

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 1
(April to September 2016)**



Submitted by
The Hong Kong Bird Watching Society
Approved Charitable Institution of a Public Character
to Agriculture, Fisheries & Conservation Department

Hong Kong SAR Government

November 2016



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

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This publication should be cited as

Anon. 2016. Monthly Waterbird Monitoring Biannual Report 1 (April to September 2016),
Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2016-17. Report
by the Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation
Department, Hong Kong Special Administrative Region Government.

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

Monthly Waterbird Monitoring Biannual Report 1

1. Introduction

Comprehensive counts of waterbirds in the Deep Bay area undertaken by the Hong Kong Bird Watching Society (HKBWS) began in 1979 as part of the Wetlands International - Asian Waterbird Census. These continued every January (excluding 1980) until 1992-93, when the duration of the counts was extended to cover the winter period from November to March, termed “Winter Waterbird Count”. After the designation of the Mai Po Inner Deep Bay Ramsar Site, a monthly waterbird monitoring programme was developed and has been coordinated by the HKBWS, with support from the Agriculture, Fisheries and Conservation Department (AFCD), since 1997. It has been a contract project since 2004. Monthly counts of waterbirds at the site form a major part of the programme. It is supplemented by counts of shorebirds during the migration seasons and egret surveys during the breeding season. Monthly summary reports are compiled and seasonal reports are produced twice a year. The seasonal reports include Biannual Report 1, which covers the period from April to September, and Biannual Report 2, which covers the period from October of the same year to March of the following year. This report summarizes the results of monthly waterbird counts in the period from April to September 2016 under the contract referenced AFCD/SQ/40/16/C.

2. Methodology

The methodology adopted is described in detail in the *Waterbird Count Handbook* (Carey undated, Carey 2002, Anon. 2014). It involves recording the number of birds in individual fishponds, or *gei wais*, in specified areas. The inter-tidal areas of Inner Deep Bay were surveyed simultaneously to avoid double-counting as far as possible. Counts were conducted during rising tide, preferably at a tidal height of about 2.2 m. To increase the accuracy of data recorded, the count of a particular species recorded one week prior to or after the date of the monthly waterbird count was adopted if the number was higher than that recorded in the monthly waterbird count.

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 all the survey sites within the survey area. The coverage of the survey area was the same as that of the preceding winter period (Anon. 2016a). Figures collected from the monthly waterbird counts are grouped and presented with respect to two main areas: (1) the Ramsar Site and (2) the overall Deep Bay area.

3. Results

In summer 2016, the monthly waterbird monitoring was conducted on 10 April, 8 May, 19 June, 24 July, 21 August and 18 September ('the survey period').

The total number of waterbirds recorded in the Deep Bay area was 10,877 in April, 3,254 in May, 2,137 in June, 3,517 in July, 4,815 in August and 6,148 in September. The corresponding records in the Ramsar Site were 7,108, 1,924, 1,170, 1,413, 2,448 and 4,052, respectively. There were a total of 82 waterbird and wetland dependent species recorded in the Deep Bay area during the survey period (Table 1). The changes in waterbird numbers between April and September from 2012 to 2016 are shown in Figures 1 and 2.

Figure 1. Number of waterbirds in the Deep Bay area from April to September, 2012-2016.

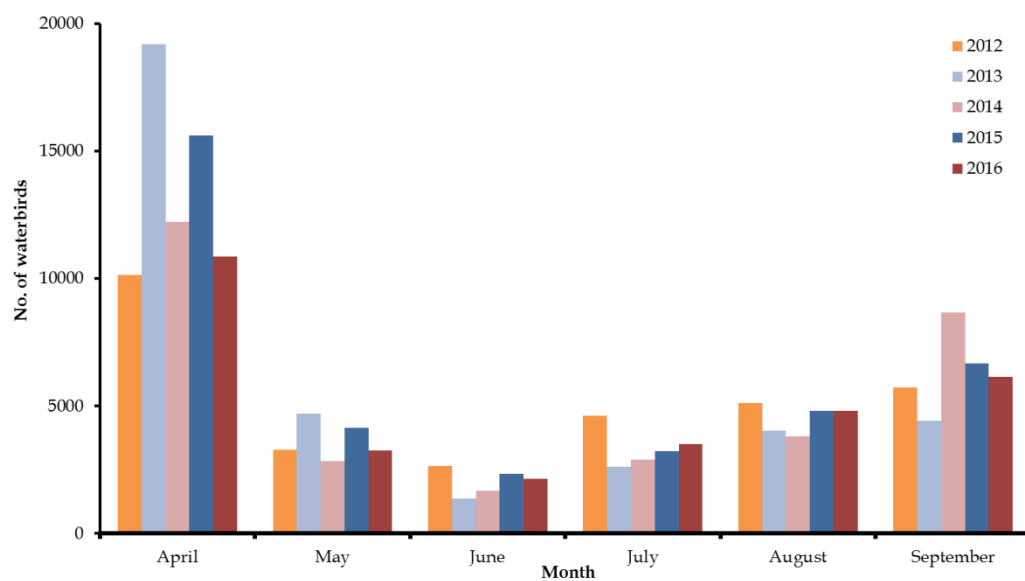
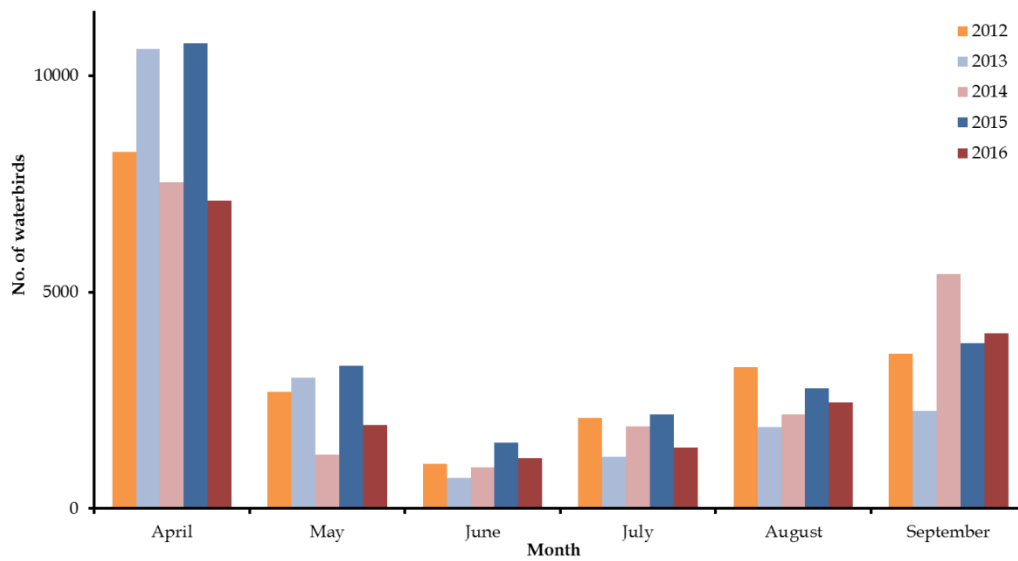


