature Reserve and intertidal mudflat during the migration seasons; and the egret counts are conducted all around Hong Kong during the breeding season. This report focuses on the results of the monthly counts of waterbirds during the winter period from October 2015 to March 2016 under contract reference number AFCD/SQ/43/15/C.

2. Methodology

The coordinated mid-monthly counts of wintering waterbirds in Hong Kong were carried out by accredited waterbird surveyors of the HKBWS, with support from reserve staff of Hong Kong Wetland Park, on 11 October 2015, 15 November 2015, 13 December 2015, 17 January 2016, 14 February 2016 and 13 March 2016. The survey area included the Ramsar Site and wetland areas around the Ramsar Site (the 'Deep Bay area'). The Deep Bay area covered the Ramsar Site and the surrounding area, including the mudflat between Tsim Bei Tsui and Nim Wan, and the fishpond areas in Ma Tso Lung, Sam Po Shue, San Tin, Mai Po San Tsuen, Tam Kon Chau, Tai Sang Wai, Lut Chau, Luen Hing Wai, Wing Kei Tsuen, Nam Sang Wai and Tsim Bei Tsui. The area

also covered Hong Kong Wetland Park in Tin Shui Wai, and the Futian National Nature Reserve in the Shenzhen Special Economic Zone in the Mainland. Maps 1, 2 and 3 show the location of each of the survey sites in the survey area, together with the boundary of the Mai Po Inner Deep Bay Ramsar Site. Figures collected from the monthly waterbird counts are grouped and presented with respect to two main areas: (1) the Ramsar Site and (2) the Deep Bay area.

This monitoring programme involved the counting of waterbirds in these two survey areas. Habitat types included fishponds, *gei wais*, storm-water channels, streams, intertidal mudflats, mangroves, reedbeds and marshes. The survey sites, in particular the intertidal areas of Inner Deep Bay, were surveyed simultaneously so as to avoid double-counting as far as possible.

During the winter months, substantial numbers of waterbirds were present in the Deep Bay intertidal area. Waterbirds follow tidal movements to utilize different parts of the mudflats. They usually spend more time feeding during low-tide along the water's edge and more time resting either on the water surface or in the higher area of the mudflats during high tide. At high tide, the waterbirds move closer to the Mai Po boardwalk birdwatching hides, and therefore, waterbird counts conducted during high-tide periods are highly accurate. All counts were conducted on dates with a rising tide, preferably 1.7 m or above.

However, there were a few days when diurnal tides not high enough to force all waterbirds off the mudflat to the roosting sites in Mai Po and/or close to the floating bird-watching hides for the high-tide counts. Also, ducks may scatter in the river channel, and gulls may float on the bay far away from the boardwalk birdwatching hides at high tide, but they stay in the intertidal area at low tide. The low-tide count has been proven to be an effective method to acquire additional information on ducks and gulls, which prefer to stay in the intertidal area of Deep Bay (Anon 2011). Though the distance between birds and surveyors is sometimes too long during low-tide periods for waterbird species identification, and the surveyors cannot access the mudflat area at low tide, the low-tide count still helps provide peak numbers of some species or groups of waterbirds, which are used to determine the total waterbird abundance.

Low-tide counts were conducted in the mid-winter period (i.e. December to February) on the same dates scheduled for high-tide counts. The counts were conducted in a synchronous manner at the jetty outside the police station in Tsim Bei

Tsui and in the Futian National Nature Reserve in Shenzhen in December, January and February. The results of the low-tide count were treated and combined with those of the high-tide count to produce the monthly figures.

Other counts of individual species conducted within one week of the scheduled survey date were included if they were considered to provide more accurate counting results than those gathered on the counting day. The methodology is described in detail in the Waterbird Count Handbook (Anon. 2014).

Additional voluntary surveys of Great Cormorants were conducted from December to February at their known evening roosting sites in the Mai Po Marshes Nature Reserve and Nam Sang Wai in order to obtain more accurate information about their wintering population.

3. Results and discussion

3.1. Results of winter waterbird counts

All areas within the Deep Bay area and the Ramsar Site were covered during the survey period. Table 1 shows a comparison of the peak counts over the five winters from 2011-12 to 2015-16. The peak count of waterbirds in the Deep Bay area in winter 2015-16 was 46,792 individuals, recorded in February 2016, a decrease of 11% over that of the previous winter (52,584 individuals). In the Ramsar Site, the peak count was 28,450 individuals, recorded in December 2015, an increase of 2% over the peak count of the previous winter (27,775 individuals). The January count has long been used to compare the long-term trend in waterbird numbers. The 2016 January count was recorded 43,425 individuals in the Deep Bay area and 22,252 individuals in the Ramsar Site. It showed a 17% decrease in the Deep Bay area (52,584 individuals in 2015) and a 20% decrease in the Ramsar Site (27,775 individuals in 2015) over the previous January. The full data set of the surveys is provided in Appendix 1.

Table 1. Comparison of the number of waterbirds recorded at the Deep Bay area and the Ramsar Site from winter 2011-12 to winter 2015-16. The Ramsar Site covers part of the Deep Bay area, with details shown in Maps 2 and 3.

		Winter 2011-12	Winter 2012-13	Winter 2013-14	Winter 2014-15	Winter 2015-16
Winter peak monthly count [^]	Deep Bay	68,080	55,871	43,874	52,584	46,792
	Ramsar Site	45,744	31,171	26,861	27,775	28,450
January count	Deep Bay	49,202	55,871	43,874	52,584	43,425
	Ramsar Site	34,561	30,012	25,467	27,775	22,252

[^] The winter peak monthly count refers to the highest count from December to February in the winter period.

The results collected in the low-tide counts serve as supplementary information for the high-tide counts. Several shorebird species including Greater Sand Plover, Whimbrel and Red-necked Stint were counted in higher numbers at low-tide periods this winter. The long distance between the birds and surveyors during low-tide counts makes good visibility a crucial factor in the accuracy of the counts. All the low-tide counts were conducted under good visibility this winter. The results of low-tide counts of the different waterbird groups are listed in Table 2 and further details are provided in Appendix 2.

Table 2. Number of waterbird groups recorded in the Deep Bay area during low-tide counts in mid-winter 2015-16. The number in parenthesis represents the results recorded in the Ramsar Site.

	December 2015	January 2016	February 2016
Cormorants	1,696 (320)	3,621 (0)	384 (280)
Ardeids	1,119 (390)	518 (155)	690 (190)
Ducks, grebes and pelicans	3,856 (1557)	7,183 (2,539)	9,089 (1,685)
Rails and coots	85 (2)	36 (2)	114 (7)
Shorebirds	6,789 (2,429)	6,996 (1,280)	8,064 (1,042)
Gulls and terns	2,461 (1,777)	3,067 (541)	2,127 (1,275)
Total	16,006 (6,475)	21,421 (4,517)	20,468 (4,479)
High-tide count total	39,690 (28,335)	39,817 (21,531)	45,637 (26,899)
Aggregate total from low-tide count	40,319 (28,450)	43,425 (22,252)	46,792 (27,098)

The combined result of high-tide and low-tide counts show that the February count was the peak count for this winter (Table 3). The most abundant waterbird

group was shorebirds, with 17,146 individuals recorded in February (accounting for 37% of the total number in February), followed by ducks and grebes, with 14,024 individuals (32% of the total number in January), cormorants, with 8,247 individuals (19% of the total number in January), and gulls and terns, with 6,322 individuals (16% of the total number in December). Although the February count was the peak count for this winter, only shorebirds and rails and coots had a peak count that month. Cormorants and ducks and grebes had the peak number of 8,247 and 14,024, respectively, recorded in January. Ardeids had a peak count of 4,436 individuals, recorded in the October, and gulls and terns had a peak count of 6,322 individuals, recorded in December.

Table 3. Number of waterbirds counted in winter 2015-2016 by groups and sites. Bold figures are the highest in this winter period.

Group	Site	Oct	Nov	Dec	Jan	Feb	Mar
Cormorants	Deep Bay area	585	4,597	7,310	8,247	8,107	5,674
	Ramsar Site	227	2,508	3,271	4,273	5,870	4,422
	Starling Inlet	1	16	49	31	78	97
Ardeids	Deep Bay area	4,436	3,534	2,588	3,433	3,227	3,829
	Ramsar Site	1,959	1,590	1,513	1,452	1,367	1,734
	Starling Inlet	229	143	82	154	167	235
Ducks and grebes	Deep Bay area	339	7,480	12,086	14,024	13,962	12,870
	Ramsar Site	122	5,333	7,434	5,173	5,248	2,502
	Starling Inlet	7	6	3	16	16	20
Rails and Coots	Deep Bay area	114	112	149	132	156	126
	Ramsar Site	52	38	29	45	31	40
	Starling Inlet	2	3	4	10	15	6
Shorebirds	Deep Bay area	3,177	7,097	11,864	11,756	17,146	10,811
	Ramsar Site	1,999	6,337	9,998	5,668	10,985	7,537
	Starling Inlet	11	25	2	6	4	1
Gulls and terns	Deep Bay area	96	877	6,322	5,833	4,194	1,700
	Ramsar Site	48	877	6,205	5,641	3,597	1,327
	Starling Inlet	2	10	0	0	0	0
Total	Deep Bay area	8,747	23,697	40,319	43,425	46,792	35,010
	Ramsar Site	4,407	16,683	28,450	22,252	27,098	17,562
	Starling Inlet	252	203	140	217	280	359

Compared to the results of the previous year, there were decreases in the peak counts of many waterbird groups, except ducks and grebes. (Table 4).

Table 4. Peak number of different waterbird groups in the Deep Bay area during the mid-winter period (i.e. December to February) from 2002-03 to 2015-16.

Winter	Cormorants	Ardeids	Ducks and Grebes	Rails and Coots	Shorebirds	Gulls and Terns
2002-03	7,959 (Jan)	4,702 (Jan)	20,203 (Jan)	219 (Dec)	9,849 (Feb)	13,191 (Jan)
2003-04 [^]	8,964 (Jan)	3,963 (Dec)	16,856 (Feb)	362 (Jan)	12,856 (Jan)	8,469 (Dec)
2004-05	9,552 (Jan)	6,425 (Dec)	22,521 (Jan)	384 (Feb)	9,806 (Feb)	9,346 (Dec)
2005-06	10,347 (Jan)	4,345 (Jan)	19,657 (Feb)	597 (Dec)	13,695 (Feb)	14,417 (Feb)
2006-07	10,081 (Jan)	4,396 (Dec)	33,779 (Feb)	798 (Feb)	19,054 (Feb)	12,000 (Jan)
2007-08	11,144 (Jan)	3,549 (Jan)	35,066 (Jan)	866 (Jan)	27,720 (Jan)	11,787 (Jan)
2008-09	8,736 (Jan)	4,384 (Feb)	38,099 (Feb)	460 (Jan)	24,069 (Feb)	11,212 (Dec)
2009-10	10,758 (Feb)	3,357 (Jan)	28,700 (Jan)	523 (Jan)	23,926 (Jan)	11,331 (Jan)
2010-11	10,023 (Feb)	3,006 (Dec)	30,628 (Dec)	332 (Jan)	20,708 (Jan)	9,393 (Jan)
2011-12	9,636 (Feb)	3,384 (Dec)	25,739 (Feb)	206 (Jan)	25,299 (Feb)	5,128 (Jan)
2012-13	10,569 (Jan)	2,773 (Jan)	13,169 (Dec)	163 (Jan)	22,320 (Jan)	7,955 (Jan)
2013-14	8,761 (Feb)	2,728 (Feb)	8,259 (Dec)	199 (Dec)	17,573 (Jan)	9,216 (Jan)
2014-15	9,891 (Jan)	3,569 (Dec)	13,985 (Jan)	179 (Dec)	18,261 (Jan)	7,129 (Jan)
2015-16	8,247 (Jan)	3,433 (Jan)	14,024 (Jan)	156 (Feb)	17,146 (Feb)	6,322 (Dec)

[^] Counts in the mid-winter period of 2003-04 were modified by incorporating the results of additional counts. The details are referred to in Part II: additional counts of waterbirds in the Deep Bay Intertidal area in January and February 2004 in Yu (2004) and Anon. (2005).

To avoid stochastic biases for solely adopting the January count (which has been widely used internationally for population estimates) and to acquire a more accurate profile of the number of waterbirds that were dependent on Deep Bay as their habitat for at least part of the winter, the total peak count (i.e. the sum of the peak numbers of each waterbird species) in the mid-winter period (December to February) was extracted to show the maximum number of waterbirds that used the Deep Bay area in winter 2015-16. The total peak count for winter 2015-16 was 55,509 birds (Table 5 and Appendix 3), an increase of 3% over the 53,711 individuals recorded in the previous winter. A comparison of the total peak counts in the five winters from 2011-12 to 2015-16 is shown in Table 5. A comparison of the difference using the total peak count and January count to present the waterbird population is shown in Figure 1. There is a decreasing trend in the waterbird population from the high count of 90,986 individuals in winter 2007-08, while there was no obvious trend in the number of waterbird species.

Table 5. Total peak counts in the winters of past five years.

	Winter 2011-12	Winter 2012-13	Winter 2014-15	Winter 2014-15	Winter 2015-16
Total peak count	72,492	61,674	51,573	53,711	55,509
Total no. of positively-identified waterbird species	64	69	69	66	70

The 10 most numerous waterbird species recorded in the Deep Bay area in mid-winter (December to February) are shown in Table 6. These 10 waterbird species together made up a total of 44,116 individuals, constituting 79% of the total peak count of waterbirds recorded in the mid-winter period. This figure is similar to that of the previous winter (winter 2014-15: 80%, winter 2013-14: 85%, winter 2012-13: 84%, winter 2011-12: 74%). The number of waterbirds recorded on the Hong Kong side was higher than that in the Futian National Nature Reserve during the high-tide period. Surveyors also observed regular movement of wintering waterbirds in the Deep Bay area from Mai Po during the high-tide period to Futian during the low-tide period.

Table 6. The 10 most numerous wintering waterbird species recorded in the Deep Bay area of Hong Kong and Shenzhen in mid-winter (December to February).

Species	Number of birds at Hong Kong side	Number of birds at Futian (i.e. Shenzhen)	Total number
Pied Avocet	6,456	2,819	9,275
Great Cormorant	8,247	NC [^]	8,247
Black-headed Gull	6,098	116	6,214
Tufted Duck	817	4,325	5,142
Dunlin	3,940	0	3,940
Northern Shoveler	1,322	2,428	3,750
Eurasian Wigeon	2,868	411	3,279
Northern Pintail	2,006	10	2,016
Eurasian Curlew	1,150	95	1,245
Little Egret	941	67	1,008
Total	33,845 (77%)	10,271 (23%)	44,116

[^] No roost count was made in Futian. Nevertheless, waterbird count surveyors at Shenzhen have reported regularly that there was no evening roost of cormorants at Futian area these years.

3.2 *Species of conservation significance*

Some waterbird species recorded in the Deep Bay area are of conservation significance because they are globally threatened, according to BirdLife International (2016), or if the Deep Bay area supports at least 1% of their regional or flyway population. The data related to the '1% of the regional or flyway population' was adopted from Wetlands International (2016). The focus is on the wintering population, which refers to mid-winter peak counts (December to February), and significant figures in the other months during the study period are provided as supplementary information. Brief reviews of the important waterbird species recorded in winter 2015-16 are shown below.

