

Contract Reference No. AFCD/SQ/40/16/C

**Mai Po Inner Deep Bay Ramsar Site
Waterbird Monitoring Programme
2016 - 17**

Monthly Waterbird Monitoring

Biannual Report 2

October 2016 to March 2017



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Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2016-17

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

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2016 to March 2017)**

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 improving 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 throughout the year; and the egret counts are conducted all around Hong Kong during the breeding season of ardeids. This report focuses on the results of the monthly counts of waterbirds during the winter period from October 2016 to March 2017 under contract reference number AFCD/SQ/40/16/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 16 October 2016, 13 November 2016, 18 December 2016, 15 January 2017, 19 February 2017 and 19 March 2017. 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, Lok Ma Chau, 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. 2014). 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 surveys of Great Cormorants were conducted from December to February at their known evening roosting sites in the Mai Po Marshes Nature Reserve, Nam Sang Wai and Lok Ma Chau Mitigation Wetland (first recorded in early 2014) in order to obtain more accurate information about their wintering population.

3. Results and discussion

3.1. Results of winter waterbird counts

The mid-monthly waterbird count covered all areas within the Deep Bay area and the Ramsar Site during the survey period. Table 1 shows a comparison of the peak counts over the five winters from 2012-13 to 2016-17. The peak count of waterbirds in the Deep Bay was 45,291 recorded in February 2017, having a decrease of 3% over that of the previous winter (46,792 individuals in February 2016). In the Ramsar Site the peak count was 24,948 individuals recorded in January 2017, having an obvious decrease of 12% from that of the previous winter (28,450 individuals in December 2015). The January count has long been used to compare the long-term trend in waterbird numbers. The 2017 January count recorded 43,663 individuals in the Deep Bay area and 24,948 individuals in the Ramsar Site. The figure in the Deep Bay area was similar to that of the previous year (43,425 individuals in 2016), while the figure in the Ramsar Site had an increase of 12% (22,252 individuals in 2016). The full data set of the survey is provided in Appendix 1.

The low-tide counts are served as additional surveys to provide supplementary information to the regular high-tide counts. Many waterbird species were sometimes counted in higher numbers at low-tide periods this winter including Great Crested Grebe, Eurasian Wigeon, Tufted Duck, Pheasant-tailed Jacana, Black-winged Stilt, Grey-headed Lapwing, Pacific Golden Plover, Grey Plover, Kentish Plover, Greater

Sand Plover, Whimbrel, Common Redshank, Marsh Sandpiper, Dunlin, small-sized unidentified shorebirds, Pallas’s Gull, Heuglin’s Gull and Black-headed Gull. As the distance between the birds and surveyors was long during low-tide, good visibility was crucial for the accuracy of the counts. All the low-tide counts were conducted under good visibility this winter. The results of low-tide counts of different waterbird groups are listed in Table 2 and further details are provided in Appendix 2.

Table 1. Comparison of the number (aggregate number from high-tide count and low-tide count) of waterbirds recorded at the Deep Bay area and the Ramsar Site in the past five winters. The Ramsar Site covers part of the Deep Bay area, with details shown in Maps 2 and 3.

		Winter 2012-13	Winter 2013-14	Winter 2014-15	Winter 2015-16	Winter 2016-17
Winter peak monthly count [^]	Deep Bay	55,871	43,874	52,584	46,792	45,291
	Ramsar Site	31,171	26,861	27,775	28,450	24,948
January count	Deep Bay	55,871	43,874	52,584	43,425	43,663
	Ramsar Site	30,012	25,467	27,775	22,252	24,948

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

Table 2. Number of waterbird groups recorded in the Deep Bay area during low-tide counts in mid-winter 2016-17. The number in parenthesis represents the results recorded in the Ramsar Site.

	December 2016	January 2017	February 2017
Cormorants	1,486 (1,450)	3,193 (1,970)	367 (37)
Ardeids	291 (118)	705 (174)	843 (186)
Ducks, grebes and pelicans	10,067 (2,543)	12,265 (5,805)	12,020 (3,939)
Rails and coots	10 (0)	30 (9)	17 (0)
Shorebirds	1,463 (681)	7,910 (814)	13,945 (2,412)
Gulls and terns	1,861 (1,861)	2,752 (1,762)	3,113 (1,494)
Total	15,178 (6,653)	26,855 (10,534)	30,305 (8,068)
High-tide count total	36,785 (15,904)	42,913 (24,947)	37,254 (16,586)
Aggregate total from low-tide count	36,805 (16,322)	43,663 (24,948)	45,291 (19,502)

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 ducks and grebes with 17,477 individuals recorded in the December

count (accounting 47% of the total number in December), followed by 16,127 individuals of shorebirds recorded in the January count (37% of the total in January). The other notable counts include 8,217 individuals of Great Cormorant in February, 4,546 ardeids in November, 3,578 gulls and terns in January and 151 rails and coots in February.

Table 3. Number of waterbirds counted in winter 2016-2017 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	1,358	6,795	6,701	7,519	8,217	2,348
	Ramsar Site	531	5,415	2,256	3,049	3,180	1,402
	Starling Inlet	0	7	133	145	0	0
Ardeids	Deep Bay area	2,978	4,546	3,511	3,639	3,706	2,896
	Ramsar Site	1,164	1,672	1,573	1,739	2,067	1,429
	Starling Inlet	292	181	96	164	90	132
Ducks and grebes	Deep Bay area	790	15,423	17,477	12,696	14,289	4,952
	Ramsar Site	438	2,627	7,194	7,086	4,652	2,785
	Starling Inlet	3	14	3	24	23	53
Rails and Coots	Deep Bay area	98	114	64	104	151	136
	Ramsar Site	39	54	26	41	66	61
	Starling Inlet	1	8	1	5	2	3
Shorebirds	Deep Bay area	3,672	3,722	7,093	16,127	15,772	11,633
	Ramsar Site	2,627	2,137	3,314	10,616	8,000	7,875
	Starling Inlet	8	25	1	15	0	31
Gulls and terns	Deep Bay area	27	104	1,959	3,578	3,156	3,450
	Ramsar Site	2	66	1,959	2,417	1,537	2,940
	Starling Inlet	0	0	0	0	0	0
Total	Deep Bay area	8,923	30,704	36,805	43,663	45,291	25,415
	Ramsar Site	4,801	11,971	16,322	24,948	19,502	16,492
	Starling Inlet	304	235	234	353	115	219

Compared to the results of the previous year, there were increases in the mid-winter peak counts of 'ardeids' and 'ducks and grebes', decreases in 'shorebirds' and 'gulls and terns', while numbers of 'cormorants' and 'rails and coots' were very similar.

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 2016-17.

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)
2016-17	8,217 (Feb)	3,706 (Feb)	17,477 (Dec)	151 (Feb)	16,127 (Jan)	3,578 (Jan)

[^] 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 2016-17. The total peak count for mid-winter 2016-17 was 56,354 (Table 5 and Appendix 3), an increase of 2% over the 55,509 individuals recorded in the previous winter. The same figures in the past five winters are shown in Table 5, while a comparison of the differences using the total peak counts and January counts to present the waterbird population is shown in Figure 1. The trend in waterbird population fluctuated after the high count of 90,986 individuals in winter 2007-08, while there was some fluctuations in the number of waterbird species within the range of 58 to 75.

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

	Winter 2012-13	Winter 2013-14	Winter 2014-15	Winter 2015-16	Winter 2016-17
Total peak count	61,674	51,573	53,711	55,509	56,354
No. of positively-identified waterbird species	69	69	66	70	65

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 made up a total of 43,530 individuals, constituting 77% of the total peak count of waterbirds recorded in the same period. This figure is lower than that of the previous four winters but higher than the one in winter 2011-12 (winter 2015-16: 79%, winter 2014-15: 80%, winter 2013-14: 85%, winter 2012-13: 84% and winter 2011-12: 74%). The number of these waterbirds recorded on the Hong Kong side was again higher than that in the Futian National Nature Reserve during the high-tide period, but this is the lowest percentage recorded in the past five winters (winter 2016-17: 59 (Hong Kong)/41 (Shenzhen); winter 2015-16: 77/23; winter 2014-15: 80/20; winter 2013-14: 72/28; winter 2012-13: 82/18). Nevertheless, 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 was often observed.

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
Tufted Duck	3,613	8,000	11,613
Great Cormorant	8,217	NC [^]	8,217
Pied Avocet	4,278	753	5,031
Dunlin	0	4,300	4,300
Eurasian Wigeon	2,793	774	3,567
Black-headed Gull	2,391	970	3,361
Northern Shoveler	907	2,171	3,078
Northern Pintail	1,001	603	1,604
Eurasian Curlew	1,542	0	1,542
Little Egret	1,064	153	1,217
Total	25,806 (59%)	17,724 (41%)	43,530

[^] 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 (2017), 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 (2017). The focus is primarily 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 2016-17 are shown below.

Great Cormorant *Phalacrocorax carbo*

Coordinated evening roosting counts were conducted in the Mai Po Marshes Nature Reserve, Nam Sang Wai and Lok Ma Chau Mitigation Wetland in December 2016, January and February 2017 and recorded 6,701, 7,519 and 8,217 individuals respectively. The peak count (February 2017) was very similar to that of the previous winter (8,247 individuals). The 1% regional population is set at 1,000 individuals

(Wetlands International 2017), hence, the Deep Bay area supports 8% of the regional population of Great Cormorant in winter 2016-17.

Great Egret *Ardea alba*

The mid-winter peak was 1,020 individuals in January 2017, followed by a count of 1,005 individuals recorded in November 2016. There was an increase of 17% from the peak count of the previous winter (873 individuals in December 2015). The Deep Bay supported 1% of regional population, set at 1,000 individuals (Wetlands International 2017), in winter 2016-17.

Black-faced Spoonbill *Platalea minor*

Endangered

The 2017 International Black-faced Spoonbill Census recorded a total of 3,941 individuals in the East Asia region (HKBWS 2017). The highest count of this species was recorded at 359 individuals in December 2016, which was very similar to the figure of 362 individuals in the previous winter. This peak count also represented 9% of the known world population of this globally threatened waterbird in winter 2016-17.

Falcated Duck *Anas falcata*

Near Threatened

A single individual was recorded in the December count, lower than that recorded in the previous winter (3 individuals in February 2016). This species was usually scarce (fewer than 10 birds) in previous winters. The 1% regional population level is set at 830 individuals (Wetlands International 2017).

Tufted Duck *Aythya fuligula*

The peak count in the mid-winter period was 11,613 individuals (including 8,000 individuals at Futian National Nature Reserve, Shenzhen) recorded in December 2016. Compared to the figure recorded in the previous winter (5,142 individuals in January 2016), there was a significant increase of 126% and this set the new peak figure for this species in the Deep Bay area. The 1% regional population level is set at 2,400 individuals (Wetlands International 2017), so the Deep Bay area supported 4.8% of the regional population of this species in winter 2016-17.

[Common Pochard *Aythya ferina*

Vulnerable

Despite seven individuals recorded in December 2015, none was recorded in winter 2016-17. This species was recently uplisted to globally Vulnerable because of rapidly population decline across its range (BirdLife International 2017), while the 1% regional population level is set at 3,000 individuals (Wetlands International

2017).]

Siberian Crane *Grus leucogeranus* Critically Endangered

An adult was recorded in the Mai Po Nature Reserve from December 2016 to March 2017, a very rare winter visitor in Deep Bay and being only the second record in Hong Kong. The total population is estimated at 3,500-4,000 individuals, over 90% of the population winters in the Lower Yangtze River Basin in China (BirdLife International 2017).

Pied Avocet *Recurvirostra avosetta*

The peak count in mid-winter period was 5,031 individuals in the January count, while a total of 5,457 individuals were recorded in the March count. There was a drastic decline of 41% from that of the previous winter (9,275 individuals in February 2016), and this was also the lowest figure since winter 2004-05. Applying the criterion of the 1% regional population at 1,000 individuals (Wetlands International 2017), this winter peak count constituted 5% of the regional population.

Black-tailed Godwit *Limosa limosa* Near Threatened

The peak count in this winter was 1,183 individuals recorded in the January count, having an increase of 24% from that of the previous winter (955 individuals in February 2016). Almost all of them (1,180 individuals) were recorded at Futian National Nature Reserve, Shenzhen in the January count. Meanwhile, over 67% of the 1,162 individuals were recorded on the Hong Kong side in the December count. The 1% regional population was 1,400 individuals (Wetlands International 2017) and hence this winter peak count nearly met this 1% population level.

Bar-tailed Godwit *Limosa lapponica* Near Threatened

A total of six individuals recorded in the January count was the peak count for this winter, while the peak count of the previous winter was four individuals (in January 2016). This species has been recently uplisted as Near Threatened in 2015 due to rapid population declines from severe habitat loss (BirdLife International 2017). The 1% regional population was set at 2,800 individuals consisting figures of populations of two subspecies: *menzbieri* at 1,500 individuals and *baueri* at 1,300 individuals (Wetlands International 2017).