Figure 2. Number of waterbirds in the Ramsar Site from April to September, 2012-2016.



The results of the monthly counts conducted between April and September from 2012 onwards are presented in Tables 2a and 2b. Details of the counts in summer 2016 are shown in the monthly summaries in Appendix 1.

Summaries of the counts by waterbird group from April to September 2016 are presented in Tables 3a to 3f and Tables 4a and 4b. Brief reviews of the specific waterbird groups and globally threatened species recorded from April to September 2016 are shown in Sections 3.1 to 3.7 below.

3.1 Great Cormorant

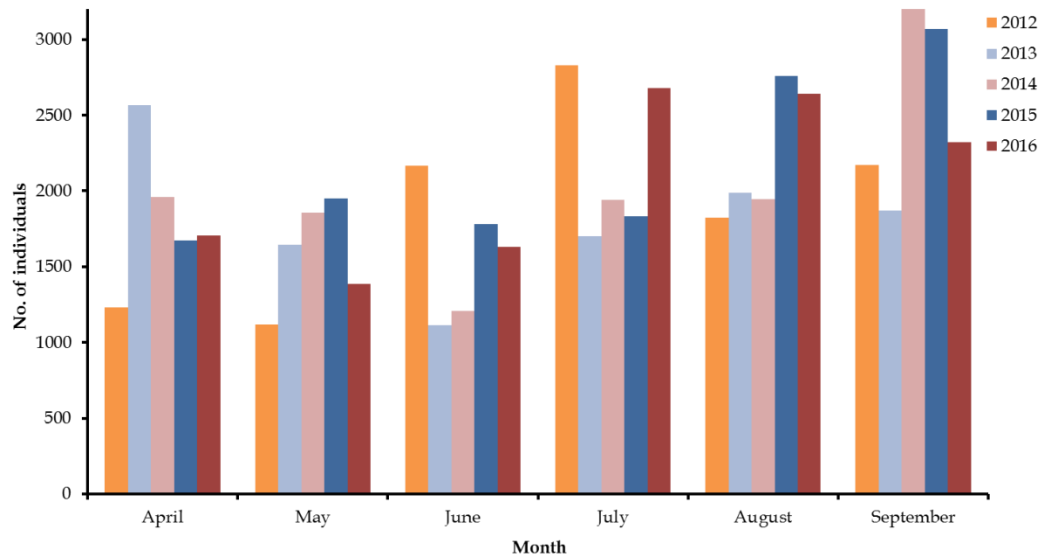
The Great Cormorant *Phalacrocorax carbo* is mainly a winter visitor to the Deep Bay area, so very few individuals were recorded during the period from April to September. A high count of fifteen individuals, presumably early arrival of wintering individuals, was recorded in September. There were only one or two individuals recorded in the summer months from May to August.

3.2 Ardeids

The highest count of this waterbird group in summer 2016 was 2,679 individuals recorded in July, which was a 12.7% decrease from the highest count of summer 2015 (3,068 individuals in September 2015, Figure 3). In terms of individual species, the highest count was 938 individuals of Great Egret *Ardea alba*, a species of regional conservation concern, recorded in August. The number of Great Egret was 7.6% higher than that in previous year (872 individuals in September 2015). The Chinese Pond Heron *Ardeola bacchus* had a high count of 560 individuals in July, representing an increase of 6.7% over the record of the

preceding year (525 individuals in August 2015). This was also the highest count of Chinese Pond Heron in summer since 1998.

Figure 3. Number of Ardeids in the Deep Bay area from April to September, 2012-2016.

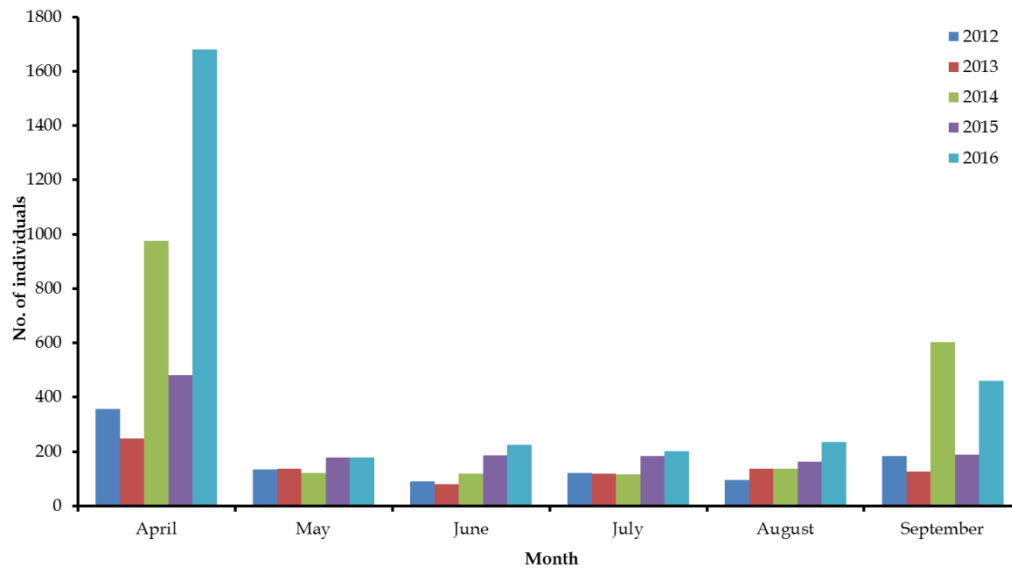


Under the Waterbird Monitoring Programme, egretty monitoring was also undertaken from April to July 2016 to record the number of nests of ardeids at known breeding sites in Hong Kong, with reference to the Mai Po Inner Deep Bay Ramsar Site. Further details of the monitoring results can be found in the Summer 2016 Report: Egretty Counts in Hong Kong (Anon, 2016b).