Great Cormorant *Phalacrocorax carbo*

Coordinated counts at evening roosting sites in the Mai Po Marshes Nature Reserve and Nam Sang Wai in December 2015, January and February 2016 recorded 7,310, 8,247 and 8,107 individuals, respectively. The peak count (January 2015) showed a decrease of 17% over that of the previous winter (9,891 individuals). Applying 1% of the regional population at 1,000 individuals (Wetlands International 2016), the Deep

Bay wintering population of this species constituted about 8% of the regional population in winter 2015-16.

Great Egret *Ardea alba*

The mid-winter peak count was 873 individuals, recorded in December. Although this was a decrease of 8% over that of the previous winter (949 individuals), the wintering population was just below the 1% regional population of 1,000 individuals (Wetlands International 2016). It is worth noting that the highest count in the whole survey period was 1,448 individuals, recorded in October 2015, which showed that the number of Great Egrets recorded in Deep Bay, possibly involving passage individuals, once exceeded the 1% regional population.

Black-faced Spoonbill *Platalea minor*

Endangered

The International Black-faced Spoonbill Census in mid-January 2016 recorded a total of 3,356 individuals in the East Asia region (HKBWS 2016). The highest count of wintering Black-faced Spoonbills (i.e. from December to February) in the Deep Bay area was 362 individuals, recorded in the January and February count, which was a decrease of 20% over that of the previous winter (455 individuals). The Deep Bay area supported 11% of the known world population of this species in winter 2015-16.

Falcated Duck *Anas falcata*

Near Threatened

Three individuals were recorded in February 2016, higher than the peak count of two individuals recorded in the previous winter. This species was usually recorded in small numbers (fewer than 10 birds) in previous winters. The 1% regional population level is set at 830 individuals (Wetlands International 2016)

Northern Pintail *Anas acuta*

The 1% of the regional population level of this species was set at 2,400 individuals (Wetlands International 2016). The peak count was 2,016 individuals, recorded in December 2015 and that is similar to the peak count of the previous winter (i.e. 2,021 individuals). Therefore, this winter record did not meet the 1% level.

Northern Shoveler *Anas clypeata*

The 1% of the regional population number is set at 5,000 individuals (Wetlands International 2016). The peak count of this species was 3,750 individuals, recorded in January 2016, and therefore, the winter 2015-16 count was less than 1% of the regional population. The count was 5% lower than that of the previous winter (3,948 individuals).

Tufted Duck *Aythya fuligula*

The peak count in the mid-winter period was 5,142 individuals, recorded in January 2016, an increase of 85% over that of the previous winter (2,773 individuals). The 1% regional population level is set at 2,400 individuals (Wetlands International 2016), so the Deep Bay area supported over 2% of the known world population of this species in winter 2015-16.

Common Pochard *Aythya ferina*

Vulnerable

Seven individuals were recorded in the December count, which was the peak count of this winter, while there were no individual recorded in the previous winter. This species was uplisted from Least Concern to Vulnerable because new information suggests the population has declined rapidly across the majority of the range (Birdlife International 2016). This species was usually recorded in small numbers in previous winters. The 1% regional population level is set at 3,000 individuals (Wetlands International 2016)

Pied Avocet *Recurvirostra avosetta*

A total of 9,275 individuals were recorded in the February count, which was the peak count of this winter and a decrease of 15% from the peak count of the previous year (10,957 individuals). Applying the criterion of 1% of the regional population at 1,000 individuals (Wetlands International 2016), this winter peak count constituted over 9% of the regional population in winter 2015-16.

Black-tailed Godwit *Limosa limosa*

Near Threatened

A total of 955 individuals were recorded during the high-tide period of the February count. This was the peak count of winter 2015-16 and an increase of 22% over the peak count of the previous winter (780 individuals). This species was more frequently present in Hong Kong during the mid-winter period this year, while last year they were mainly recorded in Futian. The 1% regional population was 1,400 individuals (Wetlands International 2016).

Bar-tailed Godwit *Limosa lapponica*

Near Threatened

A total of four individuals were recorded during the the high-tide period of the January count in the mid-winter period, while the peak count of this winter were recorded in March with a total of eight individuals. This species was uplisted as Near Threatened in 2015 due to rapid decline of the population from severe habitat loss in the Yellow Sea (BirdLife International 2016). The 1% regional population was set at

2,800 individuals consisting figures of two subspecies populations: *menzbieri* (1,500 individuals for 1% population) and *baueri* (1,300 individuals for 1% population) (Wetlands International 2016).

Eurasian Curlew *Numenius arquata* Near Threatened

The winter peak count of this species was 1,245 individuals, recorded in February 2016, an increase of 24% from the peak of the previous winter (1,005 individuals). As the 1% regional population was 1,000 individuals (Wetlands International 2016), this winter peak count constituted 1% of the regional population in winter 2015-16.

Far Eastern Curlew *Numenius madagascariensis* Endangered

One individual was recorded in the December count during mid-winter period. This species was uplisted from Vulnerable to Endangered due to new information suggests it is undergoing a very rapid population decline which is suspected to have been primarily driven by habitat loss and deterioration in the Yellow Sea region (Birdlife International 2016) This species was usually recorded in small numbers (fewer than 10 birds) in previous winters. The 1% regional population level is set at 320 individuals (Wetlands International 2016).

Nordmann's Greenshank *Tringa guttifer* Endangered

Two individuals were recorded this winter in February 2016. The global population is estimated at 400-600 individuals and 1% of the global population is set at 5 individuals (Wetlands International 2016).

Great Knot *Calidris tenuirostris* Endangered

The mid-winter peak count was 115 individuals, recorded in February, about 4 times higher from the peak count of 30 birds in the previous winter (recorded in October). This species was uplisted from Vulnerable to Endangered due to recent evidence showing a very rapid population decline caused by reclamation of non-breeding stopover grounds (Birdlife International 2016). The world population is estimated at 290,000 individuals, so 1% of the global population is 2,900 individuals (Wetlands International 2016).

Red Knot *Calidris canutus* Near Threatened

The peak count was 24 individuals, recorded in November, but it may have included passage individuals. The mid-winter peak count was 3 individuals, recorded in December, similar to previous winter. This species was uplisted from Least Concern to Near Threatened. The population wintering in Australia (some individuals winter

in Hong Kong) showed strong decline trend in three generations (Birdlife International 2016). The 1% regional population level is set at 1,100 individuals, consisting figures of two subspecies populations: *piersmai* (560 individuals for 1% population) and *rogersi* (540 individuals for 1% population) (Wetlands International 2016).

Red-necked Stint *Calidris ruficollis* Near Threatened

The peak count was 200 individuals recorded in January. This species was uplisted from Least Concern to Near Threatened in 2015 because the population wintering in Australia showed a declining trend in three generations (Birdlife International 2016). The 1% regional population level is set at 3,200 individuals (Wetland International 2016).

Curlew Sandpiper *Calidris ferruginea* Near Threatened

The peak count was 340 individual recorded in February. This species is mainly a spring passage migrant in Hong Kong. This species was uplisted from Least Concern to Near Threatened in 2015 because the population in the East Asian- Australasian Flyway is apparently declining due to habitat loss in the Yellow Sea (Birdlife International 2016). The 1% regional population level is set at 1,400 individuals (Wetland International 2016).

Saunders's Gull *Chroicocephalus saundersi* Vulnerable

The peak count was 49 individuals, recorded in December 2015, a decrease of 25% over the peak count of the previous year (65 individuals). The 1% global population level is set at 85 individuals (Wetlands International 2016).

3.3 Other notable counts

Greater Crested Grebe *Podiceps cristatus*

The peak count of this species was 158 individuals, recorded in February 2015. This winter result was higher than the previous winter (100 individuals in 2014). This was considerably below 1% of the regional population, which was set at 350 individuals (Wetlands International 2016).

Eurasian Teal *Anas crecca*

The peak count of this species was 769 individuals, recorded in February, a decrease of 9% over the peak count of the previous winter (842 individuals). This species was once one of the most common ducks in the Deep Bay area, with a peak count of 5,348 individuals in February 1996 (Carey *et al.* 2001), but its numbers

continued to fall in recent years: 2,332 individuals in 2008-09 winter, 627 individuals in 2009-10 winter, 1,459 individuals in winter 2010-11, 937 individuals in winter 2011-12, 512 individuals in winter 2012-13 and 311 individuals in winter 2013-14. The count was far below 1% of the regional population for this species, which is set at 7,700 individuals (Wetlands International 2016).

Eurasian Coot *Fulica atra*

The peak count was 66 individuals, recorded in December, an increase of 57% from the peak count of 42 birds in the previous winter. This peak count was far lower than that in the past. The highest count, 3,245 individuals, was in January 1992 and showing great decline in recent years (Carey *et al.* 2001). This year's count was far below 1% of the regional population for this species, which is set at 20,000 individuals (Wetlands International 2016).

Grey Plover *Pluvialis squatarola*

The peak count was 884 individuals and also new high count of Hong Kong, recorded in March 2016, but it may have included passage individuals. The peak count of mid-winter period was 606 individuals, recorded in February 2016, an increase of 2% from the peak count in the previous winter (594 individuals). This year's count was less than 1% of the regional population for this species, which is set at 1,000 individuals (Wetlands International 2016).

Little Ringed Plover *Charadrius dubius*

One per cent of the regional population is set at 250 individuals (Wetlands International 2016). The population in the Deep Bay area occasionally exceeds this level (e.g. 315 individuals in February 2009), but the peak count of this winter was only 119 individuals recorded in March 2016, far below the 1% level, even though there was an increase of 32% over that of the previous winter (90 individuals).

Kentish Plover *Charadrius alexandrinus*

The peak count was 1,241 individuals (from a supplementary shorebird count), recorded in November 2015, but it may have included passage individuals. The mid-winter peak count for this species was 761 individuals, recorded in December 2015, an increase of 77% from the peak count of 429 individuals in the previous winter. The annual mid-winter peak count of this species has fluctuated in recent years (720, 2,640, 3,221, 549, 429 individuals in the past five winters). This winter's count was higher than 1% of the regional population, which is set at 1,000 individuals (Wetlands International 2016).

Spotted Redshank *Tringa erythropus*

The highest count in the mid-winter period was 22 individuals (from a supplementary shorebird count), recorded in January 2016, a decrease of 75% from the peak count of 88 individuals in the previous winter. This species continues its drastic decline from the historical peak count of 2,500 individuals in 2002. This count was far below 1% of the regional population, which is set at 250 individuals (Wetlands International 2016).

Marsh Sandpiper *Tringa stagnatilis*

The peak count was 1,345 in March 2016. The mid-winter peak count for this species was 866 individuals in February 2016, a decrease of 22% from the peak count in the previous winter (1,106 individuals). This species was once an abundant winter visitor in the Deep Bay area with a peak count of 2,884 individuals recorded in January 2011. Though this winter's count was considerably below 1% of the regional population, which is set at 10,000 individuals (Wetlands International 2016).

Common Greenshank *Tringa nebularia*

The winter peak count was 702 individuals, recorded in December, a decrease of 4% from the peak count of the previous winter (735 individuals). As the 1% regional population is set at 1,000 individuals (Wetlands International 2016), the wintering population did not meet the 1% level.

Black-headed Gull *Chroicocephalus ridibundis*

The peak count was 6,214 individuals, recorded in December 2015, a decrease of 11% from the peak count (6,949 individuals) in the previous winter. This species was once one of the most abundant waterbird species in the region, with the highest count of 20,629 individuals in winter 1995-96 (Carey *et al.* 2001), but its numbers have declined since then, with recent winter results usually falling in the range of 5,000 to 10,000 individuals. This winter's count was less than 1% of the regional population, which is set at 20,000 individuals (Wetlands International 2016).

3.4 *Other information collected*

Additional field surveys were conducted in December 2015 to collect more information on fishpond conditions for waterbirds. Out of 596 surveyed fishponds, 157 ponds had wires set up across them (Map 4) and 484 were actively managed (Map 5).

Table 7. Number of wired fishponds and managed fishponds.

Location of surveyed fishponds	No. of fishponds surveyed	Wired ponds	Managed ponds
Shenzhen River 'B'	111	23	79
Shenzhen River 'A'	24	0	22
Sam Po Shue	35	15	35
San Tin	37	1	37
Mai Po San Tsuen	45	7	32
Tam Kon Chau	103	63	95
Lut Chau	28	26	28
Tai Sang Wai	33	20	33
Luen Hing Wai and Wing Kei Tsuen	56	1	40
Nam Sang Wai	37	1	21
Tsim Bei Tsui	87	0	62
<i>Total</i>	596	157	484

4. Conclusion

In the period from October 2015 to March 2016, the peak winter count of waterbirds in the Deep Bay area was 55,509 individuals, including 21,482 shorebirds, 15,576 ducks and grebes, 8,247 cormorants, 6,465 gulls and terns, 3,556 egrets and herons, and 183 rails and coots. This peak count was higher than that of the previous winter, but there was still a declining trend from the peak count of 90,986 individuals in winter 2007-08. There were a total of 70 waterbird species recorded this winter, higher than that of the previous winter of 66 species. The 10 most numerous waterbird species constituted 79% of the total peak count in winter 2015-16, similar to that of winter 2014-15.

The low-tide count conducted this winter provided supplementary information of several shorebird species. Many of these species prefer mudflats to habitats such as *gei wais*. Therefore, the low-tide count helped to increase survey accuracy for some species which prefer the Deep Bay intertidal mudflat area at low tide.

A total of 13 globally threatened or near-threatened waterbird species (i.e. the Black-faced Spoonbill, Falcated Duck, Common Pochard, Black-tailed Godwit, Bar-tailed Godwit, Eurasian Curlew, Far Eastern Curlew, Nordmann's Greenshank, Great Knot, Red Knot, Red-necked Stint, Curlew Sandpiper and Saunders's Gull) and a total of 6 species having at least 1% of the regional population for the species (i.e. the Great Cormorant, Great Egret (in the October count), Black-faced Spoonbill, Tufted Duck, Pied Avocet and Eurasian Curlew) were recorded in the Deep Bay area in during the

2015-16 survey period. The Black-headed Gull showed a decrease again this winter, continuing a falling trend since the peak count of 20,629 in winter 1995-96. But The Great Knot had an unusual high count in this mid-winter period (115 individuals in February), when comparing with a peak of 15 individuals during the mid-winter period of previous winter). The mid-winter peak count of 37 species was higher than that of the previous mid-winter period, while 38 species had a lower mid-winter peak count than that of the previous mid-winter period. The overall mid-winter aggregate had a very mild increase of 3%, comparing with that of the previous winter, attributed to the inconsistent population changes of individual species.

5. Acknowledgements

We would like to thank the following surveyors who participated in the counts: Geoff CAREY, Bonnie CHAN, CHAN Ka-ho, Gary CHOW, Camille CHUNG, Johnson CHUNG, CHEUNG Ka-chung, Forrest and Emily FONG, Helen FONG, Vivian FU, Michael LEVEN, Martin HALE, John and Jemi HOLMES, HO Pui-lam, HUNG Wai-ming, Aaron KEUNG, LAI Nga-yee, Alan LAM, Paul LEADER, Roger LEE, LEE Shing-yiu, Richard LEWTHWAITE, LO Wing-fu, Austin NG, SO Ying-kin, Graham TALBOT, Ivan TSE, WAN Chun-hin, Captain WONG, Haley YEUNG, YING hak-king, and the Shenzhen Bird Watching Society. We would also like to thank the reserve staff of Hong Kong Wetland Park for their contribution in collecting waterbird data.