Eurasian Curlew *Numenius arquata* Near Threatened

A total of 1,542 individuals recorded in the February count was the peak count of

winter 2016-17. This represented an increase of 24% from that of the previous winter (1,245 individuals in February 2016). As the 1% regional population level is set at 1,000 individuals (Wetlands International 2017), this peak count figure represented 1.5% of the regional population in the winter 2016-17.

Far Eastern Curlew *Numenius madagascariensis* Endangered

This species were recorded in October 2016 and January to March 2017, with the highest count of two individuals recorded in January and February 2017. This species was uplisted to globally Endangered in 2015 due to a very rapid population decline due to habitat loss and deterioration in the Yellow Sea region (BirdLife International 2017). The 1% population level is set at 320 individuals (Wetlands International 2017).

Nordmann's Greenshank *Tringa guttifer* Endangered

Single was recorded in December 2016, January and March 2017. One or two individuals were recorded almost every winter. The global population is estimated at 400-600 individuals and 1% of the global population is set at 5 individuals (Wetlands International 2017).

Asian Dowitcher *Limnodromus semipalmatus* Near Threatened

One was recorded in the October count. This species is rare in autumn though regularly recorded in spring months. The global population is estimated as around 23,000 individuals. Asian Dowitcher is classified as Near Threatened due to its small overall population which could be in decline (BirdLife International 2017).

Great Knot *Calidris tenuirostris* Endangered

The peak count was ten individuals in December 2016, being a huge decline of 91% from that of the previous year (115 individuals in February 2016 but this was an unprecedented figure and the highest figure ever in the mid-winter period). This species was also uplisted to globally Endangered recently due to a very rapid population decline due to habitat loss in non-breeding stopover grounds (BirdLife International 2017). The 1% global population is set at 2,900 individuals (Wetlands International 2017).

Red Knot *Calidris canutus* Near Threatened

The peak count was four individuals in December, one individual more than the mid-winter count of the previous year (i.e. three birds in December 2015). The species was also recently uplisted as globally Near Threatened in 2015 due to strong

declines of wintering population in Australia and New Zealand (BirdLife International 2017). The 1% regional population level is set at 1,100 individuals, consisting figures of populations of two subspecies: *piersmai* (560 individuals for 1% population) and *rogersi* (540 individuals for 1% population) (Wetlands International 2017).

Red-necked Stint *Calidris ruficollis* Near Threatened

This species was only recorded with one in January and a flock of 22 in March. The species was also uplisted as globally Near Threatened in 2015 due to a declining trend of wintering population in Australia and New Zealand in three generations (BirdLife International 2017). The 1% regional population level is set at 3,200 individuals (Wetlands International 2017).

Curlew Sandpiper *Calidris ferruginea* Near Threatened

This species was only recorded in March with 861 individuals but these probably involved passage individuals from their northward migration. This species was uplisted as Near Threatened in 2015 due to apparent declines from habitat loss in the Yellow Sea area (BirdLife International 2017). The 1% regional population is set at 1,400 individuals (Wetlands International 2017).

Saunders's Gull *Chroicocephalus saundersi* Vulnerable

The species had high counts in winter 2016-17, with a relative high count of 82 individuals in December 2016 and a subsequent peak count of 114 individuals in January 2017. The peak count had an increase of 133% from that of the previous winter (49 individuals in December 2015). It was also the first time to have record of more than 100 individuals since mid-1990s (Carey *et al.* 2001). The 1% global population level is set at 85 individuals (Wetlands International 2017). The peak count of this winter, hence, represented 1.3% of the global population.

3.3 Other notable counts

Greater Crested Grebe *Podiceps cristatus*

The 1% regional population level of this species is set at 350 individuals (Wetlands International 2017). The Deep Bay wintering population meets this threshold value occasionally. The peak count of this species in winter 2016-17 was 145 individuals in January, representing a decrease of 8% from that of the previous winter (158 individuals in February 2016) and not meeting the 1% regional population level.

Eurasian Teal *Anas crecca*

The peak count of this species was 1,036 individuals recorded in November 2016 while only 863 individuals were recorded in December 2017 for the mid-winter period. The mid-winter figure had an increase of 12% from that of the previous winter (769 individuals in February 2016). This species was one of the most common wintering ducks in the Deep Bay area with a historic peak count of 5,348 individuals in February 1996 (Carey *et al.* 2001) and other high figures of 2,000 – 3,000 individuals before 2010s. The 1% population level of this species is set at 7,700 individuals (Wetlands International 2017).

Northern Pintail *Anas acuta*

The peak count was 1,604 individuals recorded in the January count, a decrease of 20% from previous winter (2,016 individuals in December 2015). The 1% regional population level was set at 2,400 individuals (Wetland International 2017). The winter count of this species often met the 1% threshold before 2010s. However, the winter peak count this year did not meet the 1% threshold level.

Northern Shoveler *Anas clypeata*

The peak count of this species was 3,078 individuals recorded in the January count, indicating a decline of 18% from the previous winter (3,750 individuals in January 2016). As the 1% regional population is set at 5,000 individuals (Wetlands International 2017), the winter count of this species once met the 1% threshold level in the 1990s and in the late 2000s. However, the peak count this winter did not meet the threshold.

Eurasian Coot *Fulica atra*

The peak count in this winter was only 20 individuals recorded in February 2017, a decrease of 70% from that of the previous winter (66 individuals in December). This species is also suffering a long-term population decline from a peak count of 3,245 individuals in January 1992 (Carey *et al.* 2001) and numbers remained low in recent winters. The 1% regional population level is set at 20,000 individuals (Wetlands International 2017).

Grey Plover *Pluvialis squatarola*

The peak count in winter 2016-17 was 693 individuals recorded in February 2017, a decrease of 22% from the unprecedented high number of the previous winter (884 individuals in March 2016). The 1% regional population is set at 1,000 individuals

and this peak count did not meet the 1% population level.

Little Ringed Plover *Charadrius dubius*

The 1% regional population level is set at 250 individuals (Wetlands International 2017) and the Deep Bay wintering population occasionally meets this 1% population level. The peak count in winter 2016-17 was 164 individuals recorded in January, an increase of 38% from that of the previous winter (119 individuals in March 2016). This peak count did not meet the 1% population level.

Spotted Redshank *Tringa erythropus*

The peak count in this winter was 83 in February 2017, indicating an increase of 277% from an unusual low peak count of the previous year (22 individuals in January 2016). This species was one of the most common wintering shorebirds in the Deep Bay area in the past, with counts of more than 1,000 individuals between 1990s to 2000s (Carey *et al.* 2001). The 1% regional population level is set at 250 individuals (Wetlands International 2017) and the peak count this year did not meet that 1% population level.

Marsh Sandpiper *Tringa stagnatillis*

The peak count in the winter period was 1,098 individuals recorded in January 2017, a decrease of 18% from that of the previous winter (1,345 individuals in March 2016). The species was more numerous in the Deep Bay area in the past (2,884 individuals in January 2011), but numbers have decreased recently. The 1% regional population is set at 10,000 individuals (Wetlands International 2017).

Common Greenshank *Tringa nebularia*

The peak count in mid-winter period was 921 individuals in February 2017, indicating an increase of 31% from that of the previous winter (702 individuals in December 2015). The peak count this winter nearly met the 1% population level which is set at 1,000 individuals (Wetlands International 2017).

Black-headed Gull *Chroicocephalus ridibundis*

The peak count was only 3,361 individuals recorded in January 2017, representing a significant decline of 46% from that of the previous winter (6,214 individuals in December 2015). This species was once one of the most numerous waterbird species in the Deep Bay area with the highest count of 20,629 individuals in winter 1995-96 (Carey *et al.* 2001). However, peak counts in recent winters revealed this species is suffering a long-term population decline (i.e. 83% decline in 20 years).

The 1% regional population level is set at 20,000 individuals (Wetlands International 2017).

3.4 Other information collected

Additional field surveys were conducted in December 2016 to collect more information on fishpond conditions for waterbirds. A total of 631 fishponds were surveyed in the whole study area, of which 142 ponds had wires set up across them (Map 4) and 489 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'	112	26	95
Shenzhen River 'A'	34	0	25
Sam Po Shue	45	26	44
San Tin	45	3	39
Mai Po San Tsuen	45	15	36
Tam Kon Chau	103	69	98
Lut Chau	28	0	28
Tai Sang Wai	33	0	33
Luen Hing Wai and Wing Kei Tsuen	56	0	39
Nam Sang Wai	39	0	16
Tsim Bei Tsui	88	2	35
<i>Total</i>	628	141	488

4. Conclusion

During the mid-winter period from December 2016 to February 2017 the total peak count of waterbird in the Deep Bay area in the mid-winter period was 56,354 individuals including 21,328 ducks and grebes, 18,830 shorebirds, 8,217 cormorants, 4,048 ardeids, 3,780 gulls and terns, and 151 rails and coots, which was 2% higher than that of the previous winter (55,509 individuals). The total number of waterbird species saw a decrease from 70 from the previous winter to 65 recorded in this winter. The 10 most numerous waterbird species constituted only 59% of the total peak count in winter 2016-17, having a significant drop from that of the previous winter (i.e. 77%).

Similar to the previous winters, low-tide counts were arranged in this winter to provide supplementary information. It showed that many species could be recorded in higher numbers during the low-tide period. Therefore, low-count count shall be continued in the future to increase survey accuracy for some species which prefer the

Deep Bay intertidal mudflat area at low tide.

A total of 14 globally threatened or near-threatened waterbird species (including Black-faced Spoonbill, Falcated Duck, Siberian Crane, Black-tailed Godwit, Bar-tailed Godwit, Eurasian Curlew, Far Eastern Curlew, Nordmann's Greenshank, Asian Dowitcher, Great Knot, Red Knot, Red-necked Stint, Curlew Sandpiper and Saunders's Gull) and seven species having at least 1% of the regional population for the species (i.e. Great Cormorant, Great Egret, Black-faced Spoonbill, Tufted Duck, Pied Avocet, Eurasian Curlew and Saunders's Gull) were recorded in the Deep Bay area during the 2016-17 survey period. Comparing to that of some previous years, several wintering ducks (i.e. Northern Shoveler, Eurasian Teal and Northern Pintail) decreased in numbers; the previously numerous Black-headed Gull and Pied Avocets were only recorded in relatively low number. Declines of these common waterbird species are of significant local or even regional concern for waterbird and wetland conservation. The trend of the January waterbird population remained relatively stable in recent years, while the total peak count (in mid-winter) showed a mild increase in the same period. The difference of trends indicated some waterbird species were recorded in higher numbers in December and February rather than solely in January.

5. Acknowledgements

We would like to thank the following surveyors who participated in the counts: Bonnie Chan, Charlotte Chan, Henry Chan, Chan Ka-ho, Cheung Ka-chun, Gary Chow, Chung Yun-tak, Forrest and Emily Fong, Helen Fong, Rebecca Fung, John and Jemi Holmes, Aaron Keung, Karly Lau, Roger Lee, Banson Leung, Michael Leven, Richard Lewthwaite, Tom Li, Lo Wing-fung, Austin Ng, So Ying-kin, Graham Talbot, Philip Tang, Ivan Tse, Wan Chun-hin, Nelson Wan, Woo Ming-chuan, Captain Wong, Jessica Wong, Elizabeth Wu, Haley Yeung, Louisa Yip, 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

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

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2016 to March 2017)**

Figure

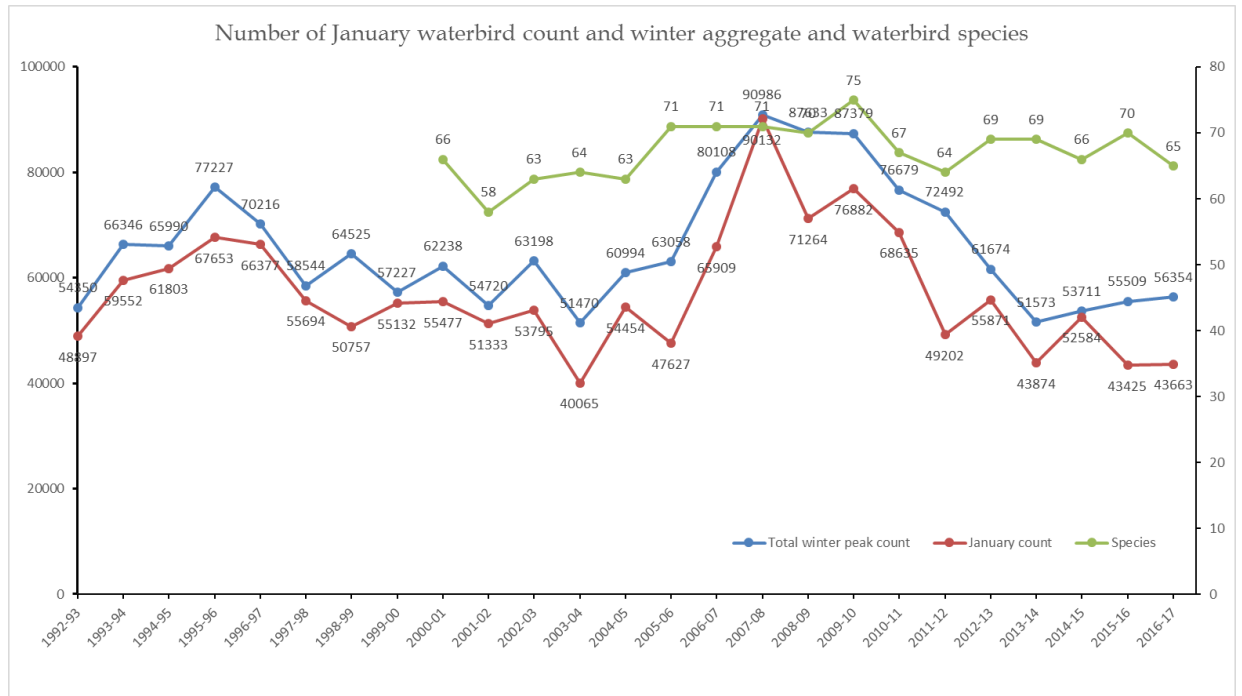


The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Figure 1. Total mid-winter peak counts and January counts, from 1992-93 to 2016-17.