3.3 Ducks and Grebes

Since many ducks return to their breeding grounds in northeast Asia during the summer, only low numbers were recorded from April to September. The highest count was 1,679 individuals in April, which was 3.5 times higher than that of the previous year (480 individuals in April 2015, Figure 4). This high figure was mainly comprised of a count of 1,480 wintering Northern Shovelers *Anas clypeata* in the Deep Bay mudflat areas. Northern Shovelers left earlier last year and only 170 individuals were recorded in April 2015. The count in May was the same as that in the previous year while the counts in the other months in the summer this year were higher than those of the previous year.

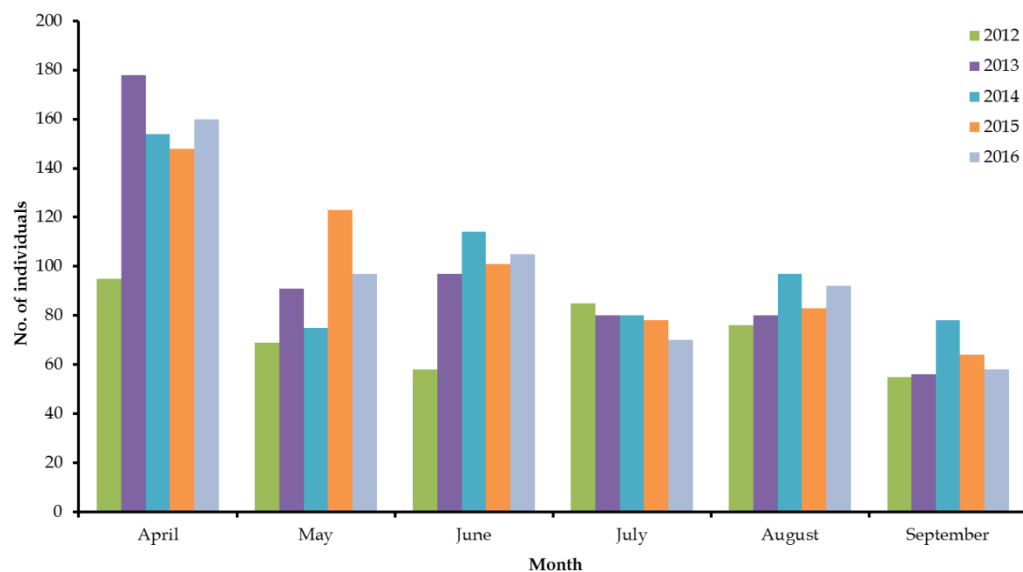
Figure 4. Number of Ducks and Grebes in the Deep Bay area from April to September, 2012-2016.



3.4 Rails and Coots

This group of waterbirds is usually recorded in low numbers compared to the other waterbird groups, as most of them are secretive and small in size. The two most common species were White-breasted Waterhens *Amaurornis phoenicurus* and Common Moorhens *Gallinula chloropus*. The highest count of this group was 160 individuals recorded in April. This represented a slight increase of 8.1% from that of the previous year (148 individuals in April 2015, Figure 5).

Figure 5. Number of Rails and Coots in the Deep Bay area from April to September, 2012-2016.

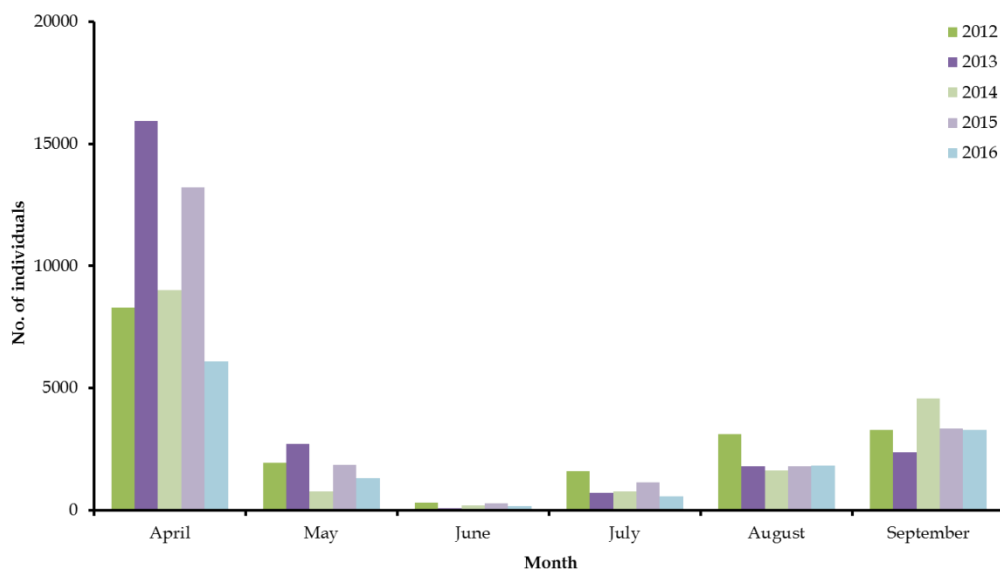


3.5 Shorebirds

Large number of passage shorebirds were recorded in the Deep Bay area in spring. The highest count of 6,096 shorebirds was recorded in April, a decrease of 54% from the count of April 2015 (13,216 individuals, Figure 6). The shorebird numbers in other months were also lower than those in 2015 except the count in August (Figure 6). In terms of individual species, the highest count was a count of 2,005 individuals of the Curlew Sandpiper *Calidris ferruginea* in April. The second highest count was from the Pied Avocet *Recurvirostra avosetta*, with 1,068 birds recorded in April.