6. References

Anon. 2005. Winter 2004-05 Report on Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.

Anon. 2014. Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme: Waterbird Count Handbook (3rd ed.). The Hong Kong Bird Watching Society & Agriculture, Fisheries and Conservation Department, Hong Kong SAR Government.

BirdLife International. 2016. IUCN Red List for birds. Downloaded from <http://www.birdlife.org> on 27/04/2016.

Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R.W., Melville, D.S., Turnbull, M. and Young, L. 2001. The Avifauna of

Hong Kong. Hong Kong Bird Watching Society, Hong Kong.

HKBWS 2016. 2016 International Black-faced Spoonbill Census. The Hong Kong Bird Watching Society, Hong Kong. Available from <http://www.hkbws.org.hk/BBS/viewthread.php?tid=24726&extra=page%3D1> (Accessed on April 2016).

Wetlands International. 2016. Waterbird Population Estimates. Available from <http://wpe.wetlands.org>. (Accessed on 23 April 2016).

Yu, Y.T. 2004. Winter 2003-04 Report on Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site. The Hong Kong Bird Watching Society Limited. Hong Kong.

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Figure

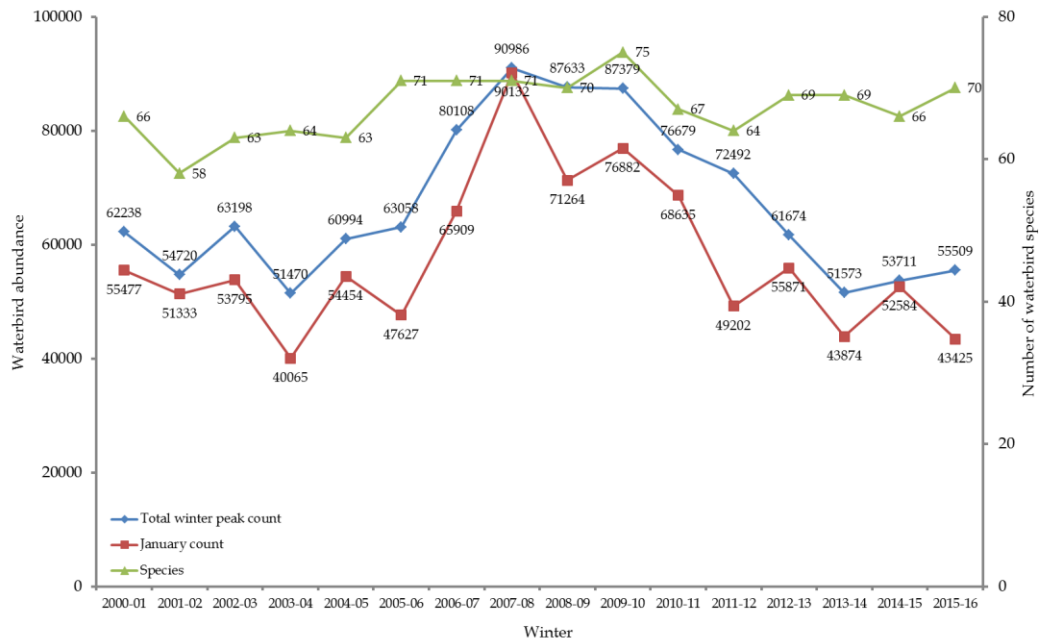


The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Figure 1. Total winter peak counts and January (mid-winter) counts, from 2000-01 to 2015-16.



Note: number of waterbirds in winter 2003-04 was modified and details are referred to Anon (2005). Statistics for 2005-06 have also been revised.

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Maps

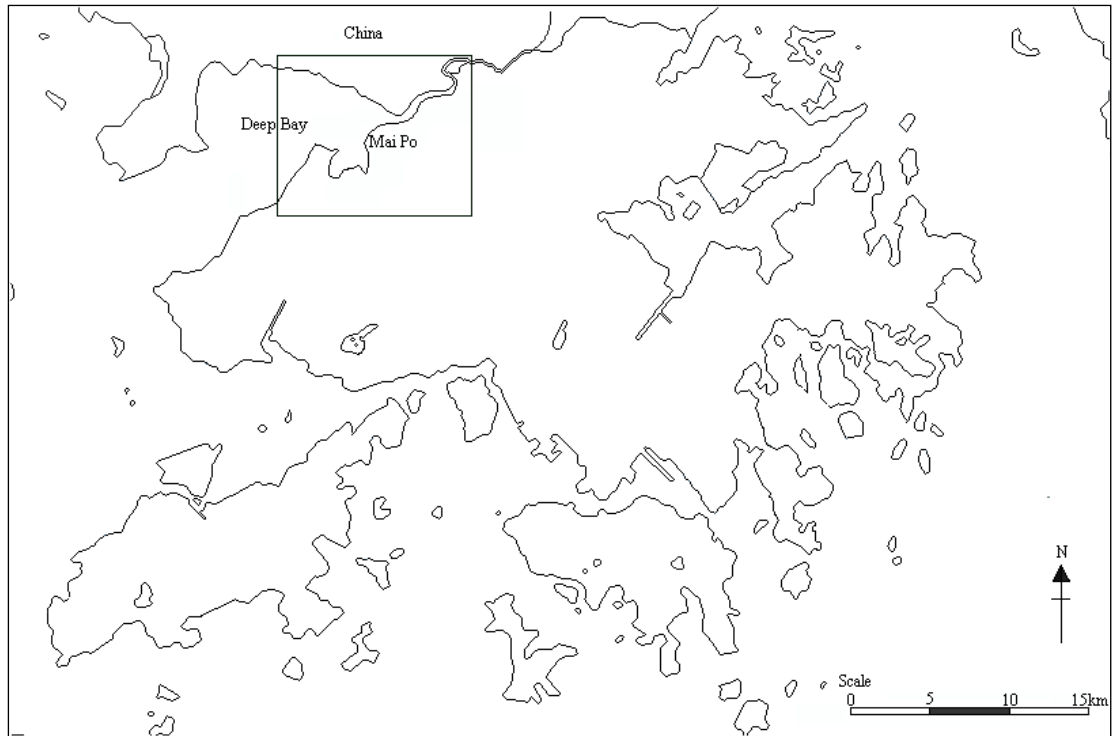


The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Map 1. Map of Hong Kong showing location of the Mai Po Inner Deep Bay Ramsar Site.



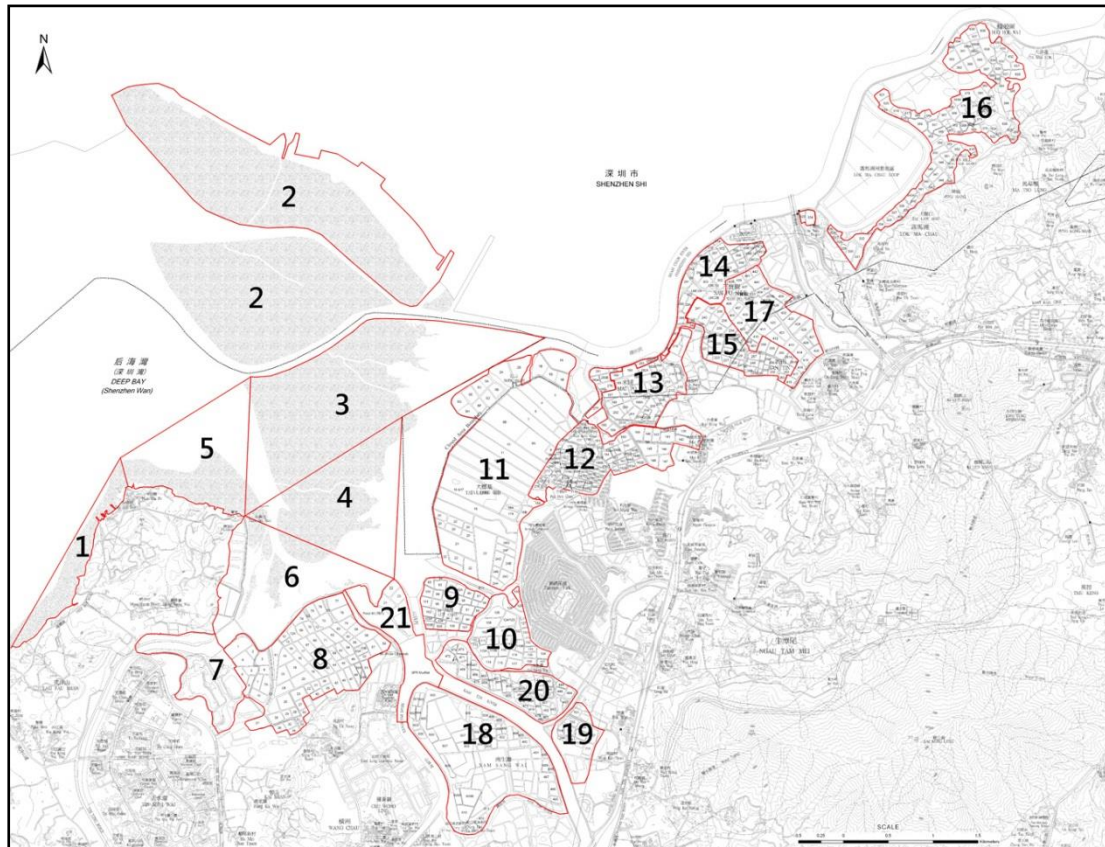
Map 2. Boundary of Mai Po Inner Deep Bay Ramsar Site.



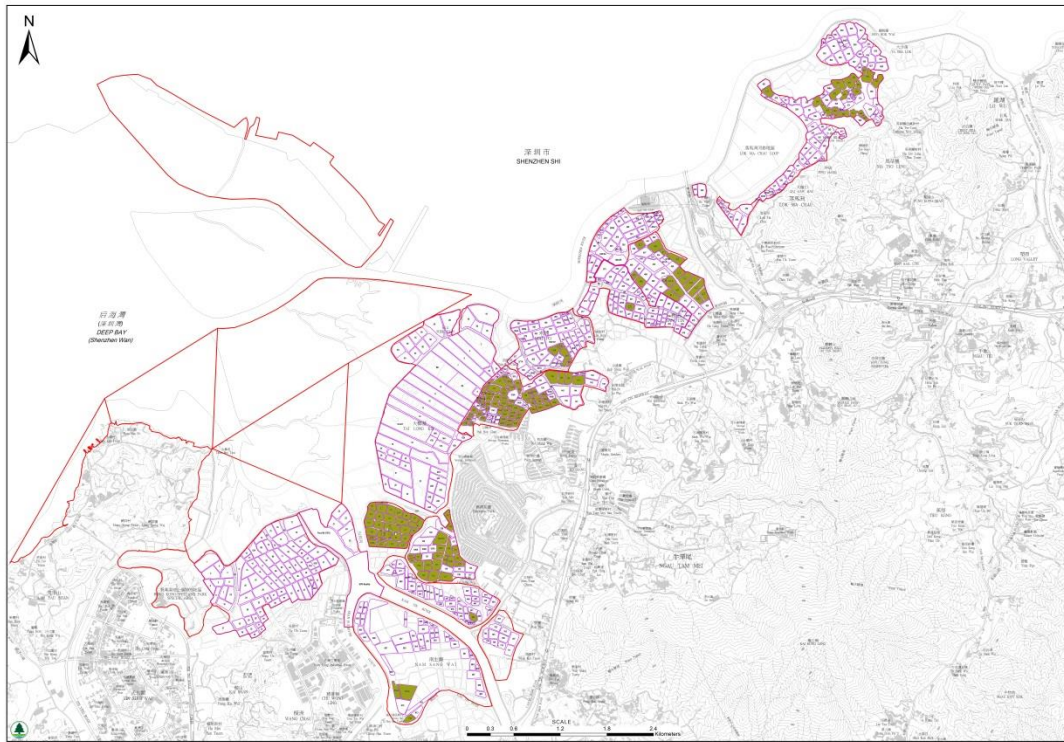
Source of map: AFCD

Map 3. Location of survey sites of the Waterbird Monitoring Programme.

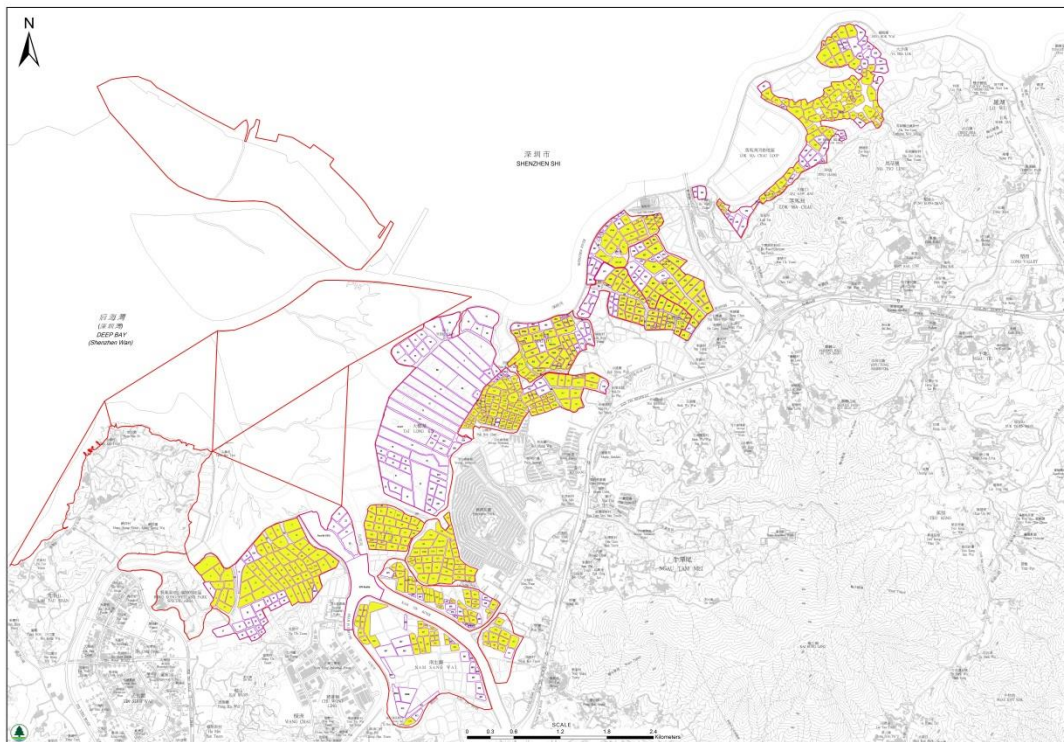
(1: Tsim Bei Tsui to Nim Wan; 2: Deep Bay 'A'; 3: Deep Bay 'B'; 4: Deep Bay 'C'; 5: Deep Bay 'D'; 6: Deep Bay 'E'; 7: Hong Kong Wetland Park; 8: Deep Bay 'F' (Tsim Bei Tsui fishpond); 9: Lut Chau; 10: Tai Sang Wai; 11: Mai Po Marshes Nature Reserve; 12: Tam Kon Chau; 13: Mai Po San Tsuen; 14: Shenzhen River 'A'; 15: San Tin; 16: Shenzhen River 'B'; 17: Sham Po Shue; 18: Nam Sang Wai; 19: Wing Kei Tsuen; 20: Luen Hin Wai; 21: Shan Pui River north.)