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.

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Maps

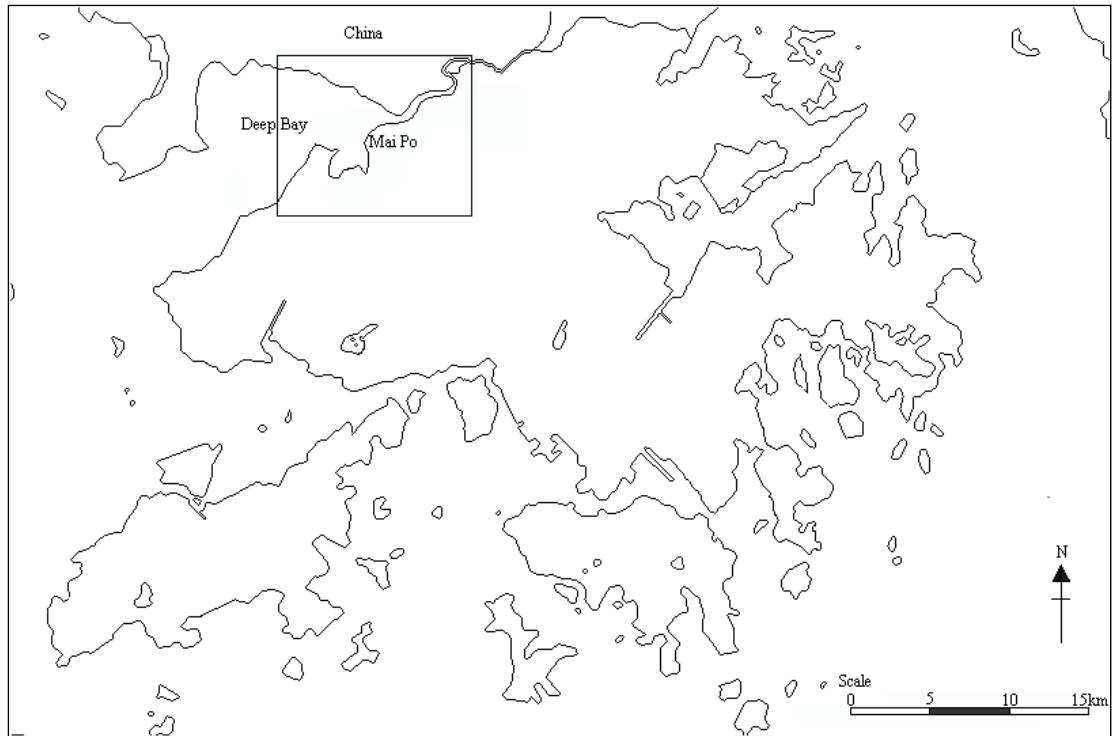


The Hong Kong Bird Watching Society

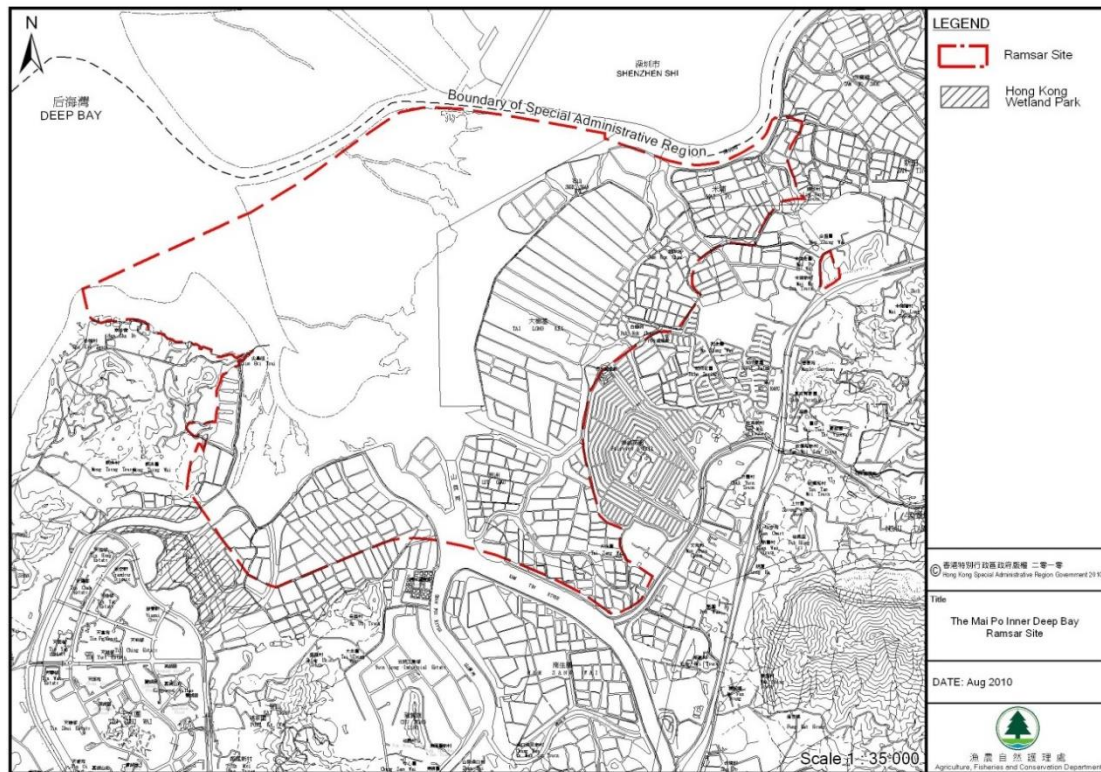


Agriculture, Fisheries and Conservation Department

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



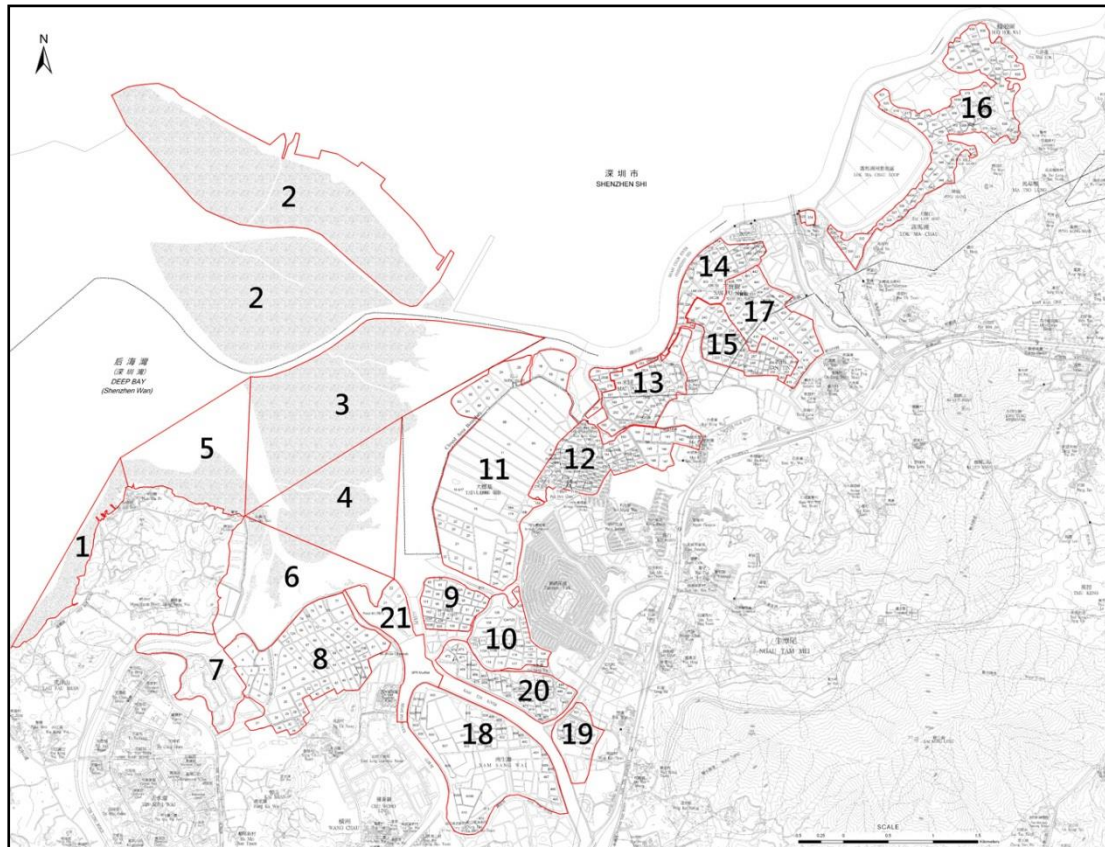
Map 2. Boundary of Mai Po Inner Deep Bay Ramsar Site.