A few breeding species of shorebirds were recorded in this study period. At least eleven nests and four chicks of Black-winged Stilts *Himantopus himantopus* were recorded in the Mai Po Marshes Nature Reserve in June this summer. Another breeding species, the Greater Painted-snipe *Rostratula benghanlensis*, were seen displaying this summer in May and June from other casual observations.

Figure 6. Number of Shorebirds in the Deep Bay area from April to September, 2012-2016.

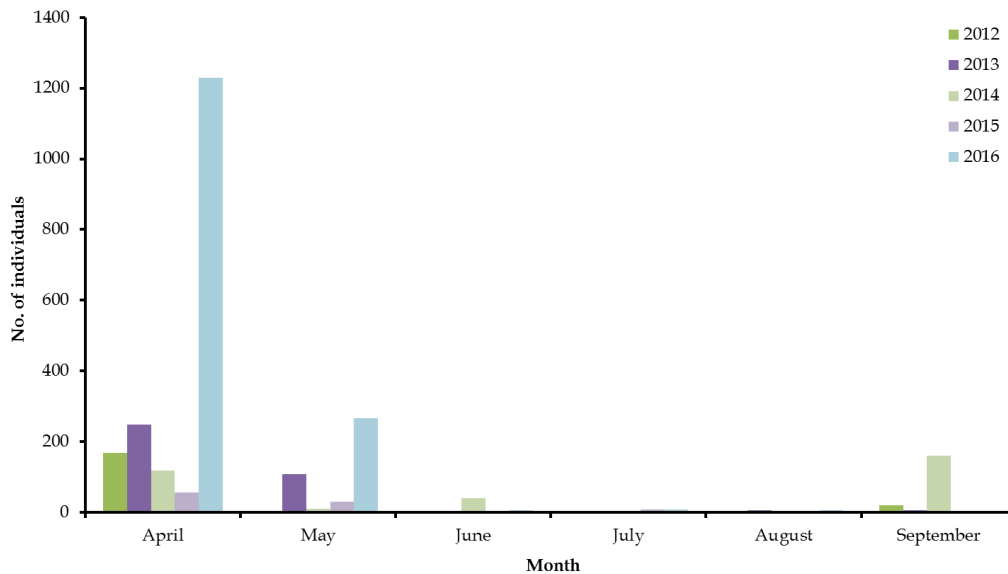


3.6 Gulls and Terns

The highest count of gulls and terns was 1,230 individuals recorded in April. This was the second highest count in summer since 2000 (highest count was 1,877 individuals in 2010). This high number was largely comprised of two species: Black-headed Gulls *Chroicocephalus ridibundus* (515 individuals) and Gull-billed Terns *Gelochelidon nilotica* (655 individuals). The former species involved some wintering individuals which still lingered in the Deep Bay mudflats, while the latter was probably a passage flock which were forced to stay at Deep Bay area from the heavy rain and thunderstorm occurred on the day before the count.

Gulls and terns were recorded in very low numbers in all months after May this summer.

Figure 7. Number of Gulls and Terns in the Deep Bay area from April to September, 2012-2016.



3.7 Globally threatened species

To identify globally threatened waterbird species, we referred to the IUCN Red List of Threatened Species (Birdlife International 2016, IUCN 2016). Twelve globally threatened and near threatened species were recorded in summer 2016, as follows:

Black-faced Spoonbill *Platalea minor* (Endangered) - A high count of 251 individuals were recorded in April, the number dropped to 42 in May, and only five immature birds were recorded in September.

Black-tailed Godwit *Limosa limosa* (Near Threatened) - The highest count was 874 individuals recorded in April. Small numbers were recorded in May (17 birds) and June (six birds), but the number rose to 121 individuals in August and 350 individuals in September.

Bar-tailed Godwit *Limosa lapponica* (Near Threatened) - This species was uplisted from Least Concern to Near Threatened in October 2015. Four individuals were recorded in May.

Eurasian Curlew *Numenius arquata* (Near Threatened) - Eighteen individuals were recorded in April, 1 in May and 26 in June. The numbers increased to 107 in

August and 99 in September.

Nordmann's Greenshank *Tringa guttifer* (Endangered) – Six individuals were recorded in April and one first-summer was recorded in May.

Asian Dowitcher *Limnodromus semipalmatus* (Near Threatened) – Sixteen individuals were recorded in April and nine in May.

Grey-tailed Tattler *Tringa brevipes* (Near Threatened) – Fifty-three individuals were recorded in May and 3 were recorded in August.

Red Knot *Calidris canutus* (Near Threatened) - Three individuals were recorded in May.

Great Knot *Calidris tenuirostris* (Endangered) – The species was present with exceptional high numbers in winter 2015-16 (115 individuals), but it had become surprisingly scarce in the spring and summer monthly waterbird counts: single in April, 17 in May and another single in August.

Red-necked Stint *Calidris ruficollis* (Near Threatened) - The highest count was only 35 individuals in May. Small numbers were recorded in April (one individual) and August (four individuals) and none in June, July and September.

Curlew Sandpiper *Calidris ferruginea* (Near Threatened) - The Curlew Sandpiper was the most abundant species recorded in April at a count of 2,005 individuals, but its number dropped to only 6 individuals in May. Small numbers were recorded in July (2 individuals), August (7 individuals) and September (1 individual).

Saunders's Gull *Chroicocephalus saundersi* (Vulnerable) – One individual was recorded in April.

4. Discussion

The average number of waterbirds per month in the Deep Bay area was lower than that in the same period (April to September) of the previous year (2016: mean = 5,125, SD = 3,138, n = 6; 2015: mean = 6,139, SD = 4,868, n = 6), and the average number recorded in the Ramsar Site was also lower (2016: mean = 3,019, SD = 2,250, n = 6; 2015: mean = 4,054, SD = 3,374, n = 6). The lower average number of waterbirds per month in the Deep Bay area this summer was attributed to the low numbers of spring passage migrants in April and May compared with previous year (2016: 10,877 individuals in April, 3,254 in May;

2015: 15,610 individuals in April, 4,149 in May). The average numbers in both the Deep Bay area and the Ramsar site in summer 2016 were the lowest numbers since 2003.