Map 4. Distribution of wired ponds (in green) in fishpond area in the Deep Bay area, surveyed in December 2015.



Map 5. Distribution of managed ponds (in yellow) in fishpond area in the Deep Bay area, surveyed in December 2015.



**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Appendix 1



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Summary of Waterbird Count, October 2015

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe	24	42	3					18	0	5	16	1			30	0	18	12	32	42	6	85	0	91	249	7
Great Crested Grebe																					0			0	0	
Great Cormorant	165	30	16	1				30	0	106	6	10			6	0	4	29	3	2	177	49	1	227	585	1
Dalmatian Pelican																					0			0	0	
Grey Heron	176	45	40	3	33		38	40	19	64	16	34	1	9	15	1	9	19	1	49	118	86	92	296	730	14
Purple Heron		1										1									4			4	6	
Great Egret	30	61	144	10	37	2	29	194	42	179	15	1	29	12	130	4	54	67	19	298	91	387	199	677	1448	103
Intermediate Egret	4	2	1	11				0	0	1	0				36	0	1	0	0	3	20	36	11	67	79	
Little Egret	8	124	230	86	37		15	56	27	82	16	4	16	15	272	6	38	17	48	186	171	357	165	693	1454	36
Swinhoe's Egret																					0			0	0	
Pacific Reef Heron																					0			0	0	
Eastern Cattle Egret	0	75						56	0	1	4	4			4	0	20	0	12	56	4	30	0	34	236	71
Chinese Pond Heron	25	42	45	2			1	24	5	25	19	4	1	1	31	8	11	36	20	38	9	110	8	127	347	3
Striated Heron	0	0	1					0	0	0	0				1	0	0	0	0	4	2	1	0	3	8	
B-c Night Heron	0	34	5	1				11	0	18	2				1	1	0	7	0	6	5	22	1	28	91	1
Yellow Bittern	1	2	1					0	0	0	0				0	0	1	0	0	2	2	1	0	3	9	
Cinnamon Bittern																					0			0	0	1
Von Schrenk's Bittern															1						0			0	1	
Eurasian Bittern																					0			0	0	
Black Stork																					0			0	0	
Black-headed Ibis																					0			0	0	
Eurasian Spoonbill																					0			0	0	
Black-faced Spoonbill				7																	20		7	27	27	
Common Shelduck																					0			0	0	
Eurasian Wigeon	0	0	7					0	0	0	0				0	0	0	0	0	0	0	0	0	0	7	
Falcatid Duck																					0			0	0	
Gadwall																					0			0	0	
Baikal Teal																					0			0	0	
Eurasian Teal	0	0						0	0	0	0				0	0	0	0	0	0	7	0	0	7	7	
Mallard																					0			0	0	
Spot-billed Duck																					0			0	0	
Chinese Spot-billed Duck																					1			1	1	
Indian Spot-billed Duck																					0			0	0	
Northern Pintail																					0			0	0	
Garganey			2																		22			22	24	
Northern Shoveler																					0			0	0	
Common Pochard																					0			0	0	
Baer's Pochard																					0			0	0	
Tufted Duck																					0			0	0	
Greater Scaup																					0			0	0	
Red-breasted Merganser																					0			0	0	
Cotton Pygmy Goose																					1			1	1	
Duck sp.			50																		0			0	50	
Slaty-breasted Rail																					0			0	0	
Eastern Water Rail																					0			0	0	
White-breasted Waterhen	1	10	4	11			1	5	1	2	0	1		1	9	3	2	3	1	6	13	19	12	44	74	2
Watercock																					1	0		0	1	
Common Moorhen	0	2	21	1				2	0	0	0	1			2	0	0	0	2	5	3	4	1	8	39	
Eurasian Coot																					0			0	0	

Pheasant-tailed Jacana		2	3																0			0	5		
Greater Painted-snipe																			0			0	0		
Black-winged Stilt	1	5	137			8	66	9						2	1		9	1	3	66	70	239			
Pied Avocet						27												63	27		90	90			
Oriental Pratincole																		0			0	0			
Northern Lapwing																		0			0	0			
Grey-headed Lapwing																		0			0	0			
Pacific Golden Plover			224															0			0	224			
Grey Plover																		0			0	0			
Common Ringed Plover																		0			0	0			
Little Ringed Plover	0	0	3			0	0	0	0			12	17	0	3	0	0	0	2	19	0	21	37		
Kentish Plover			415									4						23			23	442			
Lesser Sand Plover																		0			0	0			
Greater Sand Plover												1						0			0	1			
Black-tailed Godwit																		233			233	233			
Bar-tailed Godwit																		1			1	1			
Whimbrel			1								14							11			11	26	1		
Eurasian Curlew																		0			0	0			
Far Eastern Curlew																		0			0	0			
Spotted Redshank																		0			0	0			
Common Redshank			8				1											86	1		87	95			
Marsh Sandpiper			2				5											818	5		823	825			
Common Greenshank			20			17	8	3									2	427	25		452	477	9		
Nordmann's Greenshank																		0			0	0			
Green Sandpiper	1	1				2	0	1	1			2	0	0	2	4	9	0	4	0	4	23			
Wood Sandpiper	73	0	3			3	0	5	0			3	0	2	2	0	7	1	6	0	7	99			
Terek Sandpiper																		0			0	0			
Common Sandpiper	0	5	18			2	4	0	9	2	2	1	1	20	3	3	3	4	9	2	30	2	34	88	1
Grey-tailed Tattler																		0			0	0			
Ruddy Turnstone																		0			0	0			
Red-necked Phalarope																		0			0	0			
Pintail Snipe																		0			0	0			
Swinhoe's Snipe																		0			0	0			
Pintail/Swinhoe's Snipe	2	1						1									2	0			0	6			
Common Snipe	3									3		1						0			0	7			
Long-billed Dowitcher																		0			0	0			
Asian Dowitcher																		0			0	0			
Red Knot																		2			2	2			
Great Knot																		6			6	6			
Sanderling																		0			0	0			
Red-necked Stint																		0			0	0			
Little Stint																		0			0	0			
Temminck's Stint						3		1										0			0	4			
Long-toed Stint																		0			0	0			
Pectoral Sandpiper																		0			0	0			
Sharp-tailed Sandpiper																		0			0	0			
Dunlin																		93			93	93			
Curlew Sandpiper																		0			0	0			
Spoon-billed Sandpiper																		0			0	0			
Broad-billed Sandpiper																		0			0	0			
Ruff																		0			0	0			
Wader sp.			112			42												0	42		42	154			
Small wader sp.																		0			0	0			

Black-tailed Gull																					0			0	0			
Heuglin's Gull																						0			0	0		
Caspian Gull																						0			0	0		
Slaty-backed Gull																						0			0	0		
Pallas's Gull																						0			0	0		
Large Gull spp.																						0			0	0		
Brown-headed Gull																						0			0	0		
Black-headed Gull	0	0						0	0	0	0				0	0	0	0	0	0	0	4	0	0	4	4		
Saunders's Gull																						0			0	0		
Whiskered Tern		4											14		5	2	2			21	9	35	9		44	92	2	
White-winged Tern																						0			0	0		
Gull-billed Tern																						0			0	0		
Caspian Tern																						0			0	0		
Total	514	488	1516	133	107	4	84	542	174	512	97	66	76	57	585	28	170	198	167	745	2484	1358	565	4407	8747	252		
	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	585	7%	227	5%	1	0%																						
Ardeids etc	4436	51%	1959	44%	229	91%																						
Ducks, grebes, pelicans	339	4%	122	3%	7	3%																						
Rails, coot etc	114	1%	52	1%	2	1%																						
Shorebirds	3177	36%	1999	45%	11	4%																						
Gulls and terns	96	1%	48	1%	2	1%																						
TOTAL	8747	100%	4407	100%	252	100%																						
Date of count: 11 Oct 2015																												
High tide measured at TBT: 2.3m																												
Wetland-dependent species																												
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet		
Western Osprey			1					1													4	1		5	6			
Black Kite	0	5						9	4	8	0			1	3	0	2	0	0	1	16	14	11	41	49			
White-bellied Sea Eagle																					0			0	0			
Eastern Marsh Harrier										1											1			1	2			
Eastern Buzzard																					0			0	0			
Greater Spotted Eagle	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0			
Eastern Imperial Eagle	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0			
Peregrine Falcon															1						2	1		3	3			
Pied Kingfisher	1	2	5					3	0	2	0	1			0	0	1	6	0	2	5	10	0	15	28	1		
Common Kingfisher	4	7	2					4	1	3	3	1		1	8	4	6	6	7	4	5	29	1	35	66	2		
White-throated Kingfisher	0	3	6					0	1	2	0			1	1	0	1	0	0	0	2	3	1	6	17	1		
Black-capped Kingfisher	0	0	1					0	1	0	0				0	0	0	0	0	1	0	0	1	1	3			
Red-billed Starling	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0			
Collared Crow	0	2	3					2	0	0	4	4			4	8	7	13	2	4	21	32	0	53	74			
Black-winged Kite									1						1					1	1	1		2	4			
Besra															1							1		1	1			
Amur Falcon																				1				0	1			
Eurasian Hobby																					1	1		2	1			

Summary of Waterbird Count, November 2015

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe	22	21						17	0	10	6	2			12	0	20	46	37	20	8	90	0	98	221	6
Great Crested Grebe			1																		0			0	1	
Great Cormorant	1462	263	67	1470				383	7	114	6	68			32	10	50	134	35	70	426	611	1471	2508	4597	16
Dalmatian Pelican																					0			0	0	
Grey Heron	84	35	52	68	10		46	31	43	108	16	33			6	11	7	8	7	15	198	66	167	431	778	33
Purple Heron												1									1			1	2	
Great Egret	74	55	65	54	95	3	14	37	8	82	11	2	5	17	34	8	17	10	4	249	78	85	174	337	922	78
Intermediate Egret	0	3						0	0	0	0				0	0	0	0	0	1	7	0	0	7	11	
Little Egret	4	55	119	147	17		10	37	20	87	24	7	6	11	124	9	29	14	5	291	31	173	194	398	1047	21
Swinhoe's Egret																					0			0	0	
Pacific Reef Heron																					0			0	0	
Eastern Cattle Egret	6	1						5	0	0	11				7	0	34	0	8	21	0	57	0	57	93	1
Chinese Pond Heron	37	29	58	7				5	0	31	17		1	4	68	7	11	20	14	55	16	88	7	111	380	10
Striated Heron	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	
B-c Night Heron	2	0						0	0	0	0				1	0	0	0	0	0	3	0	0	3	6	
Yellow Bittern	0	0						0	0	1	0				0	0	0	0	1	0	0	0	0	0	2	
Cinnamon Bittern																					0			0	0	
Eurasian Bittern																					0			0	0	
Black Stork																					0			0	0	
Black-headed Ibis																					0			0	0	
Eurasian Spoonbill				1																	0		1	1	1	
Black-faced Spoonbill	5	1	26	152	13		47	2	2	8	1	6			2						27	3	214	244	292	
Common Shelduck																					0			0	0	
Eurasian Wigeon	72	0	45	960			8	0	0	0	0	9			0	0	0	0	0	0	248	0	968	1216	1342	
Falcated Duck																					0			0	0	
Gadwall																					0			0	0	
Baikal Teal																					0			0	0	
Eurasian Teal	251	30		140			4	3	3	44	0	67			2	0	0	0	0	0	68	5	147	220	612	
Mallard																					0			0	0	
Spot-billed Duck																					0			0	0	
Chinese Spot-billed Duck																					0			0	0	
Indian Spot-billed Duck																					0			0	0	
Northern Pintail	3		32	1550		1	45														0		1596	1596	1631	
Garganey	1		10	36																	4		36	40	51	
Northern Shoveler	1		1026	1230			1			30											120		1231	1351	2408	
Common Pochard																					0			0	0	
Baer's Pochard																					0			0	0	
Tufted Duck			300				1	2													1		1	2	304	
Greater Scaup																					0			0	0	
Red-breasted Merganser																					0			0	0	
Duck sp.			100	730	80																0		810	810	910	
Slaty-breasted Rail																					0			0	0	
Eastern Water Rail																					0			0	0	
White-breasted Waterhen	2	5	1	2				0	0	0	4				2	0	1	1	1	1	2	7	2	11	22	
Watercock			0																		0			0	0	
Common Moorhen	4	4	46					3	0	1	0	4			6	0	0	2	0	1	10	11	0	21	81	3
Eurasian Coot			3												2						4	2		6	9	
Pheasant-tailed Jacana	5																				0			0	5	
Greater Painted-snipe																					0			0	0	

Black-winged Stilt	35		49					67		160		9			1		5			7	0	39		39	333	
Pied Avocet		7	5	67	20			109	10	57											116	86	97	299	391	4
Oriental Pratincole																					0			0	0	
Northern Lapwing																					0			0	0	
Grey-headed Lapwing			5																		0			0	5	
Pacific Golden Plover				266																	0		266	266	266	
Grey Plover				108																	0		108	108	108	
Common Ringed Plover																					0			0	0	
Little Ringed Plover	9	25	7	7				0	0	0	7				8	0	0	7	10	10	1	22	7	30	91	
Kentish Plover				758																	0		758	758	758	3
Lesser Sand Plover																					0			0	0	
Greater Sand Plover				7																	0		7	7	7	13
Black-tailed Godwit																					0			0	0	
Bar-tailed Godwit				2																	0		2	2	2	
Whimbrel				8																	0		8	8	8	
Eurasian Curlew				112																	0		112	112	112	
Far Eastern Curlew				1																	0		1	1	1	
Spotted Redshank										13											0			0	13	
Common Redshank				57																	0		57	57	57	
Marsh Sandpiper				1	137																0		137	137	138	
Common Greenshank	1		37	383					75	22					1	1	1				51	3	458	512	572	2
Nordmann's Greenshank																					0			0	0	
Green Sandpiper	0	7						2	0	0	0	3			3	0	0	4	0	1	0	7	0	7	20	
Wood Sandpiper	11	1	73					16	0	3	0				0	0	0	7	1	6	0	16	0	16	118	
Terek Sandpiper																					0			0	0	
Common Sandpiper	1	14	18	2				4	0	7	0			1	18	4	2	6	6	11	1	22	2	25	95	3
Grey-tailed Tattler																					0			0	0	
Ruddy Turnstone																					0			0	0	
Red-necked Phalarope																					0			0	0	
Pintail Snipe																					0			0	0	
Swinhoe's Snipe																					0			0	0	
Pintail/Swinhoe's Snipe		2																			0			0	2	
Common Snipe	3	1	4					5												1	0	5		5	14	
Long-billed Dowitcher				1																	0		1	1	1	
Asian Dowitcher																					0			0	0	
Red Knot				24																	0		24	24	24	
Great Knot				37																	0		37	37	37	
Sanderling																					0			0	0	
Red-necked Stint				12																	0		12	12	12	
Little Stint																					0			0	0	
Temminck's Stint	1															6				10	1	6		7	18	
Long-toed Stint																					0			0	0	
Pectoral Sandpiper																					0			0	0	
Sharp-tailed Sandpiper																					0			0	0	
Dunlin			2	3840																	0		3840	3840	3842	
Curlew Sandpiper																					0			0	0	
Spoon-billed Sandpiper																					0			0	0	
Broad-billed Sandpiper																					0			0	0	
Ruff																					0			0	0	
Wader sp.			20		27																0		27	27	47	
Small wader sp.																					0			0	0	
Black-tailed Gull																					0			0	0	
Heuglin's Gull				2																	0		2	2	2	