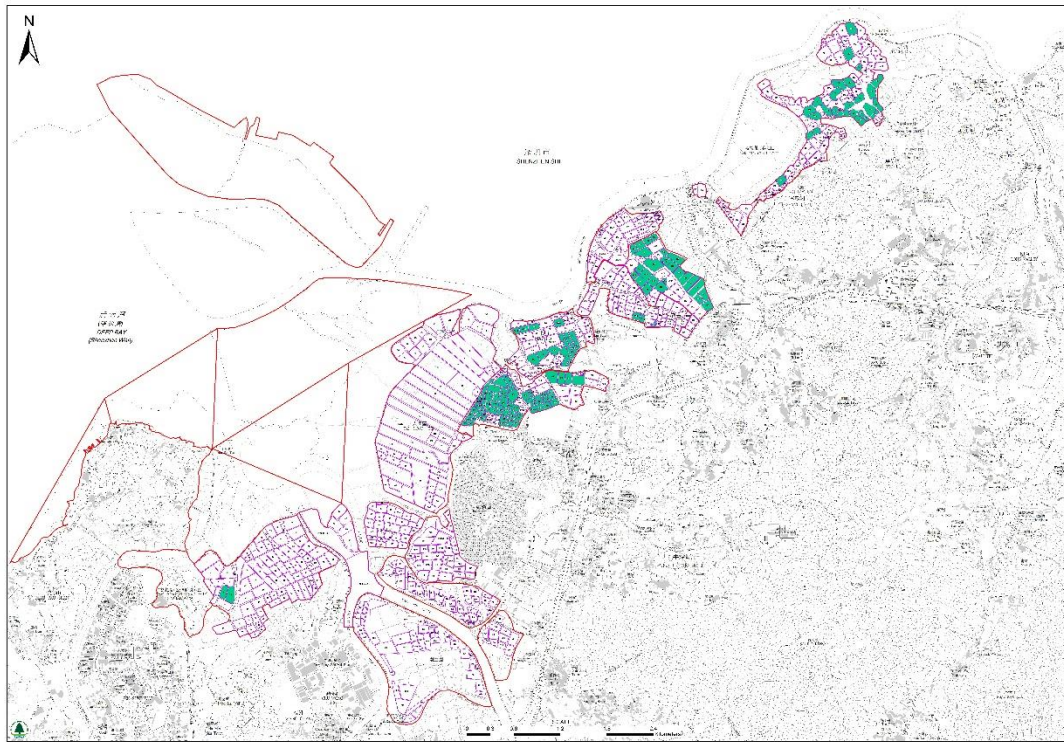
Source of map: AFCD

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

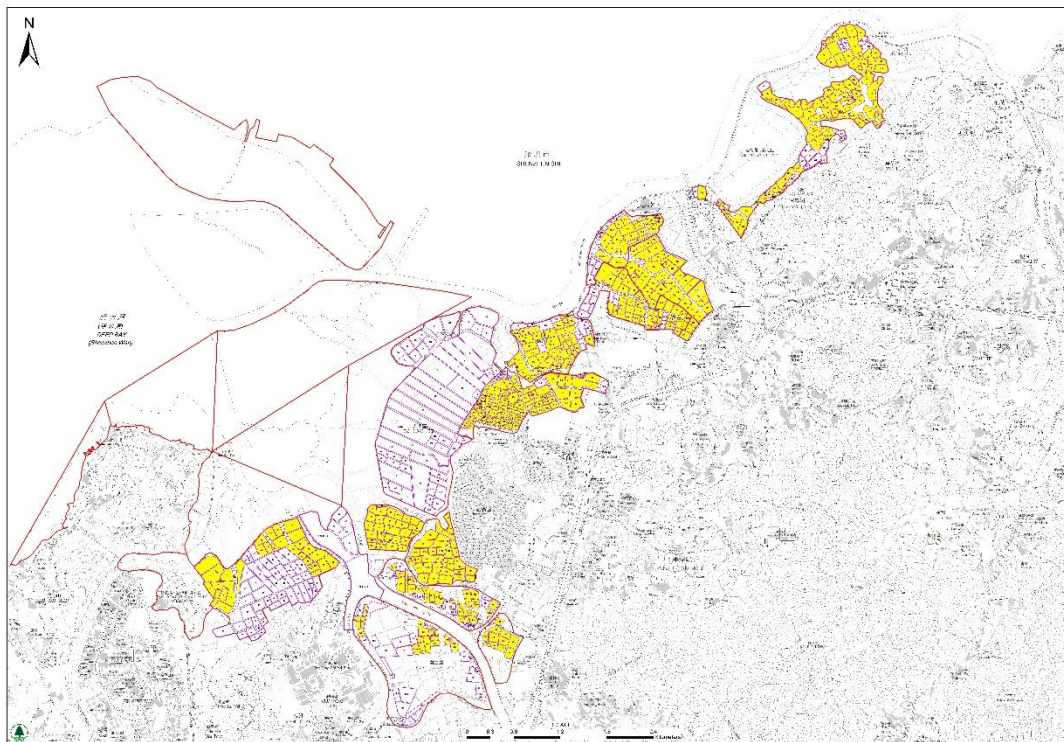
(1: Tsim Bei Tsui to Nim Wan; 2: Deep Bay 'A'; 3: Deep Bay 'B'; 4: Deep Bay 'C'; 5: Deep Bay 'D'; 6: Deep Bay 'E'; 7: Hong Kong Wetland Park; 8: Deep Bay 'F' (Tsim Bei Tsui fishpond); 9: Lut Chau; 10: Tai Sang Wai; 11: Mai Po Marshes Nature Reserve; 12: Tam Kon Chau; 13: Mai Po San Tsuen; 14: Shenzhen River 'A'; 15: San Tin; 16: Shenzhen River 'B'; 17: Sam 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 2016.



Map 5. Distribution of managed ponds (in yellow) in fishpond area in the Deep Bay area, surveyed in December 2016.



**Mai Po Inner Deep Bay Ramsar Site
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Appendix 1



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Summary of Waterbird Count, October 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	14	26						27		14	5	3			57		7	25	36	51	11	93		104	276	3	
Great Crested Grebe																									0	0	
Great Cormorant	278	6	14	20				98		309	25	8			11		7	155	44	23	360	151	20	531	1358		
Dalmatian Pelican																									0	0	
Grey Heron	68	13	74					8	35	81	6	45			4	35	12	10	10	5	110	78	34	222	516	29	
Purple Heron												1			1						5	1		6	7		
Great Egret	78	94	136	28				17	20	66	11	2	2	4	16	76	41	16	13	67	74	162	47	283	761	196	
Intermediate Egret										2					2				1		6	2		8	11		
Little Egret	25	141	111	68				23	4	37	21	32	1	13	176	55	101	68	25	112	37	287	72	396	1050	52	
Swinhoe's Egret																									0	0	
Pacific Reef Heron																									0	0	
Eastern Cattle Egret		73	2					8		1	1				4	12	15	1	15	24	6	37		43	162	1	
Chinese Pond Heron	15	54	43					16	1	30	22	5		2	50	29	8	54	38	38	16	168	1	185	421	4	
Striated Heron																									0	0	
Black-crowned Night Heron	1	17	6							1	2								4		15	4		19	46	10	
Yellow Bittern		1													1							2		2	3		
Cinnamon Bittern																									0	0	
Von Schrenck's Bittern										1															0	1	
Eurasian Bittern																									0	0	
Black Stork																									0	0	
Black-headed Ibis																									0	0	
Eurasian Spoonbill																									0	0	
Black-faced Spoonbill																									0	0	
Greater White-fronted Goose																				3	1				1	4	
Common Shelduck																									0	0	
Eurasian Wigeon																						23		23	23		
Falcated Duck																									0	0	
Gadwall																									0	0	
Baikal Teal																									0	0	
Eurasian Teal	32									5												242		242	279		
Mallard																									0	0	
Spot-billed Duck																									0	0	
Chinese Spot-billed Duck																									0	0	
Indian Spot-billed Duck																									0	0	
Northern Pintail																				2	1				1	3	
Garganey			70									16										67		67	153		
Northern Shoveler			5							1												1			1	7	
Common Pochard																									0	0	
Baer's Pochard																									0	0	
Tufted Duck																									0	0	
Greater Scaup																									0	0	
Red-breasted Merganser																									0	0	
Duck sp.			45																						0	45	
Slaty-breasted Rail																									0	0	
Eastern Water Rail																									0	0	
White-breasted Waterhen	1	6	4					7	1	8	2	1		1	6		8	6	9	2	7	26		33	69	1	
Watercock																									0	0	
Common Moorhen	1	2	18												4				2		1	4		5	28		
Eurasian Coot																						1			1	1	

Pheasant-tailed Jacana	3																				0	4
Greater Painted-snipe																					0	0
Black-winged Stilt		32	195				86	16	2	53			5	11		10	16			18	18	426
Pied Avocet#		38*											1*				11*	193			193	193
Oriental Pratincole																					0	0
Northern Lapwing																					0	0
Grey-headed Lapwing			5															1			1	6
Pacific Golden Plover			347																		0	347
Grey Plover			3																		0	3
Common Ringed Plover																					0	0
Little Ringed Plover		4	4				9	5					5	4			9	13		9	9	53
Kentish Plover#			6*										13	3*					15		15	28
Lesser Sand Plover																					0	0
Greater Sand Plover#													10								4	14
Black-tailed Godwit#																				512	512	512
Bar-tailed Godwit#																					3	3
Whimbrel			2										2								0	4
Eurasian Curlew																					130	130
Far Eastern Curlew																					1	1
Spotted Redshank#		2*																			3	3
Common Redshank#				100*																	291	291
Marsh Sandpiper#			6*	4*									5*			3*	1*	864			864	864
Common Greenshank#		3*		55*					21*		2	1*			1*		18*	545			545	547
Nordmann's Greenshank																					0	0
Green Sandpiper			3				1	1	2				4							5	5	11
Wood Sandpiper		25	35	48			1	1	4				6			2	1	6		9	9	129
Terek Sandpiper#																					1	1
Common Sandpiper			5	19			1	3				4	15			8	12	8	2	18	20	77
Grey-tailed Tattler																					0	0
Ruddy Turnstone																					0	0
Red-necked Phalarope																					0	0
Pintail Snipe																					0	0
Swinhoe's Snipe																					0	0
Pintail/Swinhoe's Snipe			1																		0	1
Common Snipe		6	2	5					1				1			1				2	2	16
Long-billed Dowitcher																					0	0
Asian Dowitcher#																					1	1
Red Knot																					0	0
Great Knot																					0	0
Sanderling																					0	0
Red-necked Stint																					0	0
Little Stint																					0	0
Temminck's Stint																		7			0	7
Long-toed Stint																					0	0
Pectoral Sandpiper																					0	0
Sharp-tailed Sandpiper																					0	0
Dunlin																					0	0
Curlew Sandpiper																					0	0
Spoon-billed Sandpiper																					0	0
Broad-billed Sandpiper																					0	0
Ruff																					0	0
Wader sp.																					0	0
Small wader sp.																					0	0

Black-tailed Gull																							0	0			
Heuglin's Gull																							0	0			
Caspian Gull																							0	0			
Slaty-backed Gull																							0	0			
Pallas's Gull																							0	0			
Large Gull spp.																							0	0			
Brown-headed Gull																							0	0			
Black-headed Gull																							0	0			
Saunders's Gull																							0	0			
Whiskered Tern		12											2				3	10				2	2	27			
White-winged Tern																							0	0			
Gull-billed Tern																							0	0			
Caspian Tern																							0	0			
Total		547	527	1156	116	0	0	0	205	147	586	105	174	3	56	369	207	210	346	234	385	3550	1078	174	4802	8923	304

	Deep Bay Area	%	Ramsar Site	%	SI	%																				
Cormorants	1358	15%	531	11%	0	0%																				
Ardeids etc	2978	33%	1164	24%	292	96%																				
Ducks, grebes, pelicans	790	9%	438	9%	3	1%																				
Rails, coot etc	98	1%	39	1%	1	0.3%																				
Shorebirds	3672	41%	2627	55%	8	3%																				
Gulls and terns	27	0.3%	2	0.04%	0	0%																				
TOTAL	8923	100%	4801	100%	304	100%																				

Date of count: 16 Oct 2016
 High tide measured at TBT: 2.6m
 * = count not included in the total # indicates count consists of or includes a count made up to one week either side of the count date

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			2		3	
Black Kite	1	1									6			1						1	2	2	18	1	19	33	1
White-bellied Sea Eagle																									0	0	
Eastern Marsh Harrier		2																				3		3		5	
Eastern Buzzard																									0	0	
Greater Spotted Eagle																									0	0	
Eastern Imperial Eagle																									0	0	
Peregrine Falcon																				1		1			1	2	
Pied Kingfisher		4	7					1	4										2	2	1	3	7		10	24	
Common Kingfisher	1	6	3					2				3	4		3	7	1	1	3	6	3	4	16		20	47	3
White-throated Kingfisher	2	1	5							2			1		1					1		1	2		3	16	
Black-capped Kingfisher			1											1											0	2	2
Red-billed Starling														20											0	20	
Collared Crow		2	2					3			5	1			1				3	3	1	22	7		29	43	

Summary of Waterbird Count, November 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NS W	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	30	65	1					23		5	10	4			54	1	12	38	27	43	27	102		129	340	14	
Great Crested Grebe			3	4		1							4	5										5	5	17	
Great Cormorant	858	168	69	6				3949	4	130	57	18	2		31	109	581	72	64	20	657	4748	10	5415	6795	7	
Dalmatian Pelican																									0	0	
Grey Heron	139	124	204	3	8	13	23	16	14	47	23	14	2	18	12	9	16	19	8	22	144	90	56	290	878	37	
Purple Heron	1		1									1								1	1	1			1	6	
Great Egret	192	196	199	4	8	5	17	10	5	94	35	3	1	7	9	4	17	14	9	26	150	59	37	246	1005	99	
Intermediate Egret	4														1							12	1		13	17	
Little Egret	3	545	171	48	8	12	21	10	10	58	49	2	17	4	262	26	37	16	25	140	207	347	99	653	1671	26	
Swinhoe's Egret																									0	0	
Pacific Reef Heron																									0	0	
Eastern Cattle Egret		28	4													9	44			9	1	53		54	95		
Chinese Pond Heron	39	63	58			4		4	2	58	29	4		1	79	3	16	37	27	61	37	129	6	172	522	7	
Striated Heron								1														1	1		2	2	
Black-crowned Night Heron	6	19								8	25								2	1		29		56	90	12	
Yellow Bittern									1						1							1		1	2	3	
Cinnamon Bittern																									0	0	
Eurasian Bittern																									0	0	
Black Stork																									0	0	
Black-headed Ibis																									0	0	
Eurasian Spoonbill																						1		1	1	1	
Black-faced Spoonbill	3	1	37				5			1	1	12			16	8				19		153	24	5	182	256	
Greater White-fronted Goose																						3		3	3	3	
Common Shelduck																									0	0	
Eurasian Wigeon	83		587	381	6	526	4						95									40		917	957	1722	
Falcatid Duck																									0	0	
Gadwall	1																								0	1	
Baikal Teal																									0	0	
Eurasian Teal	983	4					6					5	1						1			36	1	6	43	1036	
Mallard																									0	0	
Spot-billed Duck																									0	0	
Chinese Spot-billed Duck																						5			5	5	
Indian Spot-billed Duck																									0	0	
Northern Pintail	1		548	372	2	20	11					16										165		405	570	1135	
Garganey			50	24								26										3		24	27	103	
Northern Shoveler			1983	595	10	4	17			2		70										237		626	863	2918	
Common Pochard																									0	0	
Baer's Pochard																									0	0	
Tufted Duck			6265	13																		15		13	28	6293	
Greater Scaup																									0	0	
Red-breasted Merganser																									0	0	
Duck sp.			1850																						0	1850	
Slaty-breasted Rail																									0	0	
Eastern Water Rail																									0	0	
White-breasted Waterhen		11	4				1	1	1	9	3	1			10	3	2	11	5	3	6	29	1	36	71	2	
Watercock																									0	0	
Common Moorhen	4	4	8					2		1					14					1	2	5	13	18	41	6	
Eurasian Coot	2																								0	2	
Pheasant-tailed Jacana	2														1										0	3	