5. Acknowledgements

We are indebted to the following counters from the Hong Kong Bird Watching Society for their participation in the counts to collect baseline information for this biannual report: Bonnie CHAN, CHAN Ka-ho, Charlotte CHAN, Henry CHAN, Emily CHOW, Gary CHOW, CHUNG Yun-tak, Johnson CHUNG, FONG Yik-yuen, Forrest FONG, Helen FONG, Vivian FU, Bowie FUNG, Rebecca FUNG, Martin HALE, HUNG Wai-ming, John and Jemi HOLMES, Aaron KEUNG, Alan LAM, Ian LAU, Paul LEADER, Roger LEE, Banson LEUNG, Elizabeth LEVEN, Michael LEVEN, Richard LEWTHWAITE, Tom LI, LO Wing-fung, Austin NG, NG Cho-nam, SO Ying-kin, Kaman SUN, Graham TALBOT, Ivan TSE, Nelson WAN, WAN Chun-hin, Captain WONG, Jessica WONG, Elizabeth WU, Haley YEUNG, YING Hak-king, Louisa YIP and YU Yat-tung. We also thank the members of the Shenzhen Bird Watching Society and the staff of Hong Kong Wetland Park for their contribution in collecting the waterbird data.

6. References

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

Anon. 2016a. Monthly Waterbird Monitoring Biannual Report 2 (October 2015 to March 2016), Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2015-16. Report by the Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.

Anon. 2016b. Summer 2016 Report: Egretty Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.

Birdlife International. 2016. IUCN Red List for birds. Downloaded from <http://www.birdlife.org> on 8/10/2016.

Carey, G.J. 2002. Waterbird Count Handbook: A guide for participants in

waterbird counts in Hong Kong. Hong Kong Bird Watching Society. Hong Kong.

Carey, G.J. undated. Waterfowl Count Handbook. Waterfowl Monitoring at the Mai Po Inner Deep Bay Ramsar Site. Hong Kong Bird Watching Society. Hong Kong.

IUCN 2015. The IUCN Red List of Threatened Species. Version 2015-3. Downloaded from <http://www.iucnredlist.org> on 8/10/2016.