Caspian Gull																					0			0	0			
Slaty-backed Gull																						0			0	0		
Pallas's Gull																						0			0	0		
Large Gull spp.																						0			0	0		
Brown-headed Gull																						0			0	0		
Black-headed Gull	0	0		875				0	0	0	0				0	0	0	0	0	0	0	0	0	875	875	875	10	
Saunders's Gull																						0			0	0		
Whiskered Tern																						0			0	0		
White-winged Tern																						0			0	0		
Gull-billed Tern																						0			0	0		
Caspian Tern																						0			0	0		
Total	2096	559	2172	13253	262	4	176	728	168	778	103	211	12	33	328	50	177	266	129	770	1422	1404	13857	16683	23697	203		
	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	4597	19%	2508	15%	16	8%																						
Ardeids etc	3534	15%	1590	10%	143	70%																						
Ducks, grebes, pelicans	7480	32%	5333	32%	6	3%																						
Rails, coot etc	112	0%	38	0%	3	1%																						
Shorebirds	7097	30%	6337	38%	25	12%																						
Gulls and terns	877	4%	877	5%	10	5%																						
TOTAL	23697	100%	16683	100%	203	100%																						
Date of count: 15 Nov 2015																												
* = count not included in the total																												
Wetland-dependent																												
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet		
Western Osprey					1																2		1	3	3			
Black Kite	0	6	2		1	4	1	1	0	1	3				0	4	0	1	1	1	8	9	6	23	34			
White-bellied Sea Eagle																					0			0	0			
Eastern Marsh Harrier																					3			3	3			
Eastern Buzzard		1	1		1							1								2	1		1	2	7	1		
Greater Spotted Eagle	0	1						0	0	0	0				0	0	1	0	0	1	0	1	0	1	3			
Eastern Imperial Eagle	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0			
Peregrine Falcon																					0			0	0			
Pied Kingfisher	1	1	4					0	1	0	0		2	2	0	0	0	2	1	2	4	2	1	7	20			
Common Kingfisher	1	4	3					0	0	0	1			1	6	0	2	2	1	6	3	10	0	13	30			
White-throated Kingfisher	1	0	3		1	2		0	0	1	0	1		1	1	0	0	0	0	1	0	1	3	4	12	3		
Black-capped Kingfisher	0	0	2					0	0	0	0				0	0	0	0	0	0	0	0	0	0	2	1		
Red-billed Starling	0	0						0	0	0	23				0	0	0	0	10	0	0	0	0	0	33			
Collared Crow	0	2				2		1	1	0	2			3	1	15	0	0	1	0	8	20	2	30	36	2		
Japanese Sparrowhawk															1							1	0	1	1			

Summary of Waterbird Count, December 2015

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Little Grebe	40	18	2					15	0	13	12	1		1	41	0	3	10	4	33	20	44	0	64	213	3	
Great Crested Grebe						3								1							0		3	3	4		
Great Cormorant	1234*	76*	45*					302*	0	4039	29*	51*			23*	51*	171*	67*	22*	54*	3271		0	3271	7310	49	
Dalmatian Pelican																					0			0	0	0	
Grey Heron	132	21	44	6	13	2	55	11	15	13	1	17		6	18	12	6	19	13	17	113	48	91	252	534	27	
Purple Heron					1																3		1	4	4		
Great Egret	33	18	47	128	39	1	1	107	6	18	7	3	1	13	5	4	8	43	16	23	80	167	175	422	601	35	
Intermediate Egret	3	0		2				0	0	0	0				0	0	0	0	0	1	2	0	2	4	8		
Little Egret	56	31	66	44	5	3	1	12	10	16	19	2	1	23	167	23	41	8	7	60	151	231	63	445	746	17	
Swinhoe's Egret																					0			0	0		
Pacific Reef Heron																					0			0	0		
Eastern Cattle Egret	0	1						5	0	0	0				0	4	20	0	1	12	1	29	0	30	44		
Chinese Pond Heron	38	39	37	1				6	1	17	13	2			77	6	13	20	6	16	18	101	2	121	310	3	
Striated Heron	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0		
B-c Night Heron	2	0						0	0	1	0				0	0	0	0	0	0	10	0	0	10	13		
Yellow Bittern	0	0						0	0	0	0				1	0	0	0	0	0	0	1	0	1	1		
Cinnamon Bittern																					0			0	0		
Eurasian Bittern																					0			0	0		
Black Stork																					0			0	0		
Black-headed Ibis																					0			0	0		
Eurasian Spoonbill										1											0			0	1		
Black-faced Spoonbill	11		53	33	12		89			3		16			18				30		1	60	30	134	224	326	
Common Shelduck																					0			0	0		
Eurasian Wigeon	155	4	437	630	8	35	1	0	25	0	0	71	120		0	0	0	0	0	0	1140	0	699	1839	2626		
Falcatid Duck																					2			2	2		
Gadwall																					1			1	1		
Baikal Teal																					0			0	0		
Eurasian Teal	292	12	20	7		1		46	15	14	0	26			0	0	0	0	0	0	85	43	23	151	518		
Mallard																					0			0	0		
Spot-billed Duck																					0			0	0		
Chinese Spot-billed Duck																					3			3	3		
Indian Spot-billed Duck																					2			2	2		
Northern Pintail			10	1583	83	2	160					37	80								61		1828	1889	2016		
Garganey												12									0			0	12		
Northern Shoveler	6		1494	584	2	8			18	36		207	50					10		3	890	10	612	1512	3308		
Common Pochard	2		4												1						0			0	7		
Baer's Pochard																					0			0	0		
Tufted Duck			1160			1080	131		6			27			14						635	6	1211	1852	3053		
Greater Scaup																					0			0	0		
Smew																					1			1	1		
Red-breasted Merganser																					0			0	0		
Duck sp.			300																		0			0	300		
Slaty-breasted Rail																					0			0	0		
Eastern Water Rail																					0			0	0		
White-breasted Waterhen	2	0	3					0	0	3	0				1	0	0	0	0	1	3	1	0	4	13	2	
Watercock																					0			0	0		
Common Moorhen	12	1	32					3	0	2	0	3			0	0	0	0	0	2	15	0	0	15	70	2	
Eurasian Coot	8		48																		10			10	66		
Pheasant-tailed Jacana	1																				0			0	1		
Greater Painted-snipe																					0			0	0		

Black-winged Stilt		1	66	38				28	82	23		9				6	1		23	0	35	120	155	277		
Pied Avocet	8	217	349	1524				62	92	166		3			8	1	5	5		68	334	41	1616	1991	2842	
Oriental Pratincole																				0			0	0		
Northern Lapwing																				0			0	0		
Grey-headed Lapwing	1		2																	0			0	3		
Pacific Golden Plover				486																0		486	486	486		
Grey Plover				400																1		400	401	401		
Common Ringed Plover																				0			0	0		
Little Ringed Plover	0	8						0	0	0	0	2		2	20	0	6	4	1	1	1	16	0	17	45	
Kentish Plover				415																0		415	415	415		
Lesser Sand Plover				5																0		5	5	5		
Greater Sand Plover				1																0		1	1	1		
Black-tailed Godwit				656																0		656	656	656		
Bar-tailed Godwit				2																0		2	2	2		
Whimbrel				2																0		2	2	2		
Eurasian Curlew				362																0		362	362	362		
Far Eastern Curlew				1																0		1	1	1		
Spotted Redshank									1											0		1	1	1		
Common Redshank			11	413					1											2		413	415	427		
Marsh Sandpiper			8	351					4			3			2				1	19		351	370	388		
Common Greenshank			31	632					2			19			1		4			13	4	632	649	702		
Nordmann's Greenshank																				0			0	0		
Green Sandpiper	0	1					1	0	0	5	0	2		1	6	1	0	3	0	0	0	6	1	7	20	
Wood Sandpiper	2	1	7					0	0	0	0	3			1	1	1	0	0	3	0	3	0	3	19	
Terek Sandpiper																				0			0	0		
Common Sandpiper	0	4	44					2	12	5	0			2	23	2	5	12	3	1	1	33	12	46	116	2
Grey-tailed Tattler																				0			0	0		
Ruddy Turnstone																				0			0	0		
Red-necked Phalarope																				0			0	0		
Pintail Snipe												1								0			0	1		
Swinhoe's Snipe																				0			0	0		
Pintail/Swinhoe's Snipe		4																		0			0	4		
Common Snipe		1	3															4			0	4	4	4	8	
Long-billed Dowitcher									1											0		1	1	1		
Asian Dowitcher																				0			0	0		
Red Knot				3																0		3	3	3		
Great Knot				64																0		64	64	64		
Sanderling																				0			0	0		
Red-necked Stint			60																	0			0	60		
Little Stint																				0			0	0		
Temminck's Stint		1																		0			0	1		
Long-toed Stint																				0			0	0		
Pectoral Sandpiper																				0			0	0		
Sharp-tailed Sandpiper																				0			0	0		
Dunlin				3940																0		3940	3940	3940		
Curlew Sandpiper																				0			0	0		
Spoon-billed Sandpiper																				0			0	0		
Broad-billed Sandpiper				1																0		1	1	1		
Ruff																				0			0	0		
Wader sp.																				0			0	0		
Small wader sp.																				0			0	0		
Black-tailed Gull																				0			0	0		
Heuglin's Gull				58																0		58	58	58		
Caspian Gull																				0			0	0		

Slaty-backed Gull																							0	0	0		
Pallas's Gull																							0	0	0		
Large Gull spp.																							0	0	0		
Brown-headed Gull																							0	0	0		
Black-headed Gull	0	0	116	5740		140	3	118	0	1	0			0	96	0	0	0	0	0	214	5883	6097	6214			
Saunders's Gull				49																		0	49	49	49		
Franklin's Gull				1																		1	1	1	1		
Whiskered Tern																						0	0	0	0		
White-winged Tern																						0	0	0	0		
Gull-billed Tern																						0	0	0	0		
Caspian Tern																						0	0	0	0		
Total	804	383	4454	18162	163	1275	442	415	286	4381	52	466	252	49	404	150	118	169	51	266	6948	1067	20320	28335	39690	140	
	Deep Bay Area	%	Ramsar Site	%	SI	%																					
Cormorants	7310	18.4%	3271	11.5%	49	35.0%																					
Ardeids etc	2588	6.5%	1513	5.3%	82	58.6%																					
Ducks, grebes, pelicans	12066	30.4%	7319	25.8%	3	2.1%																					
Rails, coot etc	149	0.4%	29	0.1%	4	2.9%																					
Shorebirds	11255	28.4%	9998	35.3%	2	1.4%																					
Gulls and terns	6322	15.9%	6205	21.9%	0	0.0%																					
TOTAL	39690	100.0%	28335	100.0%	140	100.0%																					
Date of count: 13 Dec 2015																											
* = count not included in the total																											
Wetland-dependent species																											
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Western Osprey			3	3		1															2			2	9		
Black Kite	0	1		1			2	0	0	0	8				3	1	18	0	3	1	22	30	3	55	60		
White-bellied Sea Eagle																					0			0	0		
Eastern Marsh Harrier				1																	0			0	1		
Eastern Buzzard		1					1								2	1					1	3	1	5	6		
Greater Spotted Eagle	0	0						0	0	0	0				0	0	0	0	0	0	2	0	0	2	2		
Eastern Imperial Eagle	1	0						0	0	0	0				0	0	0	0	0	0	1	0	0	1	2		
Peregrine Falcon																					0			0	0		
Pied Kingfisher	0	0	5				3	0	0	0	0	1			1	0	7	2	3	0	2	9	3	14	24		
Common Kingfisher	2	2	4					0	0	2	0	2			10	0	1	0	1	0	1	8	0	9	25		
White-throated Kingfisher	0	0	1	2				1	0	1	0	1			0	0	0	0	0	0	1	0	2	3	7		
Black-capped Kingfisher	0	0	1					0	0	0	0				0	0	0	0	0	0	0	0	0	0	1		
Red-billed Starling	93	0	12					0	0	26	0				17	0	0	350	0	0	250	367	0	617	748		
Collared Crow	0	7	2			2		0	0	0	0				2	1	5	2	1	0	3	10	2	15	25		

Summary of Waterbird Count, January 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Little Grebe	75	32						35	0	2	1				58	0	6	76	23	61	22	125	0	147	391	12	
Great Crested Grebe			29		3	24								27							0		27	27	83		
Great Cormorant	1047*	234*	81*					450*	41*	3974	34*	93*			19*	4*	51*	160*	74*	26*	4273	681*	23*	4273	8247	31	
Dalmatian Pelican																					0			0	0		
Grey Heron	225	77	68	6	7	14	14	42	38	79	5	22		4	14	2	24	30	9	33	94	135	65	294	807	38	
Purple Heron																					2			2	2		
Great Egret	87	104	72	88	39	7	2	26	23	13	6	1	2	19	12	18	58	38	6	176	76	148	155	379	873	94	
Intermediate Egret	1	1						0	0	0	0				1	0	0	0	0	1	2	1	0	3	6		
Little Egret	42	77	67	16	1	6	3	20	4	10	6	2		9	160	28	74	126	57	198	102	363	28	493	1008	12	
Swinhoe's Egret																					0			0	0		
Pacific Reef Heron																					0			0	0		
Eastern Cattle Egret	0	4						0	0	0	0				0	28	20	5	3	25	8	53	0	61	93		
Chinese Pond Heron	38	21	39	2				5	7	15	7	1			34	0	10	19	40	22	13	64	9	86	273	6	
Striated Heron	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0		
B-c Night Heron	4	0						1	0	0	0				0	0	0	0	0	0	1	1	0	2	6	4	
Yellow Bittern	0	0						0	0	0	0				1	0	0	0	0	0	0	1	0	1	1		
Cinnamon Bittern																					0			0	0		
Eurasian Bittern																					0			0	0		
Black Stork																					0			0	0		
Black-headed Ibis																					0			0	0		
Eurasian Spoonbill																					0			0	0		
Black-faced Spoonbill	85	8	52		14	2	12	1	8	2							4	32		3	56	37	36	129	362		
Common Shelduck																					0			0	0		
Eurasian Wigeon	81	0	411	1950		1	230	0	0	2	0	67			0	0	0	0	0	3	534	0	2181	2715	3279		
Falcated Duck				2																	0			2	2	2	
Gadwall																					2			2	2		
Baikal Teal																					0			0	0		
Eurasian Teal	170	88				5		21	38	66	0	8			0	0	0	0	13	0	29	12	43	84	438		
Mallard																					0			0	0		
Spot-billed Duck																					0			0	0		
Chinese Spot-billed Duck																					0			0	0		
Indian Spot-billed Duck																					0			0	0		
Northern Pintail			577	194	45		4														42		243	285	884		
Garganey	1		42	3																	3		3	6	53		
Northern Shoveler	23	5	2428	187			7	9	7	213										4	3	536	6	201	743	3750	4
Common Pochard																					0			0	0		
Baer's Pochard																					0			0	0		
Tufted Duck	30	1	4325			345	29	55		37		36						26			258	26	374	658	5142		
Greater Scaup																					0			0	0		
Red-breasted Merganser																					0			0	0		
Duck sp.																					0			0	0		
Slaty-breasted Rail																					0			0	0		
Eastern Water Rail																					0			0	0		
White-breasted Waterhen	3	0				1		0	0	3	0			1	1	0	0	0	0	3	2	2	1	1	4	16	1
Watercock																					0			0	0		
Common Moorhen	8	3	42	1				2	0	2	0	2			13	0	0	3	2	0	15	17	1	33	93	9	
Eurasian Coot	12		3																		8			8	23		
Pheasant-tailed Jacana																					0			0	0		
Greater Painted-snipe																					0			0	0		
Black-winged Stilt		2	59	66			1	122	19	89		11				7	26				8	0	134	86	220	410	