Greater Painted-snipe																						0	0	
Black-winged Stilt	3	11	416					14	3	4			3	6		7	9			12		12	476	
Pied Avocet	12	36	21					10	10	13			2	15	1	11	20	4	297	39		336	452	
Oriental Pratincole																						0	0	
Northern Lapwing																						0	0	
Grey-headed Lapwing																						0	0	
Pacific Golden Plover			58																25			25	83	
Grey Plover										76	2											0	78	
Common Ringed Plover																						0	0	
Little Ringed Plover	17	9									7	11				4	2	5			15	15	55	
Kentish Plover			46									10									10	10	56	2
Lesser Sand Plover																						0	0	
Greater Sand Plover										8	6											0	14	22
Black-tailed Godwit																			308			308	308	
Bar-tailed Godwit																						0	0	
Whimbrel			2		2						3	4									2	2	11	
Eurasian Curlew											15	4							44			44	63	
Far Eastern Curlew																						0	0	
Spotted Redshank										1							1					0	2	
Common Redshank			291																380			380	671	
Marsh Sandpiper	36	1	4					2		69	64		6						363	5		368	545	
Common Greenshank		2	55		3			8		5	8	7	1	3	7		1	2	567	10	3	580	669	
Nordmann's Greenshank																						0	0	
Green Sandpiper		10	1										4		3			2			6	6	20	
Wood Sandpiper	38	10	40						1	1			3		9		1	7			13	13	110	
Terek Sandpiper																						0	0	
Common Sandpiper	1	11	15		2		4	1		1	1	1	16	3	5	8	7	10	1	29	8	38	93	1
Grey-tailed Tattler																						0	0	
Ruddy Turnstone																						0	0	
Red-necked Phalarope																						0	0	
Pintail Snipe																						0	0	
Swinhoe's Snipe																						0	0	
Pintail/Swinhoe's Snipe																						0	0	
Common Snipe																	1					0	1	
Snipe Sp.		1																				0	1	
Long-billed Dowitcher																						0	0	
Asian Dowitcher																						0	0	
Red Knot																						0	0	
Great Knot																						0	0	
Sanderling																						0	0	
Red-necked Stint																						0	0	
Little Stint																						0	0	
Temminck's Stint	4							5										2				0	11	
Long-toed Stint																						0	0	
Pectoral Sandpiper																						0	0	
Sharp-tailed Sandpiper																						0	0	
Dunlin																						0	0	
Curlew Sandpiper																						0	0	
Spoon-billed Sandpiper																						0	0	
Broad-billed Sandpiper																						0	0	
Ruff																						0	0	
Wader sp.																						0	0	
Small wader sp.																						0	0	

Summary of Waterbird Count, December 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	42	55	7					21	5	10	20	1			41		13	41	36	48	17	111	4	132	357	3
Great Crested Grebe		1		7	2		1																10	10	11	
Great Cormorant%	784	465*	94*					228*	83*	4272	34*	91*			30*	37*	62*	164*	89*	72*	1645	601	10	2256	6701	133
Dalmatian Pelican																									0	0
Grey Heron	108	55	97	20	10	9	18	9	23	21	9	10		1	14	12	29	33	18	20	132	101	75	308	648	29
Purple Heron																						4		4	4	
Great Egret	122	210	106	125	9	17	2	12	6	9	13	2		1	12	35	12	37	8	19	103	111	158	372	860	45
Intermediate Egret	2			2																	1		2	3	5	
Little Egret	13	168	91	48	11	1	17	14		50	9	5		1	147	67	24	21	32	30	225	214	77	516	974	21
Swinhoe's Egret																									0	0
Pacific Reef Heron																									0	0
Eastern Cattle Egret	4	27						2	10		10				1	1	10			53	2	24	10	34	120	
Chinese Pond Heron	86	66	47	2			1	8		43	7	2	1	1	47	26	16	60	52	52	5	145	3	153	522	1
Striated Heron																									0	0
Black-crowned Night Heron		2								1									3		1	7	3		10	14
Yellow Bittern											1	1										2			2	3
Cinnamon Bittern																									0	0
Eurasian Bittern																									0	0
Black Stork																									0	0
Black-headed Ibis																									0	0
Eurasian Spoonbill																					1			1	1	
Black-faced Spoonbill	92	9	34	4	4		6		21			55					9	54			71	63	35	169	359	
Greater White-fronted Goose	1																								0	1
Common Shelduck																									0	0
Eurasian Wigeon	22		380	1511	45	31	202					8	18								135		1789	1924	2352	
Falcated Duck						1																		1	1	1
Gadwall																									0	0
Baikal Teal																									0	0
Eurasian Teal	310			27	252		57		8	15									16	50	66	62	16	344	422	863
Mallard																									0	0
Spot-billed Duck																									0	0
Chinese Spot-billed Duck																					3			3	3	
Indian Spot-billed Duck																									0	0
Northern Pintail	40		54	460	25	1	24					3	340								331		510	841	1278	
Garganey					25		3					13												28	28	41
Northern Shoveler	44		197	272	34		48		3	2		38	18							7	291		3	294	954	
Common Pochard																									0	0
Baer's Pochard																									0	0
Tufted Duck			8000		1	2950	316	54				4			16			1			271	1	3267	3539	11613	
Greater Scaup																									0	0
Red-breasted Merganser																									0	0
Duck sp.																									0	0
Slaty-breasted Rail																									0	0
Eastern Water Rail																									0	0
White-breasted Waterhen		5		1				3		1	6				1				4	1		8	1	9	22	1
Watercock																									0	0
Common Moorhen		5	4							6					4						3	9	4		13	31
Eurasian Coot	3	2	2												1						3	1		4	11	

Siberian Crane																		1				1	1			
Pheasant-tailed Jacana																						0	0			
Greater Painted-snipe																						0	0			
Black-winged Stilt	3		363	8				1	122						38	9	36				38	38	580			
Pied Avocet	17	18	584	666					70		18				36	6	2	17	1		391	98	1	490	1826	
Oriental Pratincole																							0	0		
Northern Lapwing																							0	0		
Grey-headed Lapwing			6							11													0	17		
Pacific Golden Plover			115	31																		31	31	146		
Grey Plover			10	413																		413	413	423		
Common Ringed Plover																							0	0		
Little Ringed Plover	11	14	10	1					3	24					2	1					2	1	3	66		
Kentish Plover			90	13																		13	13	103		
Lesser Sand Plover																							0	0		
Greater Sand Plover			15																				0	15		
Black-tailed Godwit			380	782																		782	782	1162		
Bar-tailed Godwit																							0	0		
Whimbrel			4	3																		3	3	7		
Eurasian Curlew			45	459							11											459	459	515		
Far Eastern Curlew																							0	0		
Spotted Redshank	1		2	8											1						7	1	8	16	19	
Common Redshank			265	549					35	17	13											584	584	879		
Marsh Sandpiper	2	1	226	52							8				6	1					16	6	52	74	312	
Common Greenshank	2	1	90	276					1	28	16						3	6				277	283	423		
Nordmann's Greenshank									1													1	1	1		
Green Sandpiper	1	7							1					4	1	6	1					10	10	21		
Wood Sandpiper	3	32	32							1	1			1		2	3	1				3	4	76		
Terek Sandpiper																							0	0		
Common Sandpiper	2	12	32	1		3			1	10	2			12		10	4	17				15	14	29	106	1
Grey-tailed Tattler																							0	0		
Ruddy Turnstone																							0	0		
Red-necked Phalarope																							0	0		
Pintail Snipe																							0	0		
Swinhoe's Snipe																							0	0		
Pintail/Swinhoe's Snipe																							0	0		
Common Snipe		2	3												1							1	1	6		
Long-billed Dowitcher																							0	0		
Asian Dowitcher																							0	0		
Red Knot				4																			4	4	4	
Great Knot																							0	0		
Sanderling																							0	0		
Red-necked Stint																							0	0		
Little Stint																							0	0		
Temminck's Stint																							0	7		
Long-toed Stint																							0	0		
Pectoral Sandpiper																							0	0		
Sharp-tailed Sandpiper																							0	0		
Dunlin			370																				0	370		
Curlew Sandpiper																							0	0		
Spoon-billed Sandpiper																							0	0		
Broad-billed Sandpiper																							0	0		

Summary of Waterbird Count, January 2017

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	16	45	3				2	37		7	11	2			21	5	15	49	18	46	25	114	2	141	302	8
Great Crested Grebe	1		6	6	29	17	5						2	79									57	57	145	14
Great Cormorant%	898	388*	207*					374*	29*	4184	145*	43*			5*	13*	41*	139*	67*	35*	2437	612		3049	7519	145
Dalmatian Pelican																								0	0	
Grey Heron	97	51	57	7	3		32	29	26	24	33	30		20	8	7	22	27	12	7	132	119	66	317	624	30
Purple Heron																		2			2		2	4	4	
Great Egret	23	40	361	47	7		61	13	16	16	176	2		51	86	8	17	11	26	23	36	241	126	403	1020	67
Intermediate Egret	3			3											5					1				3	3	12
Little Egret	6	88	153	63			82	4		11	36	1	5	11	80	279	84	134	28	96	56	514	145	715	1217	24
Swinhoe's Egret																								0	0	
Pacific Reef Heron																								0	0	
Eastern Cattle Egret		27																		28				0	55	
Chinese Pond Heron	5	68	25	4		1	11	3		17	20		1	4	28	7	32	57	48	35	31	135	16	182	397	5
Striated Heron																								0	0	
Black-crowned Night Heron		6	1								16											16	16	16	23	38
Yellow Bittern			1																					0	1	
Cinnamon Bittern																								0	0	
Eurasian Bittern																								0	0	
Black Stork																								0	0	
Black-headed Ibis																								0	0	
Eurasian Spoonbill												1												0	1	
Black-faced Spoonbill	4		18			2			18			147			7	13	8	4	9	1	53	25	20	98	284	
Greater White-fronted Goose	2																							0	2	
Common Shelduck																								0	0	
Eurasian Wigeon			774	2156		386	141			6		2		17							85		2683	2768	3567	
Falcated Duck																								0	0	
Gadwall																					1			1	1	
Baikal Teal																								0	0	
Eurasian Teal	1	36		21	6		28		5	1		2			1				19	21	20	20	60	100	161	2
Mallard																								0	0	
Spot-billed Duck																								0	0	
Chinese Spot-billed Duck																								0	0	
Indian Spot-billed Duck																								0	0	
Northern Pintail			603	716		17	106					2	70								90		839	929	1604	
Garganey			4									1												0	5	
Northern Shoveler	31		2171	224		3	16	17	22	1	109								24		460	8	224	692	3078	
Common Pochard																								0	0	
Baer's Pochard																								0	0	
Tufted Duck	2		900			1330	95	174							19			13			243	20	1425	1688	2776	
Greater Scaup																								0	0	
Red-breasted Merganser																								0	0	
Duck sp.			200	200	50	460																	710	710	910	
Slaty-breasted Rail																								0	0	
Eastern Water Rail																								0	0	
White-breasted Waterhen		12	4	1			2	2		3	3		2		2		2	8	2	1	3	17	3	23	47	5
Watercock																								0	0	
Common Moorhen	3		12				1	11		5					1				1	1	4	10	1	15	39	
Eurasian Coot	8	1	1					5													3			3	18	
Siberian Crane																					1			1	1	
Pheasant-tailed Jacana																								0	0	

Greater Painted-snipe																					0	0											
Black-winged Stilt	18		55	9		4	1		2						8	13	18		9	13	22	128											
Pied Avocet	65	1	753	1721			1	130	23	1				3	37			4	9	1	2282	43	1851	4176	5031								
Oriental Pratincole																									0	0							
Northern Lapwing																									0	0							
Grey-headed Lapwing																									0	0							
Pacific Golden Plover			415	15																				15	15	430							
Grey Plover			53	250						1	1										4			250	254	309	6						
Common Ringed Plover																									0	0							
Little Ringed Plover		14	128					3	5					9			4			1			9		9	164							
Kentish Plover			430	118										27										118	118	575	5						
Lesser Sand Plover														1											0	1							
Greater Sand Plover			2	22																				22	22	24	3						
Black-tailed Godwit			1180	3																				3	3	1183							
Bar-tailed Godwit				6																				6	6	6							
Whimbrel														1	5										0	6							
Eurasian Curlew			130	493																		730		493	1223	1355							
Far Eastern Curlew				1																				1	1	2							
Spotted Redshank																								1		1							
Common Redshank			485	210																				1	210	351	836						
Marsh Sandpiper	13		320	114						38													4	114	121	492							
Common Greenshank	5	4	230	333		29		1		1		9											6	2	3	82	6	362	450	705			
Nordmann's Greenshank				1																					1	1	1						
Green Sandpiper	1	6				1									1									7	3	2	2	7	1	10	23		
Wood Sandpiper		17							1								2	15	4	4				18		18	43						
Terek Sandpiper																											0	0					
Common Sandpiper		12	20	3		5			2	1		1	3	11		3	18	4	5					28	8	36	88					1	
Grey-tailed Tattler																										0	0						
Ruddy Turnstone																										0	0						
Red-necked Phalarope																										0	0						
Pintail Snipe																										0	0						
Swinhoe's Snipe																										0	0						
Pintail/Swinhoe's Snipe																										0	0						
Common Snipe		1	7																							0	8						
Long-billed Dowitcher																										0	0						
Asian Dowitcher																										0	0						
Red Knot																										0	0						
Great Knot																										0	0						
Sanderling																										0	0						
Red-necked Stint				1																					1	1	1						
Little Stint																										0	0						
Temminck's Stint																										0	0						
Long-toed Stint																										0	0						
Pectoral Sandpiper																										0	0						
Sharp-tailed Sandpiper																										0	0						
Dunlin			325	3773													5							5	3773	3778	4103						
Curlew Sandpiper																										0	0						
Spoon-billed Sandpiper																										0	0						
Broad-billed Sandpiper																										0	0						
Ruff																										0	0						
Wader sp.																										0	0						
Small wader sp.			8																							0	8						
Black-tailed Gull																										0	0						
Heuglin's Gull			7	92																						92	92	99					