**Mai Po Inner Deep Bay Ramsar Site
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Maps

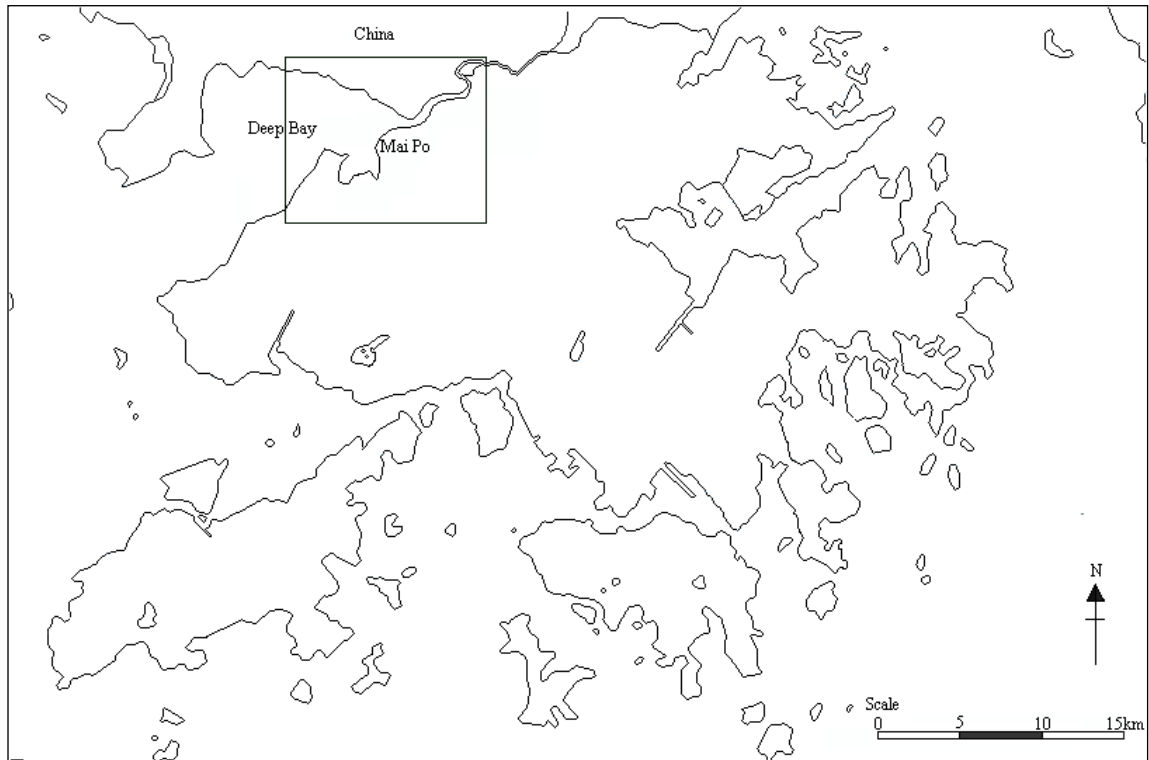


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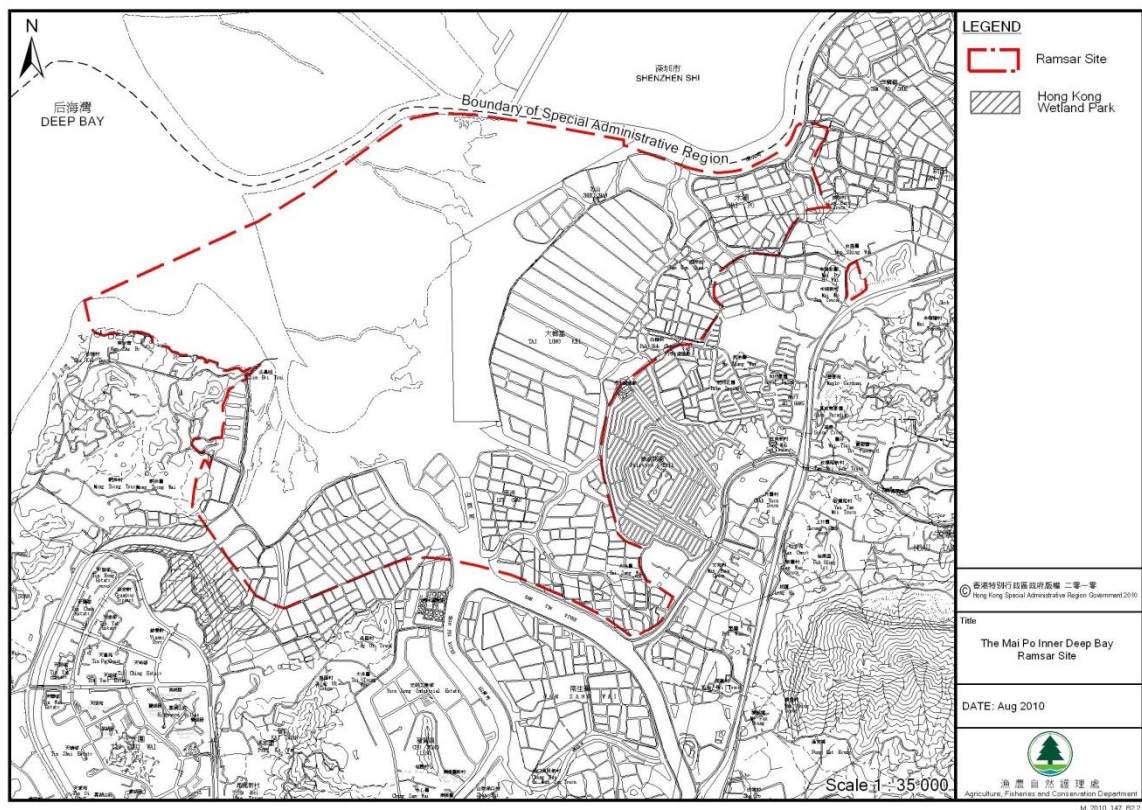


Agriculture, Fisheries and Conservation Department

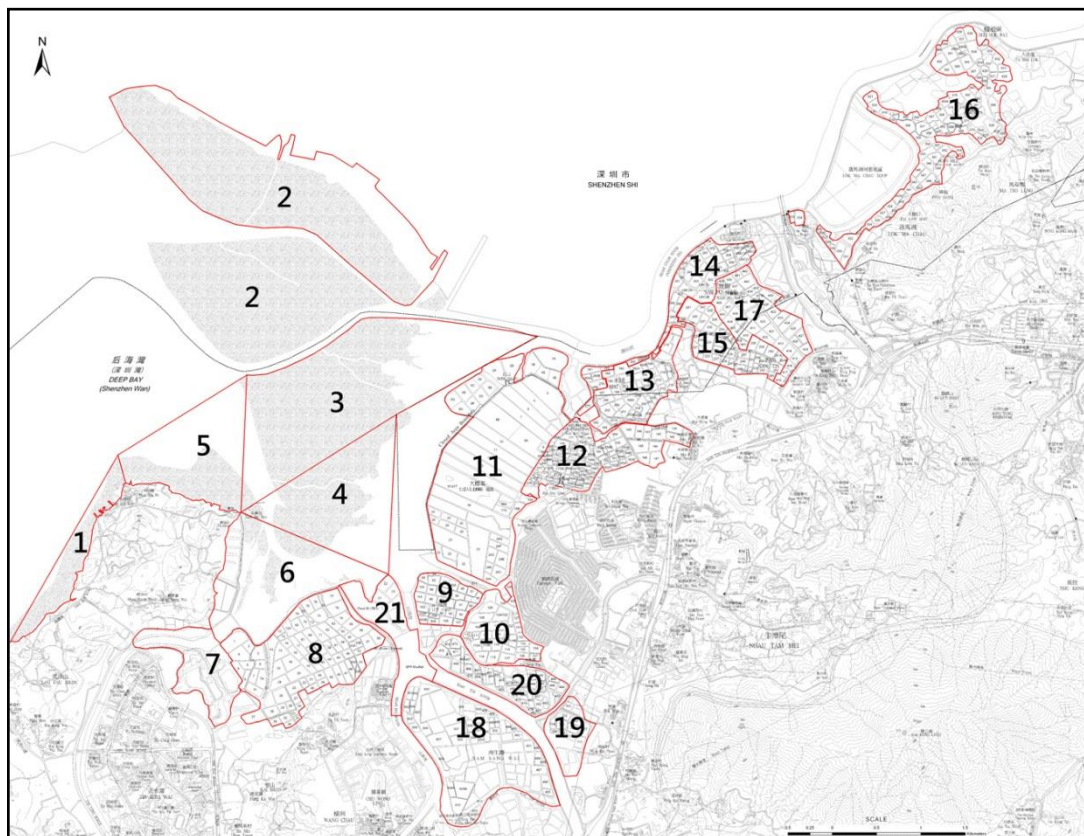
Map 1. Map of Hong Kong showing the location of the Mai Po Inner Deep Bay Ramsar Site.



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



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



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

**Monthly Waterbird Monitoring
Biannual Report 1 (April to September 2016)**

Tables



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Table 1. List of waterbird and wetland dependent species recorded in the Deep Bay area between April and September 2016.