Pied Avocet	42	209	949	1153	4			104	114	398	13	17					26		48	667	80	1272	2019	3744			
Oriental Pratincole																					0			0	0		
Northern Lapwing																					0			0	0		
Grey-headed Lapwing																					0			0	0		
Pacific Golden Plover			60	8																	0		8	8	68		
Grey Plover			4	486																	0		486	486	490	3	
Common Ringed Plover																					0			0	0		
Little Ringed Plover	7	5	3					0	0	0	14				10	29	0	0	28	0	0	3	71	0	74	99	
Kentish Plover			2																		0			0	2	2	
Lesser Sand Plover																					0			0	0		
Greater Sand Plover																					0			0	0		
Black-tailed Godwit				574																	0		574	574	574		
Bar-tailed Godwit				4																	0		4	4	4		
Whimbrel				1																	0		1	1	1		
Eurasian Curlew			1	846						1											1		846	847	849		
Far Eastern Curlew																					0			0	0		
Spotted Redshank			8						2												2		2	4	12		
Common Redshank			16	250							14								1	22			250	272	303		
Marsh Sandpiper			157	267					4		32										8		271	279	468		
Common Greenshank	1	5	123	174						65	1	120					1		2	112		2	174	288	604		
Nordmann's Greenshank																					0			0	0		
Green Sandpiper	2	5						0	0	0	0	1			9	0	0	3	1	5	0	12	0	12	26		
Wood Sandpiper	0	2	17					13	0	3	0	7			11	0	2	6	1	5	0	32	0	32	67		
Terek Sandpiper																					0			0	0		
Common Sandpiper	4	11	24	15		1		1	0	7	4	1		3	20	3	3	7	10	12	3	33	16	52	129	1	
Grey-tailed Tattler																					0			0	0		
Ruddy Turnstone																					0			0	0		
Red-necked Phalarope																					0			0	0		
Pintail Snipe																					0			0	0		
Swinhoe's Snipe																					0			0	0		
Pintail/Swinhoe's Snipe			3																		0			0	3		
Common Snipe		1	13								2			1			1				0	2		2	18		
Long-billed Dowitcher				1																	0		1	1	1		
Asian Dowitcher																					0			0	0		
Red Knot				2																	0		2	2	2		
Great Knot				43																	0		43	43	43		
Sanderling																					0			0	0		
Red-necked Stint															9						0	9		9	9		
Little Stint																					0			0	0		
Temminck's Stint				1																	5		1	6	6		
Long-toed Stint																					0			0	0		
Pectoral Sandpiper																					0			0	0		
Sharp-tailed Sandpiper																					0			0	0		
Dunlin				210																	0		210	210	210		
Curlew Sandpiper																					0			0	0		
Spoon-billed Sandpiper																					0			0	0		
Broad-billed Sandpiper																					0			0	0		
Ruff																					0			0	0		
Wader sp.																					0			0	0		
Small wader sp.																					0			0	0		
Black-tailed Gull																					0			0	0		
Mew Gull				1																	0		1	1	1		
Heuglin's Gull			2	196																	0		196	196	198		
Caspian Gull				2																	0		2	2	2		

Slaty-backed Gull																					0			0	0		
Pallas's Gull																						0		0	0		
Large Gull spp.															8						0	8		8	8		
Brown-headed Gull																					0			0	0		
Black-headed Gull	0	0	520	3397		300	5	400	0	70	0			0	893	34	0	0	0	0	1327	4102	5429	5619			
Saunders's Gull				12																	0		12	12	12		
Franklin's Gull				1																	0		1	1	1		
Whiskered Tern																					0			0	0		
White-winged Tern																					0			0	0		
Gull-billed Tern																					0			0	0		
Caspian Tern																					0			0	0		
Total	941	664	10113	10159	113	706	307	857	264	5051	57	780	3	73	364	979	261	444	172	608	6901	2700	11930	21531	39817	217	
	Deep Bay Area	%	Ramsar Site	%	SI	%																					
Cormorants	8247	21%	4273	20%	31	14%																					
Ardeids etc	3431	9%	1450	7%	154	71%																					
Ducks, grebes, pelicans	14024	35%	4669	22%	16	7%																					
Rails, coot etc	132	0%	45	0%	10	5%																					
Shorebirds	8142	20%	5445	25%	6	3%																					
Gulls and terns	5841	15%	5649	26%	0	0%																					
TOTAL	39817	100%	21531	100%	217	100%																					
Date of count: 17 Jan 2016																											
High tide measured at TBT: 1.8m																											
# includes a count made up to one week either side of the count date																											
* = count not included in the total																											
% = count made at evening roost																											
Wetland-dependent species																											
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Western Osprey				3		1															2		3	5	6		
Black Kite	1	3	2	1			1	0	38	3	3				0	0	0	0	0	1	2	2	40	44	55		
White-bellied Sea Eagle			0																		0			0	0		
Eastern Marsh Harrier	1		0	1																	2		1	3	4		
Eastern Buzzard			1																		0			0	1		
Greater Spotted Eagle	1	1	1					0	0	0	0				0	0	0	1	0	0	0	0	0	1	4		
Eastern Imperial Eagle	0	0	0					0	0	0	0				0	0	0	0	0	0	0	0	0	0	0		
Peregrine Falcon			0																		0			0	0		
Pied Kingfisher	0	3	3				1	0	0	1	0				0	0	0	3	2	0	5	3	1	9	18	3	
Common Kingfisher	2	5	5					0	0	0	0	2			10	0	0	5	3	6	1	15	0	16	39	3	
White-throated Kingfisher	0	0	3	2			1	0	0	0	0				0	0	0	1	1	0	1	1	3	5	9	2	
Black-capped Kingfisher	0	0	1	1				0	0	0	0				0	0	0	0	0	0	0	0	1	1	2	2	
Red-billed Starling	462	0	14					0	0	27	0				58	0	0	294	89	100	120	300	0	420	1164	10	
Collared Crow	1	1	1			1		0	0	6	2				0	0	0	6	1	0	2	7	1	10	21	2	

Summary of Waterbird Count, February 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe	44	44	3					20	0	7	1	2			28	0	2	41	14	40	28	80	0	108	274	9
Great Crested Grebe			81			34								43							0		34	34	158	
Great Cormorant	521*	329*	65*		64*	2*		302*	85*	2963	42*	70*			30*	14*	143*	150*	111*	66*	5144	713	13	5870	8107	78
Dalmatian Pelican																					0		0	0	0	
Grey Heron	169	84	60	51	18	43	1	25	43	84	11	54		4	19	9	5	14	9	25	144	72	151	367	872	33
Purple Heron	1											1						1			0	1		1	3	
Great Egret	94	64	106	164	34	45	2	21	14	28	36	1		13	13	3	22	23	15	69	44	101	259	404	811	76
Intermediate Egret	1	1	1	2				0	0	0	0				0	0	0	0	0	0	1	0	2	3	6	
Little Egret	29	50	106	55		1		68	2	29	25	3		37	79	17	68	11	40	153	18	240	58	316	791	14
Swinhoe's Egret																					0		0	0	0	
Pacific Reef Heron																					0		0	0	0	
Eastern Cattle Egret	0	8						0	0	0	3			13	0	18	23	1	19	17	0	45	0	45	102	7
Chinese Pond Heron	16	33	72	2			3	7	0	13	3		1	2	49	4	6	22	15	14	2	76	5	83	264	
Striated Heron	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	
B-c Night Heron	0	0	1					0	0	0	0				0	0	0	10	0	0	1	10	0	11	12	37
Yellow Bittern	0	1						0	0	0	0				0	0	0	0	1	0	0	0	0	0	2	
Cinnamon Bittern																					0		0	0	0	
Eurasian Bittern																					0		0	0	0	
Black Stork																					0		0	0	0	
Black-headed Ibis																					0		0	0	0	
Eurasian Spoonbill	2																				0		0	0	2	
Black-faced Spoonbill	142		32	27	8	7		40	21	11		40			6	3	1	52#	40#	24	50	63	137	362		
Common Shelduck																					0		0	0	0	
Eurasian Wigeon	120	0	256	2053		20		0	0	0	0	7			0	0	0	0	0	0	217	0	2073	2290	2673	
Falcated Duck				1								1									1		1	2	3	
Gadwall																					0		0	0	0	
Baikal Teal																					0		0	0	0	
Eurasian Teal	25	115			134	367		2	11	17	0	15			0	0	0	0	5	12	66	2	512	580	769	
Mallard																					0		0	0	0	
Spot-billed Duck																					0		0	0	0	
Chinese Spot-billed Duck																					0		0	0	0	
Indian Spot-billed Duck																					0		0	0	0	
Northern Pintail			105	817	6	38						2									0		861	861	968	
Garganey	1		13									7									0		0	0	21	
Northern Shoveler	36		1402	245	14	36		12	46	149		171						1		24	489	10	341	840	2625	6
Common Pochard																					0		0	0	0	
Baer's Pochard																					0		0	0	0	
Tufted Duck		1	4166					23		2					27						120	13		133	4352	1
Greater Scaup																					0		0	0	0	
Red-breasted Merganser																					0		0	0	0	
Duck sp.			1700		400									19							0		400	400	2119	
Slaty-breasted Rail																					0		0	0	0	
Eastern Water Rail																					0		0	0	0	
White-breasted Waterhen	0	4	2					0	0	1	2			4	2	0	0	1	4	3	1	3	0	4	24	1
Watercock																					0		0	0	0	
Common Moorhen	13	2	53					3	0	0	0				6	0	0	1	2	0	6	8	0	14	86	14
Eurasian Coot	3		32					1							2						8	2		10	46	
Pheasant-tailed Jacana																					0		0	0	0	
Greater Painted-snipe																					0		0	0	0	
Black-winged Stilt		36	548	38				129	31	57	2				12						0	93	69	162	854	

Pied Avocet	4	28	2819	4820	4	405		21	174	202	4	52		10	1		5	1	14	711	31	5403	6145	9275		
Oriental Pratincole																			3	0			0	3		
Northern Lapwing																				0			0	0		
Grey-headed Lapwing	1		5																	0			0	6		
Pacific Golden Plover			32	82																0		82	82	114		
Grey Plover			23	572		8														3		580	583	606	1	
Common Ringed Plover																				0			0	0		
Little Ringed Plover	5	18	5	6			0	0	0	2	11			11	0	0	3	2	0	3	16	6	25	66		
Kentish Plover				9																0		9	9	9		
Lesser Sand Plover																				0			0	0		
Greater Sand Plover																				0			0	0		
Black-tailed Godwit			60	895																0		895	895	955		
Bar-tailed Godwit				3																0		3	3	3		
Whimbrel				3		3														0		6	6	6		
Eurasian Curlew			95	1129	3	6														12		1138	1150	1245		
Far Eastern Curlew																				0			0	0		
Spotted Redshank																				0			0	0		
Common Redshank			13	580				18	9	1	56									19	1	598	618	696		
Marsh Sandpiper			411	204	65				2	5	3									176		269	445	866		
Common Greenshank	2	1	84	139		34		4	9		19							1		221		177	398	514	2	
Nordmann's Greenshank											2									0			0	2		
Green Sandpiper	3	3					11	0	0	2				5	0	0	0	1	1	0	16	0	16	26		
Wood Sandpiper	2	11	28				0	4	8	0	2			1	4	0	0	0	3	1	0	4	4	8	64	
Terek Sandpiper																				0			0	0		
Common Sandpiper	5	7	9	10			2	6	4	1	1			4	17	0	0	3	8	9	1	18	16	35	87	1
Grey-tailed Tattler																				0			0	0		
Ruddy Turnstone																				0			0	0		
Red-necked Phalarope																				0			0	0		
Pintail Snipe																				0			0	0		
Swinhoe's Snipe																				0			0	0		
Pintail/Swinhoe's Snipe	6																			0			0	6		
Common Snipe	17	3	1	3							3									1		3	4	28		
Long-billed Dowitcher																				0			0	0		
Asian Dowitcher																				0			0	0		
Red Knot																				0			0	0		
Great Knot				115																0		115	115	115		
Sanderling																				0			0	0		
Red-necked Stint																				0			0	0		
Little Stint																				0			0	0		
Temminck's Stint	1			3																1		3	4	5		
Long-toed Stint																				0			0	0		
Pectoral Sandpiper																				0			0	0		
Sharp-tailed Sandpiper																				0			0	0		
Dunlin				136																0		136	136	136		
Curlew Sandpiper			340																	0			0	340		
Spoon-billed Sandpiper																				0			0	0		
Broad-billed Sandpiper																				0			0	0		
Ruff																				0			0	0		
Wader sp.																				0			0	0		
Small wader sp.				50										14						0		50	50	64		
Black-tailed Gull																				0			0	0		
Heuglin's Gull				14	4															0		18	18	18		
Caspian Gull					1															0		1	1	1		
Slaty-backed Gull																				0			0	0		