Caspian Gull				2																		2	2	2		
Slaty-backed Gull																							0	0		
Pallas's Gull																							0	0		
Large Gull spp.																							0	0		
Brown-headed Gull																							0	0		
Black-headed Gull	8		970	1782						116					75	350			46	14		425	1782	2207	3361	
Saunders's Gull				114																			114	114	114	
Whiskered Tern																							0	0		
White-winged Tern																							0	0		
Gull-billed Tern																							0	0		
Caspian Tern				1																			1	1	1	
Total	1210	429	10812	12512	95	2213	608	296	212	4443	304	338	84	239	273	431	539	394	271	285	6925	2409	15613	24947	42913	353

	Deep Bay Area	%	Ramsar Site	%	SI	%																				
Cormorants	7519	18%	3049	12%	145	41%																				
Ardeids etc \$	3639	9%	1739	7%	164	47%																				
Ducks, grebes, pelicans	12551	29%	7086	28%	24	7%																				
Rails, coot etc	104	0.2%	41	0.2%	5	1%																				
Shorebirds	15523	36%	10616	43%	15	4%																				
Gulls and terns	3577	8%	2416	10%	0	0%																				
TOTAL	42913	100%	24947	100%	353	100%																				

Date of count: 15 Jan 2017
High tide measured at TBT: 1.8 m
% = count made at evening roost * = count not included in the total \$ = included the rare count of the Siberian Crane

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	1		1								3							1		2	3	7	
Black Kite		1				1	3			3				87	2		1	4	1			7	4	11	103	
White-bellied Sea Eagle																								0	0	
Eastern Marsh Harrier			1	1																	1		1	2	3	
Eastern Buzzard			1			1						1			1								1	1	4	
Greater Spotted Eagle	2																							0	2	
Eastern Imperial Eagle																						1		1	1	
Peregrine Falcon																								0	0	
Pied Kingfisher	1	3	5							1		2		2				4	1		2	4	6	21	1	
Common Kingfisher	1	7	1					3		2	3			4	7			8	5	2	2	16	18	45	4	
White-throated Kingfisher			2											1				3	1	2	2	3		5	11	2
Black-capped Kingfisher			1	1																				1	1	2
Red-billed Starling		24								80						350				157	210			0	821	
Collared Crow			1			1							2	1			5	4			6	9	1	16	20	
Common Kestrel		1																						0	1	

Summary of Waterbird Count, February 2017

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	69	35	7					33		15	5	4			20	1	8	41	20	82	23	83		106	363	2	
Great Crested Grebe			3		21	2								6									23	23	32	21	
Great Cormorant%	907	173*	51*					312*	58*	4130	74*	56*			24*	44*	29*	128*	29*	244*	3180	556*	29*	3180	8217		
Dalmatian Pelican																								0	0		
Grey Heron	174	34	85	16	13	3	10	12	23	36	5	35	3	4	16	11	7	22	23	86	131	71	61	263	749	32	
Purple Heron										1														0	1		
Great Egret	77	46	100	213	19	7	16	26	9	11	23	6	2	7	123	5	5	9	35	112	39	190	263	492	890	38	
Intermediate Egret	2			2														2		2	2	2	2	2	6	8	
Little Egret	12	54	93	96	9	2	26	16	8	19	117	3		7	366	18	47	23	43	75	180	579	141	900	1214	12	
Swinhoe's Egret																								0	0		
Pacific Reef Heron																								0	0		
Eastern Cattle Egret		31						3									12	4	2	50	3	19		22	105		
Chinese Pond Heron	11	61	21	3			7	3	8	26	14		5	4	42	6	8	23	59	70	16	85	18	119	387	4	
Striated Heron																				1				0	1		
Black-crowned Night Heron										1									1			36	1	37	38	4	
Yellow Bittern																				1				0	1		
Cinnamon Bittern																								0	0		
Eurasian Bittern																								0	0		
Black Stork																								0	0		
Black-headed Ibis																								0	0		
Eurasian Spoonbill																						2		2	2		
Black-faced Spoonbill	138^		33	22	1			3		3	6	32		5	22	9			3	38	132	46	47	225	309		
Common Shelduck																								0	0		
Eurasian Wigeon	5		1556	668		52			14	1								6			106	12	728	846	2408		
Falcated Duck																								0	0		
Gadwall																								0	0		
Baikal Teal																								0	0		
Eurasian Teal	277			4					13			13							8	12		19	8	17	44	346	
Mallard																								0	0		
Spot-billed Duck																								0	0		
Chinese Spot-billed Duck																								0	0		
Indian Spot-billed Duck																								0	0		
Northern Pintail			340	463								3									49		463	512	855		
Garganey			34									30									24			24	88		
Northern Shoveler	64		2190	280					88	17	2	108			1					8		299	3	368	670	3057	
Common Pochard																								0	0		
Baer's Pochard																								0	0		
Tufted Duck			5832				13	166	1	6					1			20			140	157	13	310	6179		
Greater Scaup																								0	0		
Red-breasted Merganser																								0	0		
Duck sp.					315	42	16						45											373	373	418	
Slaty-breasted Rail																								0	0		
Eastern Water Rail																								0	0		
White-breasted Waterhen		5	2				2	2		6	2	1	1		5		2			9	10	6	9	2	17	53	2
Watercock																								0	0		
Common Moorhen		1	19					6	1	6		2			18				6		6	13	27	1	41	78	
Eurasian Coot	5	1	2					4							2							6	2	8	20		
Siberian Crane																						1		1	1		
Pheasant-tailed Jacana																								0	0		
Greater Painted-snipe																								0	0		

Black-winged Stilt	2	4						37	48		2				9			9	9			37	37	120
Pied Avocet	22	23	393	3270				300	33		30						3			709	3	3570	4282	4783
Oriental Pratincole																							0	0
Northern Lapwing																							0	0
Grey-headed Lapwing			3																				0	3
Pacific Golden Plover			13	1																		1	1	14
Grey Plover				365															2			365	367	367
Common Ringed Plover																							0	0
Little Ringed Plover	20	49	8								4		8	11	4	30				17		17	134	
Kentish Plover																							0	0
Lesser Sand Plover																							0	0
Greater Sand Plover																							0	0
Black-tailed Godwit				1							1								367		1	368	369	
Bar-tailed Godwit																							0	0
Whimbrel				1																		1	1	1
Eurasian Curlew				836							1								705		836	1541	1542	
Far Eastern Curlew				2																		2	2	2
Spotted Redshank								2			81											2	2	83
Common Redshank			42	59				1			28					1	1					60	60	132
Marsh Sandpiper			20	230				53			363						5		96		283	379	767	
Common Greenshank	3	1	60	330				2	1		118		3	1	2			400	3	332	735	921		
Nordmann's Greenshank																							0	0
Green Sandpiper		3	1						1				5	4	2		1	2		11		11	19	
Wood Sandpiper	24	21	11						3				7	2	1	2	6			8		8	77	
Terek Sandpiper																							0	0
Common Sandpiper	1	15	11	1			1	2	3			18	5	3	6	9	23	1	26	1	28	99		
Grey-tailed Tattler																							0	0
Ruddy Turnstone																							0	0
Red-necked Phalarope																							0	0
Pintail Snipe																							0	0
Swinhoe's Snipe																							0	0
Pintail/Swinhoe's Snipe																							0	0
Common Snipe	1		12													2						0	15	
Long-billed Dowitcher																							0	0
Asian Dowitcher																							0	0
Red Knot																							0	0
Great Knot				1																	1	1	1	
Sanderling																							0	0
Red-necked Stint																							0	0
Little Stint																							0	0
Temminck's Stint	1																						0	1
Long-toed Stint																							0	0
Pectoral Sandpiper																							0	0
Sharp-tailed Sandpiper																							0	0
Dunlin																							0	0
Curlew Sandpiper																							0	0
Spoon-billed Sandpiper																							0	0
Broad-billed Sandpiper																							0	0
Ruff																							0	0
Wader sp.																							0	0
Small wader sp.																							0	0
Black-tailed Gull																							0	0
Heuglin's Gull			4																				0	4
Caspian Gull																							0	0

Slaty-backed Gull																						0	0			
Pallas's Gull																						0	0			
Large Gull spp.																						0	0			
Brown-headed Gull																						0	0			
Black-headed Gull			1244	427	45	7	3					15	4					117	75			482	482	1937		
Saunders's Gull				42																		42	42	42		
Whiskered Tern																						0	0			
White-winged Tern																						0	0			
Gull-billed Tern				1																		1	1	1		
Caspian Tern																						0	0			
Total	1677	384	12139	7334	423	115	93	275	560	4366	177	865	71	37	666	59	108	177	359	682	6687	1362	8537	16586	37254	115

	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	8217	22%	3180	19%	0	0%																						
Ardeids etc \$	3706	10%	2067	12%	90	78%																						
Ducks, grebes, pelicans	13746	37%	2908	18%	23	20%																						
Rails, coot etc	151	0.4%	66	0.4%	2	2%																						
Shorebirds	9450	25%	7840	47%	0	0%																						
Gulls and terns	1984	5%	525	3%	0	0%																						
TOTAL	37254	100%	16586	100%	115	100%																						

Date of count: 19 Feb 2017

High tide measured at TBT: 1.9m

% = count made at evening roost * = count not included in the total

\$ = included the rare count of the Siberian Crane

^ = Figure of the Black-faced Spoonbill at SRA was not included in the total because many individuals were observed flying to this area and the count could only be made at the end of the survey period. It was very likely that this figure involved individuals recorded in the other survey areas.

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																	1		1	2	3	
Black Kite	7	6					1		1	1	1		3	2			3		3	7	27	4	2	33	62	
White-bellied Sea Eagle																								0	0	
Eastern Marsh Harrier			2																		2			2	4	
Eastern Buzzard					1					1					1					1	1	1	1	3	5	
Greater Spotted Eagle																					1			1	1	
Eastern Imperial Eagle																							0	0		
Peregrine Falcon																					1*			1	1	
Pied Kingfisher	4	4	2							1	1								1			6	2	8	19	
Common Kingfisher	2	6	3					1	1	2	3	1			10			2	3	2	6	2	17	19	44	
White-throated Kingfisher		3	2							1				1	3	1	2	1		1	1	7		8	16	
Black-capped Kingfisher				1																				0	1	
Red-billed Starling	262	61	23				17			56				8			2	44	108		29	46	17	92	610	
Collared Crow	1		2				3				2				3	3		4	1		21	9	3	33	40	
Common Kestrel															1									0	1	

Summary of Waterbird Count, March 2017

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	54	42	3					16		11	9	3			37	1	12	49	18	57	30	106		136	342	5	
Great Crested Grebe			1	2	16									38										18	18	57	11
Great Cormorant	619	145	56	34				106	76	24	67	24	2		10	14	12	106	22	11	1020	275	107	1402	2348		
Dalmatian Pelican																								0	0		
Grey Heron	47	41	44	23	3	1	1	2	33	29	5	13		1	10	15	7	8	1	1	107	38	60	205	392	26	
Purple Heron																					1			1	1		
Great Egret	50	138	69	101	32		8	12	24	73	8	3	4	5	35	7	6	15	9	41	58	54	165	277	698	83	
Intermediate Egret	2	3		2						1					14			1		2	5	7	2	14	30		
Little Egret	18	113	104	68	22		4	20	75	35	20	5	16	25	245	27	20	23	18	68	105	352	135	592	1031	18	
Swinhoe's Egret																								0	0		
Pacific Reef Heron																								0	0		
Eastern Cattle Egret		30						1						42	2	5	55			8	3	62		65	146	1	
Chinese Pond Heron	18	42	28	7				6	1	21	14	1		1	42	3	9	15	8	25	1	85	8	94	242	4	
Striated Heron			1																					0	1		
Black-crowned Night Heron		9	1				2															24		2	26	36	
Yellow Bittern		1													1								1		1	2	
Cinnamon Bittern												1												0	1		
Eurasian Bittern																								0	0		
Black Stork																								0	0		
Black-headed Ibis																								0	0		
Eurasian Spoonbill																								0	0		
Black-faced Spoonbill		59	38	41	11		2	8	2	15						1	9	12	15			67	30	56	153	315	
Common Shelduck																								0	0		
Eurasian Wigeon			423	743	2	28	2					13		35								150		775	925	1396	
Falcated Duck																								0	0		
Gadwall																								0	0		
Baikal Teal																								0	0		
Eurasian Teal				52					23	11		11							7			14	13	69	96	118	37
Mallard																								0	0		
Spot-billed Duck																								0	0		
Chinese Spot-billed Duck																								0	0		
Indian Spot-billed Duck																								0	0		
Northern Pintail			53	90	2							4										13		92	105	162	
Garganey			128	7								4												7	7	139	
Northern Shoveler			1090	306			1		97	29	1	51	3			2		2				202	5	404	611	1784	
Common Pochard																								0	0		
Baer's Pochard																								0	0		
Tufted Duck			60		1		4								7							82		5	87	154	
Greater Scaup																								0	0		
Red-breasted Merganser																								0	0		
Duck sp.				800																				800	800	800	
Slaty-breasted Rail																								0	0		
Eastern Water Rail																								0	0		
White-breasted Waterhen	4	12	3					8		1	3	1	1	3	12		3	4	1			23		23	56	1	
Watercock																								0	0		
Common Moorhen		6	21	2				1	1			1	1		14			6	3	2	14	21	3	38	72	2	
Eurasian Coot	3		5																					0	8		
Siberian Crane\$																						1		1	1		
Pheasant-tailed Jacana																								0	0		
Greater Painted-snipe																								0	0		