Species	Globally threatened species (IUCN Status)
<i>Cormorants</i>	
Great Cormorant	
<i>Ardeids and Ciconiiformes</i>	
Grey Heron	
Purple Heron	
Great Egret	
Intermediate Egret	
Little Egret	
Eastern Cattle Egret	
Chinese Pond Heron	
Striated Heron	
Black-crowned Night Heron	
Yellow Bittern	
Cinnamon Bittern	
Eurasian Spoonbill	
Black-faced Spoonbill	EN
<i>Ducks, Grebes and Pelicans</i>	
Little Grebe	
Great Crested Grebe	
Lesser Whistling Duck	
Eurasian Wigeon	
Eurasian Teal	
Northern Pintail	
Garganey	
Northern Shoveler	
<i>Rails and coots</i>	
White-breasted Waterhen	
Common Moorhen	
Eurasian Coot	
<i>Shorebirds</i>	
Pheasant-tailed Jacana	
Greater Painted-snipe	
Black-winged Stilt	
Pied Avocet	
Oriental Pratincole	
Grey-headed Lapwing	
Pacific Golden Plover	
Little Ringed Plover	
Kentish Plover	
Greater Sand Plover	
Black-tailed Godwit	NT
Bar-tailed Godwit	
Whimbrel	
Eurasian Curlew	NT
Spotted Redshank	
Common Redshank	
Marsh Sandpiper	
Common Greenshank	

Nordmann's Greenshank	EN
Green Sandpiper	
Wood Sandpiper	
Terek Sandpiper	
Common Sandpiper	
Grey-tailed Tattler	NT
Ruddy Turnstone	
Pintail/Swinhoe's Snipe	
Common Snipe	
Asian Dowitcher	NT
Red Knot	
Great Knot	EN
Red-necked Stint	
Temminck's Stint	
Long-toed Stint	
Sharp-tailed Sandpiper	
Curlew Sandpiper	
Broad-billed Sandpiper	
<hr/>	
<i>Gulls and Terns</i>	
Heuglin's Gull	
Caspian Gull	
Vega Gull	
Franklin's Gull	
Black-headed Gull	
Saunders's Gull	VU
Whiskered Tern	
White-winged Tern	
Gull-billed Tern	
Caspian Tern	
<hr/>	
<i>Wetland dependent species</i>	
Western Osprey	
Black Kite	
Eastern Marsh Harrier	
Pied Kingfisher	
Common Kingfisher	
White-throated Kingfisher	
Black-capped Kingfisher	
Red-billed Starling	
Collared Crow	NT
Crested Serpent Eagle	
Besra	
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Table 2a. Numbers of waterbirds in the Deep Bay area between April and September, 2012-2016.

	2012	2013	2014	2015	2016	Mean	SD
April	10,131	19,191	12,221	15,610	10,877	14,272	5,394
May	3,278	4,712	2,838	4,149	3,254	4,704	2,065
June	2,633	1,367	1,687	2,343	2,137	1,988	659
July	4,628	2,612	2,906	3,240	3,517	3,038	799
August	5,117	4,022	3,813	4,816	4,815	4,146	769
September	5,717	4,434	8,659	6,674	6,148	5,884	1,292

Figures of mean and SD are calculated from the commencement of this programme in 1998 to the latest count.

Table 2b. Numbers of waterbirds in the Ramsar Site between April and September, 2012-2016.

	2012	2013	2014	2015	2016	Mean	SD
April	8,232	10,622	7,534	10,741	7,108	10,024	2,669
May	2,698	3,029	1,253	3,292	1,924	3,609	1,851
June	1,030	706	958	1,517	1,170	1,082	414
July	2,094	1,190	1,899	2,178	1,413	1,636	523
August	3,270	1,880	2,181	2,779	2,448	2,588	475
September	3,579	2,251	5,411	3,816	4,052	3,794	796

Figures of mean and SD are calculated from the commencement of this programme in 1998 to the latest count.

Table 3a. Summary of waterbird counts for April 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	4	0%	1	0%	1
Ardeids	1,708	16%	863	12%	115
Ducks, grebes, pelicans	1,679	15%	590	8%	6
Rails and coot	160	2%	51	1%	10
Shorebirds	6,096	56%	4,394	62%	0
Gulls and terns	1,230	11%	1,209	17%	0
Total	10,877	100%	7,108	100%	132

Table 3b. Summary of waterbird counts for May 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	2	0%	1	0%	0
Ardeids	1,386	43%	701	36%	124
Ducks, grebes, pelicans	177	5%	58	3%	1
Rails and coot	97	3%	38	2%	1
Shorebirds	1,326	41%	889	46%	0
Gulls and terns	266	8%	237	12%	0
Total	3,254	100%	1,924	100%	126

Table 3c. Summary of waterbird counts for June 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	2	0%	0	0%	0
Ardeids	1,631	76%	907	78%	67
Ducks, grebes, pelicans	224	11%	85	7%	4
Rails and coot	105	5%	20	2%	0
Shorebirds	169	8%	152	13%	0
Gulls and terns	6	0%	6	1%	1
Total	2,137	100%	1,170	100%	72

Table 3d. Summary of waterbird counts for July 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	1	0%	0	0%	0
Ardeids	2,679	76%	1,052	75%	27
Ducks, grebes, pelicans	201	6%	74	5%	3
Rails and coot	70	2%	22	2%	0
Shorebirds	558	16%	257	18%	3
Gulls and terns	8	0%	8	1%	0
Total	3,517	100%	1,413	100%	33

Table 3e. Summary of waterbird counts for August 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	1	0%	0	0%	0
Ardeids	2,644	55%	942	39%	48
Ducks, grebes, pelicans	234	5%	68	3%	2
Rails and coot	92	2%	23	1%	1
Shorebirds	1,838	38%	1,410	58%	1
Gulls and terns	6	0%	5	0%	0
Total	4,815	100%	2,448	100%	52

Table 3f. Summary of waterbird counts for September 2016.

	Deep Bay Area	%	Ramsar Site	%	Starling Inlet
Cormorants	15	0%	10	0%	0
Ardeids	2,320	38%	1,004	25%	125
Ducks, grebes, pelicans	460	8%	278	7%	1
Rails and coot	58	1%	14	0%	1
Shorebirds	3,294	54%	2,745	68%	1
Gulls and terns	1	0%	1	0%	0
Total	6,148	100%	4,052	100%	128

Table 4a. Numbers of waterbird in various species groups in Deep Bay area from April to September 2016.