Pallas's Gull																					0		0	0			
Large Gull spp.						44															0		44	44	44		
Brown-headed Gull																					0		0	0	0		
Black-headed Gull	0	0	366	2752	181	58			112	0	126	0	5		0	384	0	0	0	0	0	396	2991	3387	3984		
Saunders's Gull				47																	0		47	47	47		
Whiskered Tern																					0		0	0	0		
White-winged Tern																					0		0	0	0		
Gull-billed Tern																					0		0	0	0		
Caspian Tern																					0		0	0	0		
Total	742	514	13030	15027	872	1149	6	497	374	3721	98	453	6	164	275	441	129	151	141	385	7462	2001	17436	26899	45637	280	
	Deep Bay Area	%	Ramsar Site	%	SI	%																					
Cormorants	8107	18%	5870	22%	78	28%																					
Ardeids etc	3227	7%	1367	5%	167	60%																					
Ducks, grebes, pelicans	13962	31%	5248	20%	16	6%																					
Rails, coot etc	156	0%	28	0%	15	5%																					
Shorebirds	16091	35%	10889	40%	4	1%																					
Gulls and terns	4094	9%	3497	13%	0	0%																					
TOTAL	45637	100%	26899	100%	280	100%																					
Date of count: 14 Feb 2016																											
High tide measured at TBT: 2.3m																											
* = count not included in the total																											
Wetland-dependent species																											
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Western Osprey				2		1				1			1	1					1	1	1		3	4	8		
Black Kite	0	5	3	2				8	0	5	0			7	1	5	4	2	4	1	17	12	2	31	64		
White-bellied Sea Eagle																					0			0	0		
Eastern Marsh Harrier				1																	2		1	3	3		
Eastern Buzzard										1											0			0	1		
Greater Spotted Eagle	1	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	1		
Eastern Imperial Eagle	0	2						0	0	0	0				0	0	0	0	0	0	1	0	0	1	3		
Peregrine Falcon																					0			0	0	0	
Pied Kingfisher	1	6	2					1	0	2	1			1	0	0	0	0	1	1	1	1	0	2	17	2	
Common Kingfisher	1	9	3					0	0	4	3	2	1		2	0	0	0	1	1	2	5	0	7	29	3	
White-throated Kingfisher	2	0	1	1				2	0	1	0	2		4	1	0	0	2	1	1	2	4	1	7	20	3	
Black-capped Kingfisher	0	0						0	0	1	0				0	0	0	0	0	0	0	0	0	0	1		
Red-billed Starling	421	224	42				1	0	0	0	0			1	40	0	0	31	559	102	204	31	1	236	1625	50	
Collared Crow	0	1	2			2	1	1	0	2	1			2	1	5	2	0	0	0	6	9	3	18	26		

Summary of Waterbird Count, March 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe	33	23	1					17	0	0	1	1			8	0	8	33	17	47	45	56	0	101	234	9
Great Crested Grebe			21	3	1									38							0		4	4	63	8
Great Cormorant	181	320	283	360				390	117	338	45	50			10	18	36	112	20	12	3382	646	394	4422	5674	97
Dalmatian Pelican																					0			0	0	
Grey Heron	231	25	66	8	17	7	32	15	60	60	5	17		3	5	11	8	5	2	5	184	55	111	350	766	17
Purple Heron																		1			2	1		3	3	
Great Egret	147	141	273	27	12	10	27	25	37	32	20	3	6	8	25	11	69	1	6	45	107	130	119	356	1032	144
Intermediate Egret	2	3		6				1	0	0	0				0	0	0	1	0	0	3	2	6	11	16	
Little Egret	45	127	125	41	12	4	4	8	26	14	53	2	2	8	257	25	139	21	15	117	165	466	87	718	1210	19
Swinhoe's Egret																					0			0	0	
Pacific Reef Heron																					0			0	0	
Eastern Cattle Egret	0	68						0	0	0	9				4	0	28	3	13	9	5	42	0	47	139	
Chinese Pond Heron	10	16	20	2				4	0	22	9	1		1	19	3	9	19	23	36	3	52	2	57	197	5
Striated Heron	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	
B-c Night Heron	0	0						0	0	30	0				1	0	0	0	0	23	56	1	0	57	110	50
Yellow Bittern	0	0						0	0	0	0				1	0	0	0	0	0	0	1	0	1	1	
Cinnamon Bittern																					0			0	0	
Eurasian Bittern																					0			0	0	
Black Stork																					0			0	0	
Black-headed Ibis																					0			0	0	
Eurasian Spoonbill															1						1	1		2	2	
Black-faced Spoonbill	179	6*	22	7			9	2*	15*						24*		25*	1*		2*	51	50	31	132	353	
Common Shelduck																					0			0	0	
Eurasian Wigeon	0	1	664	350	1	66	21	2	0	0	0	17			0	0	0	0	0	1	131	2	438	571	1254	
Falcated Duck																					0			0	0	
Gadwall																					0			0	0	
Baikal Teal																					0			0	0	
Eurasian Teal	1	31		55				0	13	6	0				0	0	0	0	0	0	10	0	68	78	116	
Mallard																					0			0	0	
Spot-billed Duck																					0			0	0	
Chinese Spot-billed Duck																					2			2	2	
Indian Spot-billed Duck																					0			0	0	
Northern Pintail			29	480	300	2															9		782	791	820	
Garganey			260	4								19									0		4	4	283	
Northern Shoveler	83	9	1551	183	20	4		12	34	155	2	46	4	18				15	5		460	17	241	718	2601	
Common Pochard																					0			0	0	
Baer's Pochard																					0			0	0	
Tufted Duck			5403			205		35							26						28		205	233	5697	3
Greater Scaup																					0			0	0	
Red-breasted Merganser																					0			0	0	
Duck sp.			1800																		0			0	1800	
Slaty-breasted Rail																					0			0	0	
Eastern Water Rail																					0			0	0	
White-breasted Waterhen	2	3	3					3	0	4	1	1			5	1	0	4	1	7	2	10	0	12	37	1
Watercock																					0			0	0	
Common Moorhen	0	1	47					4	0	0	0	2			10	0	0	0	0	0	9	12	0	21	73	5
Eurasian Coot	3		6												1						6	1		7	16	
Pheasant-tailed Jacana																					0			0	0	
Greater Painted-snipe																					0			0	0	
Black-winged Stilt			222					8	37	44	1	1			3	4	7	5	7	2	0	17	37	54	341	

Pied Avocet		82	1438	825				64	89	399		11			1	17			31	370	17	914	1301	3327			
Oriental Pratincole																			7	0			0	7			
Northern Lapwing																				0			0	0			
Grey-headed Lapwing	1																			0			0	1			
Pacific Golden Plover			50	15																0		15	15	65			
Grey Plover			3	878																3		878	881	884			
Common Ringed Plover																				0			0	0			
Little Ringed Plover	46	46	6	8				0	0	0	0			2	4	0	0	0	0	2	5	2	8	15	119		
Kentish Plover				6																	0		6	6	6		
Lesser Sand Plover																					0		0	0			
Greater Sand Plover				1																	0		1	1	1		
Black-tailed Godwit			15	788																	0		788	788	803		
Bar-tailed Godwit				8																	0		8	8	8		
Whimbrel				3																	0		3	3	3		
Eurasian Curlew			10	773																	251		773	1024	1034		
Far Eastern Curlew																					0		0	0			
Spotted Redshank			2																		0		0	2			
Common Redshank			84	46								118										721	46	767	969		
Marsh Sandpiper			112	15								71			2					1	1144	2	15	1161	1345		
Common Greenshank	6	3	101	88						18		53	5							3	317		88	405	594		
Nordmann's Greenshank																					0		0	0	0		
Green Sandpiper	0	2						1	0	1	0				6	0	0	2	0	1	0	8	0	8	13		
Wood Sandpiper	5	14	14					0	0	2	0	7			3	1	2	4	1	8	1	7	0	8	62		
Terek Sandpiper				13																		0	13	13	13		
Common Sandpiper	0	6	58	3				7	0	1	2				2	25	0	0	4	3	7	0	34	3	37	118	1
Grey-tailed Tattler																						0		0	0		
Ruddy Turnstone																						0		0	0		
Red-necked Phalarope			5																			0		0	5		
Pintail Snipe												1										0		0	1		
Swinhoe's Snipe																						0		0	0		
Pintail/Swinhoe's Snipe																		1				0	1	1	1		
Common Snipe	8	3	1	1						5										2		0	1	1	20		
Long-billed Dowitcher																						0		0	0		
Asian Dowitcher																						0		0	0		
Red Knot				7																		0		7	7	7	
Great Knot				94																		1		94	95	95	
Sanderling																						0		0	0		
Red-necked Stint																					25	0		0	25		
Little Stint																						0		0	0		
Temminck's Stint	1			3																		13		3	16	17	
Long-toed Stint																						0		0	0		
Pectoral Sandpiper																						0		0	0		
Sharp-tailed Sandpiper																						0		0	0		
Dunlin			3	635																		0		635	635	638	
Curlew Sandpiper				271																		16		271	287	287	
Spoon-billed Sandpiper																						0		0	0		
Broad-billed Sandpiper																						0		0	0		
Ruff																						0		0	0		
Wader sp.																						0		0	0		
Small wader sp.																						0		0	0		
Black-tailed Gull				1																		0		1	1	1	
Heuglin's Gull				24																		0		24	24	24	
Caspian Gull																						0		0	0		
Slaty-backed Gull																						0		0	0		

Pallas's Gull																					0			0	0			
Large Gull spp.																						0			0	0		
Brown-headed Gull																						0			0	0		
Black-headed Gull	0	0	369	1104				58	73	55	0				0	0	0	0	1	1	0	56	1233	1289	1661			
Saunders's Gull				9																		0	9	9	9			
Whiskered Tern																						0			0	0		
White-winged Tern																						0			0	0		
Gull-billed Tern				1																		0	1	1	1			
Caspian Tern				3		1																0	3	3	4			
Total	984	924	13067	7149	363	299	93	654	486	1186	148	506	17	80	415	93	306	231	116	390	7503	1689	8370	17562	35010	359		
	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	5674	16%	4422	25%	97	27%																						
Ardeids etc	3829	11%	1734	10%	235	65%																						
Ducks, grebes, pelicans	12870	37%	2502	14%	20	6%																						
Rails, coot etc	126	0%	40	0%	6	2%																						
Shorebirds	10811	31%	7537	43%	1	0%																						
Gulls and terns	1700	5%	1327	8%	0	0%																						
TOTAL	35010	100%	17562	100%	359	100%																						
Date of count: 13 Mar 2016																												
High tide measured at TBT: 2.3m																												
Wetland-dependent species																												
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet		
Western Osprey			1	2		1															0		4	4	4			
Black Kite	1	2				1		3	0	1	0				0	2	5	1	1	0	18	11	4	33	35			
White-bellied Sea Eagle																					0			0	0			
Eastern Marsh Harrier				1		1															0		2	2	2			
Eastern Buzzard		1																		1	1			1	4			
Greater Spotted Eagle	1	1						0	0	0	0				0	0	0	0	0	0	1	0	0	1	3			
Eastern Imperial Eagle	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0		
Peregrine Falcon						1															0		1	1	1			
Pied Kingfisher	2	2	5					0	0	0	0				1	1	1	1	1	1	2	4	0	6	17			
Common Kingfisher	0	7	2					1	0	2	1				3	2	2	1	1	2	1	10	0	11	25			
White-throated Kingfisher	0	0						0	0	0	0				0	0	0	0	0	0	0	0	0	0	1	1		
Black-capped Kingfisher	0	0		1				0	0	0	0				0	0	0	0	0	0	0	0	1	1	1			
Red-billed Starling	287	75	9					35	0	59	0				0	0	0	0	29	288	7	35	0	42	789			
Collared Crow	0	3	4	1				1	0	0	3				2	14	0	6	2	0	18	26	1	45	54			
Common Kestrel																					1	0	0	0	1			
Western Osprey			1	2		1															0		4	4	4			

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Appendix 2



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Low-tide Count, December 2015

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe			3																				0	0	3	
Great Crested Grebe			0	24																			24	24	24	
Great Cormorant			1376	320																			320	320	1696	
Dalmatian Pelican			0																				0	0	0	
Grey Heron			104	84																			84	84	188	
Purple Heron			0																				0	0	0	
Great Egret			184			56																	56	56	240	
Intermediate Egret			1																				0	0	1	
Little Egret			253			179																	179	179	432	
Swinhoe's Egret			0																				0	0	0	
Pacific Reef Heron			0																				0	0	0	
Eastern Cattle Egret			0																				0	0	0	
Chinese Pond Heron			68			7																	7	7	75	
Striated Heron			0																				0	0	0	
B-c Night Heron			0																				0	0	0	
Yellow Bittern			0																				0	0	0	
Cinnamon Bittern			0																				0	0	0	
Eurasian Bittern			0																				0	0	0	
Black Stork			0																				0	0	0	
Black-headed Ibis			0																				0	0	0	
Eurasian Spoonbill			0																				0	0	0	
Black-faced Spoonbill			119	64																			64	64	183	
Common Shelduck			0																				0	0	0	
Eurasian Wigeon			339			10																	10	10	349	
Falcated Duck			0																				0	0	0	
Gadwall			0																				0	0	0	
Baikal Teal			0																				0	0	0	
Eurasian Teal			0			236																	236	236	236	
Mallard			0																				0	0	0	
Spot-billed Duck			0																				0	0	0	
Chinese Spot-billed Duck			0																				0	0	0	
Indian Spot-billed Duck			0																				0	0	0	
Northern Pintail			150			13																	13	13	163	
Garganey			6			9																	9	9	15	
Northern Shoveler			1256	1170		95																	1265	1265	2521	
Common Pochard			0																				0	0	0	
Baer's Pochard			0																				0	0	0	
Tufted Duck			315																				0	0	315	
Greater Scaup			0																				0	0	0	
Red-breasted Merganser			0																				0	0	0	
Duck sp.			230																				0	0	230	
Slaty-breasted Rail			0																				0	0	0	
Eastern Water Rail			0																				0	0	0	
White-breasted Waterhen			3			2																	2	2	5	
Watercock			0																				0	0	0	
Common Moorhen			42																				0	0	42	
Eurasian Coot			38																				0	0	38	
Pheasant-tailed Jacana			0																				0	0	0	

Greater Painted-snipe			0																0	0	0
Black-winged Stilt			292																0	0	292
Pied Avocet			1158	467		356													823	823	1981
Oriental Pratincole			0																0	0	0
Northern Lapwing			0																0	0	0
Grey-headed Lapwing			0																0	0	0
Pacific Golden Plover			8																0	0	8
Grey Plover			4																0	0	4
Common Ringed Plover			0																0	0	0
Little Ringed Plover			2																0	0	2
Kentish Plover			732																0	0	732
Lesser Sand Plover			0																0	0	0
Greater Sand Plover			0																0	0	0
Black-tailed Godwit			80	580															580	580	660
Bar-tailed Godwit			0																0	0	0
Whimbrel			0																0	0	0
Eurasian Curlew			32	20															20	20	52
Far Eastern Curlew			0																0	0	0
Spotted Redshank			0																0	0	0
Common Redshank			24																0	0	24
Marsh Sandpiper			635			6													6	6	641
Common Greenshank			73																0	0	73
Nordmann's Greenshank			0																0	0	0
Green Sandpiper			0																0	0	0
Wood Sandpiper			39																0	0	39
Terek Sandpiper			0																0	0	0
Common Sandpiper			21																0	0	21
Grey-tailed Tattler																			0	0	0
Ruddy Turnstone																			0	0	0
Red-necked Phalarope																			0	0	0
Pintail Snipe																			0	0	0
Swinhoe's Snipe																			0	0	0
Pintail/Swinhoe's Snipe																			0	0	0
Common Snipe																			0	0	0
Long-billed Dowitcher																			0	0	0
Asian Dowitcher																			0	0	0
Red Knot																			0	0	0
Great Knot																			0	0	0
Sanderling																			0	0	0
Red-necked Stint			60																0	0	60
Little Stint																			0	0	0
Temminck's Stint																			0	0	0
Long-toed Stint																			0	0	0
Pectoral Sandpiper																			0	0	0
Sharp-tailed Sandpiper																			0	0	0
Dunlin																			0	0	0
Curlew Sandpiper																			0	0	0
Spoon-billed Sandpiper																			0	0	0
Broad-billed Sandpiper																			0	0	0
Ruff																			0	0	0
Wader sp.																			0	0	0
Small wader sp.			1200	1000															1000	1000	2200
Black-tailed Gull			0																0	0	0
Heuglin's Gull			9	47															47	47	56