Black-winged Stilt		8	124					46	17	32	45				1	1	16	10			50	70	120	300		
Pied Avocet		20	1367	Present but moved into the reserve				4	103	13	2	23			10		21	2		3892	37	103	4032	5457		
Oriental Pratincole		3													9				5	1	9		10	18		
Northern Lapwing																							0	0		
Grey-headed Lapwing			2																				0	2		
Pacific Golden Plover			93																	30			30	123		
Grey Plover#			18*	284							1*											284	284	284		
Common Ringed Plover																							0	0		
Little Ringed Plover	67	30	8							31			4	11				6	4		42		42	161	12	
Kentish Plover			60												1					28	1		29	89	2	
Lesser Sand Plover#				1																			1	1		
Greater Sand Plover				5*													1			7	1		8	8		
Black-tailed Godwit			545																	526			526	1071		
Bar-tailed Godwit																							0	0		
Whimbrel				5																1		5	6	6		
Eurasian Curlew				307*																425			425	425		
Far Eastern Curlew																				1			1	1		
Spotted Redshank											19							2					39	58		
Common Redshank				34*							48							5			577	5	582	630		
Marsh Sandpiper			273	7*							161						1	3		197	1		198	635		
Common Greenshank		2	45	200*						1	92				1	1	1		2	557	3		560	702	17	
Nordmann's Greenshank#				1																			1	1		
Green Sandpiper	2	1					22	89	1				3	9			1		2			89	118	130		
Wood Sandpiper	94	28	8						4	2	2				6		1	27	4	2	9		11	178		
Terek Sandpiper#				4																			4	4		
Common Sandpiper	2	10	11	2		4		6	2	2	1	2	1	15	2	5	7	2	6	4	31	6	41	84		
Grey-tailed Tattler																							0	0		
Ruddy Turnstone																							0	0		
Red-necked Phalarope															1						1		1	1		
Pintail Snipe																							0	0		
Swinhoe's Snipe																							0	0		
Pintail/Swinhoe's Snipe																							0	0		
Common Snipe		7	14								1							1					0	23		
Long-billed Dowitcher																							0	0		
Asian Dowitcher																							0	0		
Red Knot																				2			2	2		
Great Knot																							0	0		
Sanderling																							0	0		
Red-necked Stint																				22			22	22		
Little Stint																							0	0		
Temminck's Stint	1																						0	1		
Long-toed Stint																							0	0		
Pectoral Sandpiper																							0	0		
Sharp-tailed Sandpiper																							0	0		
Dunlin			28	24																			24	24	52	
Curlew Sandpiper			35	752							71			1						2	1	752	755	861		
Spoon-billed Sandpiper																							0	0		
Broad-billed Sandpiper				3																		3	3	3		
Ruff																							0	0		
Wader sp.																							0	0		
Small wader sp.			300																				0	300		
Black-tailed Gull																							0	0		

Heuglin's Gull				88																		88	88	88			
Caspian Gull				1																			1	1	1		
Slaty-backed Gull#				1																			1	1	1		
Pallas's Gull#				2																			2	2	2		
Large Gull spp.																								0	0		
Brown-headed Gull																								0	0		
Black-headed Gull			404	1690	17	230	45			5			32			801						63	6	801	1982	2783	3293
Saunders's Gull#				14																				14	14	14	
Whiskered Tern																									0	0	
White-winged Tern																									0	0	
Gull-billed Tern#				3																				3	3	3	
Caspian Tern#				48																				48	48	48	
Total	981	750	5445	5201	106	263	69	212	570	293	196	632	62	158	464	899	149	304	209	244	8208	2095	6189	16492	25415	219	

	Deep Bay Area	%	Ramsar Site	%	SI	%																					
Cormorants	2348	9%	1402	9%	0	0%																					
Ardeids etc	2896	11%	1429	9%	132	60%																					
Ducks, grebes, pelicans	4952	19%	2785	17%	53	24%																					
Rails, coot etc	136	0.5%	61	0.4%	3	1%																					
Shorebirds	11633	46%	7875	48%	31	14%																					
Gulls and terns	3450	14%	2940	18%	0	0%																					
TOTAL	25415	100%	16492	100%	219	100%																					

Date of count: 19 Mar 2017
High tide measured at TBT: 2.1 m
* = count not included in the total # indicates count consists of or includes a count made up to one week either side of the count date \$ = included the rare count of the Siberian Crane

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										0	2	
Black Kite	3													2			1				2	1		3	8	
White-bellied Sea Eagle																								0	0	
Eastern Marsh Harrier		1																						0	1	
Eastern Buzzard															1							1		1	1	
Greater Spotted Eagle	1																							0	1	
Eastern Imperial Eagle																								0	0	
Peregrine Falcon										1														0	1	
Pied Kingfisher		2	4	3				2	1	2		1			3		2	3	1			11	3	14	24	
Common Kingfisher	1	10	2						1	1	3	1	1	1	4		3	2		2	5	10	1	16	37	4
White-throated Kingfisher		1	1		1								3	3	2				1			1	1	2	12	
Black-capped Kingfisher#			2																					0	2	
Red-billed Starling	40	173														45		43	73	58		88		88	432	
Collared Crow									1				2			6	1				5	7	1	13	15	
Besra																								0	0	1
Bonelli's Eagle										1													1	1	1	

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

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2016 to March 2017)**

Appendix 2



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Low-tide Count, December 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	
Little Grebe			11																					0	11	
Great Crested Grebe			11	3																				3	3	14
Great Cormorant			36	560	890																			1450	1450	1486
Dalmatian Pelican																								0	0	0
Grey Heron			61	8	4	9																		21	21	82
Purple Heron																								0	0	0
Great Egret			35	19	5	8	2																	34	34	69
Intermediate Egret																								0	0	0
Little Egret			34	10	7	28																		45	45	79
Swinhoe's Egret																								0	0	0
Pacific Reef Heron																								0	0	0
Eastern Cattle Egret																								0	0	0
Chinese Pond Heron			33	1	1	4	1																	7	7	40
Striated Heron																								0	0	0
Black-crowned 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																								0	0	0
Eurasian Spoonbill																								0	0	0
Black-faced Spoonbill			10	4	1	4	2																	11	11	21
Common Shelduck																								0	0	0
Eurasian Wigeon			85	1730	130																			1860	1860	1945
Falcated Duck																								0	0	0
Gadwall																								0	0	0
Baikal Teal																								0	0	0
Eurasian Teal																								0	0	0
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				200	30		73																	303	303	303
Garganey																								0	0	0
Northern Shoveler			117	120	40		81																	241	241	358
Common Pochard																								0	0	0
Baer's Pochard																								0	0	0
Tufted Duck			2000				136																	136	136	2136
Greater Scaup																								0	0	0
Red-breasted Merganser																								0	0	0
Duck sp.			5300																					0	0	5300
Slaty-breasted Rail																								0	0	0
Eastern Water Rail																								0	0	0
White-breasted Waterhen			1																					0	0	1
Watercock																								0	0	0
Common Moorhen			6																					0	0	6
Eurasian Coot			3																					0	0	3
Pheasant-tailed Jacana			1																					0	0	1
Greater Painted-snipe																								0	0	0

Slaty-backed Gull																							0	0	
Pallas's Gull																							0	0	
Large Gull spp.																							0	0	
Brown-headed Gull																							0	0	
Black-headed Gull				1620	170	21																1811	1811	1811	
Saunders's Gull						3																3	3	3	
Whiskered Tern																							0	0	
White-winged Tern																							0	0	
Gull-billed Tern																							0	0	
Caspian Tern																							0	0	
Total				8525	4369	1394	591	299															6653	6653	15178

	Deep Bay Area	%	Ramsar Site	%																					
Cormorants	1486	10%	1450	22%																					
Ardeids etc	291	2%	118	2%																					
Ducks, grebes, pelicans	10067	66%	2543	38%																					
Rails, coot etc	10	0.1%	0	0%																					
Shorebirds	1463	10%	681	10%																					
Gulls and terns	1861	12%	1861	28%																					
TOTAL	15178	100%	6653	100%																					

Date of count: 18 Dec 2016

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	
Western Osprey																									0	0
Black Kite																									0	0
White-bellied Sea Eagle																									0	0
Eastern Marsh Harrier			2																						0	2
Eastern Buzzard																									0	0
Greater Spotted Eagle																									0	0
Eastern Imperial Eagle																									0	0
Peregrine Falcon																									0	0
Pied Kingfisher			5																						0	5
Common Kingfisher			4																						0	4
White-throated Kingfisher			4																						0	4
Black-capped Kingfisher																									0	0
Red-billed Starling			8																						0	8
Collared Crow						2																		2	2	2

Low-tide Count, January 2017

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			5				1																	1	1	6
Great Crested Grebe			2			5	3																	8	8	10
Great Cormorant			1223	1100		870																		1970	1970	3193
Dalmatian Pelican																									0	0
Grey Heron			99	13		23	2																	38	38	137
Purple Heron																									0	0
Great Egret			209	11		18																		29	29	238
Intermediate Egret																									0	0
Little Egret			160	26		48	1																	75	75	235
Swinhoe's Egret																									0	0
Pacific Reef Heron																									0	0
Eastern Cattle Egret																									0	0
Chinese Pond Heron			52			2																		2	2	54
Striated Heron																									0	0
Black-crowned Night Heron			1																						0	1
Yellow Bittern			1																						0	1
Cinnamon Bittern																									0	0
Eurasian Bittern																									0	0
Black Stork																									0	0
Black-headed Ibis																									0	0
Eurasian Spoonbill																									0	0
Black-faced Spoonbill			9	4		25	1																	30	30	39
Greater White-fronted Goose																									0	0
Common Shelduck																									0	0
Eurasian Wigeon			647	238		1824																		2062	2062	2709
Falcatid Duck																									0	0
Gadwall																									0	0
Baikal Teal																									0	0
Eurasian Teal																									0	0
Mallard																									0	0
Spot-billed Duck																									0	0
Chinese Spot-billed Duck																									0	0
Indian Spot-billed Duck																									0	0
Northern Pintail			500	125		518	4																	647	647	1147
Garganey			3																						0	3
Northern Shoveler			2303	46		157	54																	257	257	2560
Common Pochard																									0	0
Baer's Pochard																									0	0
Tufted Duck			1800			1130																		1130	1130	2930
Greater Scaup																									0	0
Red-breasted Merganser																									0	0
Duck sp.			1200	1700																				1700	1700	2900
Slaty-breasted Rail																									0	0
Eastern Water Rail																									0	0
White-breasted Waterhen			2			2	3																	5	5	7
Watercock																									0	0
Common Moorhen			19				4																	4	4	23
Eurasian Coot																									0	0