Caspian Gull			0																				0	0	0		
Slaty-backed Gull			0																				0	0	0		
Pallas's Gull			0																				0	0	0		
Large Gull spp.			0																				0	0	0		
Brown-headed Gull																							0	0	0		
Black-headed Gull			675	1730																			1730	1730	2405		
Saunders's Gull			0																				0	0	0		
Whiskered Tern			0																				0	0	0		
White-winged Tern			0																				0	0	0		
Gull-billed Tern			0																				0	0	0		
Caspian Tern																							0	0	0		
Total	0	0	9531	5506	0	969	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6475	6475	16006	0	
	Deep Bay Area	%	Ramsar Site	%																							
Cormorants	1696	11%	320	5%																							
Ardeids etc	1119	7%	390	6%																							
Ducks, grebes, pelicans	3856	24%	1557	24%																							
Rails, coot etc	85	1%	2	0%																							
Shorebirds	6789	42%	2429	38%																							
Gulls and terns	2461	15%	1777	27%																							
TOTAL	16006	100%	6475	100%																							
Date of count: 13 Dec 2015																											
High tide measured at TBT: 1.8m																											
* = count not included in the total																											
Wetland-dependent species																											
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Western Osprey			3																						0	3	
Black Kite			2	0	1																	30	3	33	3		
White-bellied Sea Eagle			0																						0	0	
Eastern Marsh Harrier			0																						0	0	
Eastern Buzzard			0																						0	0	
Greater Spotted Eagle			0	0	0																	0	0	0	0		
Eastern Imperial Eagle			0	1	0																	0	1	1	1	1	
Peregrine Falcon			0																						0	0	
Pied Kingfisher			6	0	0																	9	6	15	6		
Common Kingfisher			2	2	2																	8	6	14	6		
White-throated Kingfisher			3	0	0																	0	3	3	3		
Black-capped Kingfisher			3	0	0																	0	3	3	3		
Red-billed Starling			234	93	0																	367	327	694	327		
Collared Crow			3	0	7																	10	10	20	10		

Low-tide Count, January 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW/LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe			9																				0	0	9	
Great Crested Grebe			4	5	3																		8	8	12	
Great Cormorant			3621																				0	0	3621	
Dalmatian Pelican																							0	0	0	
Grey Heron			85	7	4	6	2																19	19	104	
Purple Heron																							0	0	0	
Great Egret			87	13	8	9	4																34	34	121	
Intermediate Egret																							0	0	0	
Little Egret			103	34	43	11	8																96	96	199	
Swinhoe's Egret																							0	0	0	
Pacific Reef Heron																							0	0	0	
Eastern Cattle Egret																							0	0	0	
Chinese Pond Heron			50			3	1																4	4	54	
Striated Heron																							0	0	0	
B-c Night Heron																							0	0	0	
Yellow Bittern																							0	0	0	
Cinnamon Bittern																							0	0	0	
Eurasian Bittern																							0	0	0	
Black Stork																							0	0	0	
Black-headed Ibis					2																		0	0	0	
Eurasian Spoonbill																							2	2	2	
Black-faced Spoonbill			38																				0	0	38	
Common Shelduck																							0	0	0	
Eurasian Wigeon			292	27	170		35																232	232	524	
Falcated Duck																							0	0	0	
Gadwall																							0	0	0	
Baikal Teal																							0	0	0	
Eurasian Teal				65		221	110																396	396	396	
Mallard																							0	0	0	
Spot-billed Duck																							0	0	0	
Chinese Spot-billed Duck																							0	0	0	
Indian Spot-billed Duck																							0	0	0	
Northern Pintail			70	320	110	28	19																477	477	547	
Garganey																							0	0	0	
Northern Shoveler			2141	104	120	75	60																359	359	2500	
Common Pochard																							0	0	0	
Baer's Pochard																							0	0	0	
Tufted Duck			1068	647																			647	647	1715	
Greater Scaup																							0	0	0	
Red-breasted Merganser																							0	0	0	
Duck sp.			1060	420																			420	420	1480	
Slaty-breasted Rail																							0	0	0	
Eastern Water Rail																							0	0	0	
White-breasted Waterhen			1			2																	2	2	3	
Watercock																							0	0	0	
Common Moorhen			29																				0	0	29	
Eurasian Coot			4																				0	0	4	
Pheasant-tailed Jacana																							0	0	0	

Greater Painted-snipe																					0	0	0
Black-winged Stilt		156				3															3	3	159
Pied Avocet		1864	84	124	36																244	244	2108
Oriental Pratincole																					0	0	0
Northern Lapwing																					0	0	0
Grey-headed Lapwing		8																			0	0	8
Pacific Golden Plover		53																			0	0	53
Grey Plover		6			7																7	7	13
Common Ringed Plover																					0	0	0
Little Ringed Plover		10																			0	0	10
Kentish Plover		100																			0	0	100
Lesser Sand Plover																					0	0	0
Greater Sand Plover		2																			0	0	2
Black-tailed Godwit		120																			0	0	120
Bar-tailed Godwit																					0	0	0
Whimbrel					3																3	3	3
Eurasian Curlew		9	57	83	42	3															185	185	194
Far Eastern Curlew																					0	0	0
Spotted Redshank					2	13															15	15	15
Common Redshank		20			1	22															23	23	43
Marsh Sandpiper		1																			0	0	1
Common Greenshank		45	78	133	16																227	227	272
Nordmann's Greenshank																					0	0	0
Green Sandpiper		2																			0	0	2
Wood Sandpiper		1				2															2	2	3
Terek Sandpiper																					0	0	0
Common Sandpiper		28	1																		1	1	29
Grey-tailed Tattler																					0	0	0
Ruddy Turnstone																					0	0	0
Red-necked Phalarope																					0	0	0
Pintail Snipe																					0	0	0
Swinhoe's Snipe																					0	0	0
Pintail/Swinhoe's Snipe																					0	0	0
Common Snipe		6																			0	0	6
Long-billed Dowitcher																					0	0	0
Asian Dowitcher																					0	0	0
Red Knot																					0	0	0
Great Knot																					0	0	0
Sanderling																					0	0	0
Red-necked Stint		200																			0	0	200
Little Stint																					0	0	0
Temminck's Stint																					0	0	0
Long-toed Stint																					0	0	0
Pectoral Sandpiper																					0	0	0
Sharp-tailed Sandpiper																					0	0	0
Dunlin		15		180																	180	180	195
Curlew Sandpiper																					0	0	0
Spoon-billed Sandpiper																					0	0	0
Broad-billed Sandpiper																					0	0	0
Ruff																					0	0	0
Wader sp.																					0	0	0
Small wader sp.		3070		300																	300	300	3370
Plover sp.				90																	90	90	90
Black-tailed Gull																					0	0	0

Low-tide Count, February 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet
Little Grebe			4																					0	4	
Great Crested Grebe			60																					0	60	
Great Cormorant			104	280																				280	384	
Dalmatian Pelican																								0	0	
Grey Heron			77	36	4	17																		57	134	
Purple Heron																								0	0	
Great Egret			171	43		8																		51	222	
Intermediate Egret																								0	0	
Little Egret			149	51		15																		66	215	
Swinhoe's Egret																								0	0	
Pacific Reef Heron																								0	0	
Eastern Cattle Egret																								0	0	
Chinese Pond Heron			67		2																			2	69	
Striated Heron																								0	0	
B-c Night Heron																								0	0	
Yellow Bittern																								0	0	
Cinnamon Bittern																								0	0	
Eurasian Bittern																								0	0	
Black Stork																								0	0	
Black-headed Ibis																								0	0	
Eurasian Spoonbill																								0	0	
Black-faced Spoonbill			36	12		2																		14	50	
Common Shelduck																								0	0	
Eurasian Wigeon			324	130	14	902																		1046	1370	
Falcated Duck																								0	0	
Gadwall																								0	0	
Baikal Teal																								0	0	
Eurasian Teal				24	46	282																		352	352	
Mallard																								0	0	
Spot-billed Duck																								0	0	
Chinese Spot-billed Duck																								0	0	
Indian Spot-billed Duck																								0	0	
Northern Pintail			80	36	17	157																		210	290	
Garganey			2																					0	2	
Northern Shoveler			1674	3	28	29																		60	1734	
Common Pochard																								0	0	
Baer's Pochard																								0	0	
Tufted Duck			3190			17																		17	3207	
Greater Scaup																								0	0	
Red-breasted Merganser																								0	0	
Duck sp.			2070																					0	2070	
Slaty-breasted Rail																								0	0	
Eastern Water Rail																								0	0	
White-breasted Waterhen			6		3	4																		7	13	
Watercock																								0	0	
Common Moorhen			61																					0	61	
Eurasian Coot			40																					0	40	
Pheasant-tailed Jacana																								0	0	

Caspian Gull																									0	0				
Slaty-backed Gull																										0	0			
Pallas's Gull																										0	0			
Large Gull spp.				163																						163	163			
Brown-headed Gull																										0	0			
Black-headed Gull			852	960	8	143																				1111	1963			
Saunders's Gull						1																				1	1			
Whiskered Tern																										0	0			
White-winged Tern																										0	0			
Gull-billed Tern																										0	0			
Caspian Tern																										0	0			
Total	0	0	15989	2101	173	2205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4479	20468	0	
	Deep Bay Area	%	Ramsar Site	%																										
Cormorants	384	1.9%	280	6.3%																										
Ardeids etc	690	3.4%	190	4.2%																										
Ducks, grebes, pelicans	9089	44.4%	1685	37.6%																										
Rails, coot etc	114	0.6%	7	0.2%																										
Shorebirds	8064	39.4%	1042	23.3%																										
Gulls and terns	2127	10.4%	1275	28.5%																										
TOTAL	20468	100.0%	4479	100.0%																										
Date of count: 14 Feb 2016																														
High tide measured at TBT:1.9m																														
Wetland-dependent species																														
Species	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPST	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet				
Western Osprey			0	1		1																			0	2				
Black Kite			3																						0	3				
White-bellied Sea Eagle																									0	0				
Eastern Marsh Harrier																									0	0				
Eastern Buzzard																									0	0				
Greater Spotted Eagle																									0	0				
Eastern Imperial Eagle																									0	0				
Peregrine Falcon																									0	0				
Pied Kingfisher			3		1																				0	4				
Common Kingfisher			5																						0	5				
White-throated Kingfisher			6		1	1																			0	8				
Black-capped Kingfisher			3																						0	3				
Red-billed Starling			24																						0	24				
Collared Crow			1																						0	1				

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme**

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2015 to March 2016)**

Appendix 3



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Peak count of each waterbird species, mid-winter period (December to February) 2015-16.

Cormorant

Great Cormorant	8,247
-----------------	-------

Ardeids and Ciconiiformes

Grey Heron	872
Purple Heron	4
Great Egret	873
Intermediate Egret	8
Little Egret	1,008
Swinhoe's Egret	0
Pacific Reef Heron	0
Eastern Cattle Egret	102
Chinese Pond Heron	310
Striated Heron	0
B-c Night Heron	13
Yellow Bittern	2
Cinnamon Bittern	0
Von Schrenk's Bittern	0
Eurasian Bittern	0
Black Stork	0
Black-headed Ibis	0
Eurasian Spoonbill	2
Black-faced Spoonbill	362
Sub-total:	3,556

Ducks, Grebes and Pelicans

Little Grebe	391
Great Crested Grebe	158
Dalmatian Pelican	0
Common Shelduck	0
Eurasian Wigeon	3,279
Falcated Duck	3
Gadwall	2
Baikal Teal	0
Eurasian Teal	769
Mallard	0
Spot-billed Duck	0
Chinese Spot-billed Duck	3
Indian Spot-billed Duck	2
Northern Pintail	2,016
Garganey	53
Northern Shoveler	3,750
Common Pochard	7
Baer's Pochard	0
Tufted Duck	5,142
Greater Scaup	0
Smew	1
Red-breasted Merganser	0
Cotton Pygmy Goose	0
Unidentified duck	2,119*
Sub-total:	15,576

* The count of 2,119 unidentified ducks was not included in the winter aggregate figure because this number of unidentified ducks was likely to be counted in the figures of other positively-identified duck species in other months.

Rails and Coots

Slaty-breasted Rail	0
Eastern Water Rail	0
White-breasted Waterhen	24
Ruddy-breasted Crake	0
Watercock	0
Common Moorhen	93
Eurasian Coot	66
Sub-total:	183

Shorebirds

Pheasant-tailed Jacana	1
Greater Painted-snipe	0
Black-winged Stilt	854
Pied Avocet	9,275
Oriental Pratincole	3
Northern Lapwing	0
Grey-headed Lapwing	8
Pacific Golden Plover	486
Grey Plover	606
Common Ringed Plover	0
Little Ringed Plover	99
Kentish Plover	761#
Lesser Sand Plover	5
Greater Sand Plover	2
Black-tailed Godwit	955
Bar-tailed Godwit	4
Whimbrel	20
Eurasian Curlew	1,245
Far Eastern Curlew	1
Spotted Redshank	22#
Common Redshank	696
Marsh Sandpiper	866
Common Greenshank	702
Nordmann's Greenshank	2
Green Sandpiper	26
Wood Sandpiper	67
Terek Sandpiper	0
Common Sandpiper	129
Grey-tailed Tattler	0
Ruddy Turnstone	0
Red-necked Phalarope	0
Pintail Snipe	1
Swinhoe's Snipe	0
Pintail/Swinhoe's Snipe	6
Unidentified Snipe	0
Common Snipe	28
Long-billed Dowitcher	1
Asian Dowitcher	0
Red Knot	3
Great Knot	115
Sanderling	0
Red-necked Stint	200
Little Stint	0
Temminck's Stint	12#
Long-toed Stint	0

Pectoral Sandpiper	0
Sharp-tailed Sandpiper	0
Dunlin	3,940
Curlew Sandpiper	340
Spoon-billed Sandpiper	0
Broad-billed Sandpiper	1
Ruff	0
Unidentified small-sized shorebird	3310*
Unidentified shorebird	0
Sub-total:	21,482

Additional counts from shorebird count in mid-winter period.

* The count of 3,310 unidentified small-sized shorebird was not included in the winter aggregate figure because Dunlins were recorded in a similar figure that could refer to the same group.

Gulls and Terns

Black-tailed Gull	0
Heuglin's Gull	198
Caspian Gull	2
Slaty-backed Gull	0
Pallas's Gull	0
Large Gull spp.	144*
Mew Gull	1
Brown-headed Gull	0
Relict Gull	0
Black-headed Gull	6214
Saunders's Gull	49
Franklin's Gull	1
Whiskered Tern	0
White-winged Tern	0
Gull-billed Tern	0
Caspian Tern	0
Sub-total:	6,465

* The count of 144 Large Gull spp. was not included in the winter aggregate figure because it was very likely to involve same individuals of the wintering Heuglin's Gulls.

Summary of sub-totals of different waterbird groups, December 2015 to February 2016.

Group	Sub-total
Cormorants	8,247
Ardeids	3,556
Ducks, Grebes and Pelicans	15,576
Rails and Coots	183
Shorebirds	21,482
Gulls and Terns	6,465
Total	55,509