Siberian Crane																					0	0	
Pheasant-tailed Jacana																						0	0
Greater Painted-snipe																						0	0
Black-winged Stilt				77																		0	77
Pied Avocet		2650	25	59	188																272	272	2922
Oriental Pratincole																						0	0
Northern Lapwing																						0	0
Grey-headed Lapwing				6																		0	6
Pacific Golden Plover		201																				0	201
Grey Plover		50		7	92	1															100	100	150
Common Ringed Plover																						0	0
Little Ringed Plover				34																		0	34
Kentish Plover		41			2																	2	43
Lesser Sand Plover																						0	0
Greater Sand Plover			2	4	8																	12	14
Black-tailed Godwit		380																				0	380
Bar-tailed Godwit																						0	0
Whimbrel																						0	0
Eurasian Curlew		141	3	13	86																	102	243
Far Eastern Curlew																						0	0
Spotted Redshank																						0	0
Common Redshank		500			6	14																20	520
Marsh Sandpiper		1050		11	36	1																48	1098
Common Greenshank		176		3	14	8																25	201
Nordmann's Greenshank																						0	0
Green Sandpiper																						0	0
Wood Sandpiper		19																				0	19
Terek Sandpiper																						0	0
Common Sandpiper		11				2																2	13
Grey-tailed Tattler																						0	0
Ruddy Turnstone																						0	0
Red-necked Phalarope																						0	0
Pintail Snipe																						0	0
Swinhoe's Snipe																						0	0
Pintail/Swinhoe's Snipe																						0	0
Common Snipe		8																				0	8
Long-billed Dowitcher																						0	0
Asian Dowitcher																						0	0
Red Knot																						0	0
Great Knot																						0	0
Sanderling																						0	0
Red-necked Stint																						0	0
Little Stint																						0	0
Temminck's Stint																						0	0
Long-toed Stint																						0	0
Pectoral Sandpiper																						0	0
Sharp-tailed Sandpiper																						0	0
Dunlin		150	11	54	166																	231	381
Curlew Sandpiper																						0	0
Spoon-billed Sandpiper																						0	0
Broad-billed Sandpiper																						0	0
Ruff																						0	0
Wader sp.																						0	0
Small wader sp.		1600																				0	1600

Black-tailed Gull																								0	0		
Heuglin's Gull			30	54																				54	54	84	
Caspian Gull																								0	0		
Slaty-backed Gull																								0	0		
Pallas's Gull				1																				1	1	1	
Large Gull spp.																								0	0		
Brown-headed Gull																								0	0		
Black-headed Gull			960	1620	38	47																		1705	1705	2665	
Saunders's Gull						2																		2	2	2	
Whiskered Tern																								0	0		
White-winged Tern																								0	0		
Gull-billed Tern																								0	0		
Caspian Tern																								0	0		
Total	0	0	16321	4977	189	5269	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10534	10534	26855	0

	Deep Bay Area	%	Ramsar Site	%																							
Cormorants	3193	12%	1970	19%																							
Ardeids etc	705	3%	174	2%																							
Ducks, grebes, pelicans	12265	46%	5805	55%																							
Rails, coot etc	30	0.1%	9	0.1%																							
Shorebirds	7910	29%	814	8%																							
Gulls and terns	2752	10%	1762	17%																							
TOTAL	26855	100%	10534	100%																							

Date of count: 15 Jan 2017

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	1	1		
Black Kite																									0	0	0	
White-bellied Sea Eagle																									0	0	0	
Eastern Marsh Harrier																									0	0	0	
Eastern Buzzard																									0	0	0	
Greater Spotted Eagle																									0	0	0	
Eastern Imperial Eagle																									0	0	0	
Peregrine Falcon																									0	0	0	
Pied Kingfisher			3																						0	3	3	
Common Kingfisher			2																						0	2	2	
White-throated Kingfisher			4																						0	4	4	
Black-capped Kingfisher			1			1																		1	1	2	2	
Red-billed Starling			2																						0	2	2	
Collared Crow			1																						0	1	1	

Low-tide Count, February 2017

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			8		1																			1	1	9
Great Crested Grebe			6	3																				3	3	9
Great Cormorant			330		37																			37	37	367
Dalmatian Pelican																									0	0
Grey Heron			131	1	18																			19	19	150
Purple Heron																									0	0
Great Egret			228	4	118																			122	122	350
Intermediate Egret																									0	0
Little Egret			178		17	2																		19	19	197
Swinhoe's Egret																									0	0
Pacific Reef Heron																									0	0
Eastern Cattle Egret																									0	0
Chinese Pond Heron			69			3																		3	3	72
Striated Heron																									0	0
Black-crowned Night Heron																									0	0
Yellow Bittern			1																						0	1
Cinnamon Bittern																									0	0
Eurasian Bittern																									0	0
Black Stork																									0	0
Black-headed Ibis																									0	0
Eurasian Spoonbill																									0	0
Black-faced Spoonbill			50	1	21	1																		23	23	73
Common Shelduck																									0	0
Eurasian Wigeon			1135		2130	104																		2234	2234	3369
Falcated Duck																									0	0
Gadwall																									0	0
Baikal Teal																									0	0
Eurasian Teal						63																		63	63	63
Mallard																									0	0
Spot-billed Duck																									0	0
Chinese Spot-billed Duck																									0	0
Indian Spot-billed Duck																									0	0
Northern Pintail			495		220	3																		223	223	718
Garganey			50																						0	50
Northern Shoveler			2526	26	340	29																		395	395	2921
Common Pochard																									0	0
Baer's Pochard																									0	0
Tufted Duck			3861	790	230																			1020	1020	4881
Greater Scaup																									0	0
Red-breasted Merganser																									0	0
Duck sp.																									0	0
Slaty-breasted Rail																									0	0
Eastern Water Rail																									0	0
White-breasted Waterhen			3																						0	3
Watercock																									0	0
Common Moorhen			12																						0	12
Eurasian Coot			2																						0	2
Siberian Crane																									0	0

Pheasant-tailed Jacana																				0	0
Greater Painted-snipe																				0	0
Black-winged Stilt		271																		0	271
Pied Avocet		3654	320	440	178														938	938	4592
Oriental Pratincole																				0	0
Northern Lapwing																				0	0
Grey-headed Lapwing		6																		0	6
Pacific Golden Plover		680																		0	680
Grey Plover		630		58	5														63	63	693
Common Ringed Plover																				0	0
Little Ringed Plover		11																		0	11
Kentish Plover		15																		0	15
Lesser Sand Plover																				0	0
Greater Sand Plover																				0	0
Black-tailed Godwit		350																		0	350
Bar-tailed Godwit																				0	0
Whimbrel					2														2	2	2
Eurasian Curlew		192	4	44	7														55	55	247
Far Eastern Curlew																				0	0
Spotted Redshank		7																		0	7
Common Redshank		180		13															13	13	193
Marsh Sandpiper		150																		0	150
Common Greenshank		250		38	23														61	61	311
Nordmann's Greenshank																				0	0
Green Sandpiper																				0	0
Wood Sandpiper		15																		0	15
Terek Sandpiper																				0	0
Common Sandpiper		10																		0	10
Grey-tailed Tattler																				0	0
Ruddy Turnstone																				0	0
Red-necked Phalarope																				0	0
Pintail Snipe																				0	0
Swinhoe's Snipe																				0	0
Pintail/Swinhoe's Snipe																				0	0
Common Snipe		12																		0	12
Long-billed Dowitcher																				0	0
Asian Dowitcher																				0	0
Red Knot																				0	0
Great Knot																				0	0
Sanderling																				0	0
Red-necked Stint																				0	0
Little Stint																				0	0
Temminck's Stint																				0	0
Long-toed Stint																				0	0
Pectoral Sandpiper																				0	0
Sharp-tailed Sandpiper																				0	0
Dunlin		4300																		0	4300
Curlew Sandpiper																				0	0
Spoon-billed Sandpiper																				0	0
Broad-billed Sandpiper																				0	0
Ruff																				0	0
Wader sp.				1280															1280	1280	1280
Small wader sp.		800																		0	800
Black-tailed Gull																				0	0

Heuglin's Gull			13		276																	276	276	289		
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			1606	36	1160	22																	1218	1218	2824	
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	0	0	22237	1185	6441	442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8068	8068	30305	0

	Deep Bay Area	%	Ramsar Site	%																						
Cormorants	367	1%	37	0.5%																						
Ardeids etc	843	3%	186	2%																						
Ducks, grebes, pelicans	12020	40%	3939	49%																						
Rails, coot etc	17	0.1%	0	0%																						
Shorebirds	13945	46%	2412	30%																						
Gulls and terns	3113	10%	1494	19%																						
TOTAL	30305	100%	8068	100%																						

Date of count: 19 Feb 2017

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			1	2	
Black Kite	7	6	1						1	1	1						3		3	7	27	4	1	32	57	
White-bellied Sea Eagle																					2			0	0	
Eastern Marsh Harrier																					2			2	2	
Eastern Buzzard				1																	1			1	2	
Greater Spotted Eagle																					1			1	1	
Eastern Imperial Eagle																					1			0	0	
Peregrine Falcon																					1			1	1	
Pied Kingfisher	4	4	6							1	1								1		6	2		8	23	
Common Kingfisher	2	6	3					1	1	2	3				10		2	3	2	6	2	17		19	43	
White-throated Kingfisher		3	1							1					3	1	2	1		1	1	7		8	14	
Black-capped Kingfisher			1																					0	1	
Red-billed Starling	262	61	6							56							2	44	108		29	46		75	568	
Collared Crow	1		2								2				3	3		4	1		21	9		30	37	

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

**Monthly Waterbird Monitoring
Biannual Report 2 (October 2016 to March 2017)**

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) 2016-17.

Cormorant

Great Cormorant	8,217
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Ardeids (and large long-legged waterbirds)

Grey Heron	749
Purple Heron	4
Great Egret	1,020
Intermediate Egret	12
Little Egret	1,217
Swinhoe's Egret	0
Pacific Reef Heron	0
Eastern Cattle Egret	120
Chinese Pond Heron	522
Striated Heron	1
Black-crowned Night Heron	38
Yellow Bittern	3
Cinnamon Bittern	0
Von Schrenk's Bittern	0
Eurasian Bittern	0
Black Stork	0
Black-headed Ibis	0
Eurasian Spoonbill	2
Black-faced Spoonbill	359
Siberian Crane	1
Sub-total:	4,048

Ducks, Grebes and Pelicans

Little Grebe	363
Great Crested Grebe	145
Dalmatian Pelican	0
Greater White-fronted Goose	2
Common Shelduck	0
Eurasian Wigeon	3,567
Falcated Duck	1
Gadwall	1
Baikal Teal	0
Eurasian Teal	863
Mallard	0
Spot-billed Duck	0
Chinese Spot-billed Duck	3
Indian Spot-billed Duck	0
Northern Pintail	1,604
Garganey	88
Northern Shoveler	3,078
Common Pochard	0
Baer's Pochard	0
Tufted Duck	11,613
Greater Scaup	0
Smew	0
Red-breasted Merganser	0
Cotton Pygmy Goose	0
Unidentified duck	901*
Sub-total:	21,328

* This figure was collected in January 2017. Since it was possible that these unidentified

ducks were identified and counted in December and February counts, this was not included in the sub-total.

Rails and Coots

Slaty-breasted Rail	0
Eastern Water Rail	0
White-breasted Waterhen	53
Ruddy-breasted Crake	0
Watercock	0
Common Moorhen	78
Eurasian Coot	20
Sub-total:	151

Shorebirds

Pheasant-tailed Jacana	1
Greater Painted-snipe	0
Black-winged Stilt	580
Pied Avocet	5,031
Oriental Pratincole	0
Northern Lapwing	0
Grey-headed Lapwing	17
Pacific Golden Plover	680
Grey Plover	693
Common Ringed Plover	0
Little Ringed Plover	164
Kentish Plover	575
Lesser Sand Plover	1
Greater Sand Plover	24
Black-tailed Godwit	1,183
Bar-tailed Godwit	6
Whimbrel	7
Eurasian Curlew	1,542
Far Eastern Curlew	2
Spotted Redshank	83
Common Redshank	879
Marsh Sandpiper	1098
Common Greenshank	921
Nordmann's Greenshank	1
Green Sandpiper	23
Wood Sandpiper	77
Terek Sandpiper	0
Common Sandpiper	106
Grey-tailed Tattler	0
Ruddy Turnstone	0
Red-necked Phalarope	0
Pintail Snipe	0
Swinhoe's Snipe	0
Pintail/Swinhoe's Snipe	0
Unidentified Snipe	0
Common Snipe	15
Long-billed Dowitcher	0
Asian Dowitcher	0
Red Knot	4
Great Knot	10#
Sanderling	0
Red-necked Stint	1

Little Stint	0
Temminck's Stint	7
Long-toed Stint	0
Pectoral Sandpiper	0
Sharp-tailed Sandpiper	0
Dunlin	4,300
Curlew Sandpiper	0
Spoon-billed Sandpiper	0
Broad-billed Sandpiper	0
Ruff	0
Unidentified small-sized shorebird	799
Unidentified shorebird	0
Sub-total:	18,830

Additional counts from shorebird count in mid-winter period.

Gulls and Terns

Black-tailed Gull	0
Heuglin's Gull	289
Caspian Gull	13
Slaty-backed Gull	0
Pallas's Gull	1
Large Gull spp.	0
Mew Gull	0
Brown-headed Gull	0
Black-headed Gull	3,361
Saunders's Gull	114
Franklin's Gull	0
Whiskered Tern	0
White-winged Tern	0
Gull-billed Tern	1
Caspian Tern	1
Sub-total:	3,780

Summary of sub-totals of different waterbird groups, December 2016 to February 2017.

Group	Sub-total
Cormorants	8,217
Ardeids	4,048
Ducks, Grebes and Pelicans	21,328
Rails and Coots	151
Shorebirds	18,830
Gulls and Terns	3,780
Total	56,354