	April	May	June	July	August	September
Cormorants	4	2	2	1	1	15
Ardeids	1,708	1,386	1,631	2,679	2,644	2,320
Ducks, grebes, pelicans	1,679	177	224	201	234	460
Rails and coot	160	97	105	70	92	58
Shorebirds	6,096	1,326	169	558	1,838	3,294
Gulls and terns	1,230	266	6	8	6	1

Table 4b. Numbers of waterbird in various species groups in Ramsar Site from April to September 2016.

	April	May	June	July	August	September
Cormorants	1	1	0	0	0	10
Ardeids	863	701	907	1052	942	1,004
Ducks, grebes, pelicans	590	58	85	74	68	278
Rails and coot	51	38	20	22	23	14
Shorebirds	4,394	889	152	257	1,410	2,745
Gulls and terns	1,209	237	6	8	5	1

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

**Monthly Waterbird Monitoring
Biannual Report 1 (April to September 2016)**

Appendix 1



The Hong Kong Bird Watching Society



Agriculture, Fisheries and Conservation Department

Summary of Waterbird Counts, April 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	24	8						13		13	4				22	3	25	15	32	9	57		66	168	4	
Great Crested Grebe			1																				0	1		
Great Cormorant	2	1																			1		1	4	1	
Dalmatian Pelican																							0	0		
Grey Heron	8	7	12	11				6	1	4		21			2						26	3	11	40	98	1
Purple Heron	1																						0	1		
Great Egret	5	32	32	47	3		23	17	6	28	7	2	2	3	14	2	27	5	11	66	184	56	78	318	516	79
Intermediate Egret			1	13											3						3	3	13	19	20	
Little Egret	4	54	77	12	1		9	23	22	30	10		13	7	60	18	29	21	15	122	69	131	44	244	596	9
Swinhoe's Egret																								0	0	
Pacific Reef Heron																								0	0	
Eastern Cattle Egret	4	22								21							7			3		7		7	57	1
Chinese Pond Heron	13	7	5				3	2	1	16	6		4	4	26	5	9	15	18	13	5	53	3	61	152	
Striated Heron																								0	0	
B-c Night Heron			3							2									1		6			6	12	24
Yellow Bittern			3							1														0	4	
Cinnamon Bittern																								0	0	1
Eurasian Bittern																								0	0	
Black Stork																								0	0	
Black-headed Ibis																								0	0	
Eurasian Spoonbill																					1			1	1	
Black-faced Spoonbill	14	1	5		23			3				53			2	1				10	139	5	23	167	251	
Common Shelduck																								0	0	
Eurasian Wigeon			1									1									15			15	17	
Falcated Duck																								0	0	
Gadwall																								0	0	
Baikal Teal																								0	0	
Eurasian Teal										1														0	1	2
Mallard																								0	0	
Spot-billed Duck																								0	0	
Chinese Spot-billed Duck																								0	0	
Indian Spot-billed Duck																								0	0	
Northern Pintail				2																	1		2	3	3	
Garganey			4					5														5		5	9	
Northern Shoveler			977	424								2									77		424	501	1480	
Common Pochard																								0	0	
Baer's Pochard																								0	0	
Tufted Duck																								0	0	
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	6	2				1	8	1	19		2	1		5	1	3	4	7	8	6	20	1	27	79	5
Watercock																								0	0	
Common Moorhen	4	1	38					3		4		2			13			1	4	2	9	15		24	81	5
Eurasian Coot																								0	0	

Pheasant-tailed Jacana																					0	0
Greater Painted-snipe							2														0	2
Black-winged Stilt	20		70				131		22				2			19*	2				2	245
Pied Avocet	21		420						13			8	8			598	16				614	1068
Oriental Pratincole															45						0	45
Northern Lapwing																					0	0
Grey-headed Lapwing	1																				0	1
Pacific Golden Plover			7													1					1	8
Grey Plover																					0	0
Common Ringed Plover																					0	0
Little Ringed Plover		7					3				3	17	6		5			23			23	41
Kentish Plover			2																		0	2
Lesser Sand Plover																					0	0
Greater Sand Plover#												4*				9	4				13	9
Black-tailed Godwit#			60*													874					874	874
Bar-tailed Godwit																					0	0
Whimbrel																					0	0
Eurasian Curlew#				18															18		18	18
Far Eastern Curlew																					0	0
Spotted Redshank#							13*		124							14					14	138
Common Redshank#									132							344					344	476
Marsh Sandpiper#	1*		2*						68							533					533	601
Common Greenshank#	8*		43*						39			9*	3*	8*		249	20*				249	288
Nordmann's Greenshank#																6					6	6
Green Sandpiper		3									3	7	1		4			10			10	18
Wood Sandpiper	1	11	1				14	1			2	13	6	4	1			20			20	54
Terek Sandpiper#																1					1	1
Common Sandpiper		2	41				1	15	7		13	4	5	6	5	13		33			33	112
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				2					1			1		1				1	9
Long-billed Dowitcher																					0	0
Asian Dowitcher#																16					16	16
Red Knot																					0	0
Great Knot#																1					1	1
Sanderling																					0	0
Red-necked Stint#																1					1	1
Little Stint																					0	0
Temminck's Stint	14																				0	14
Long-toed Stint		2																			0	2
Pectoral Sandpiper																					0	0
Sharp-tailed Sandpiper#			3*													4					4	4
Dunlin																					0	0
Curlew Sandpiper#			70*					426								1579					1579	2005
Spoon-billed Sandpiper																					0	0
Broad-billed Sandpiper																					0	0
Ruff																					0	0

Summary of Waterbird Counts, May 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	28	41						6		1	3	2			13		1	9	14	26	31	26		57	175	1	
Great Crested Grebe			1																					0	1		
Great Cormorant	1																				1			1	2		
Dalmatian Pelican																								0	0		
Grey Heron		1		2						1		4			1	2						17	3	2	22	28	2
Purple Heron																1						1	1	2	2		
Great Egret	5	13	171	124	9	13	32	4	2	21	4	9	6	8	13	4	31	3	11	21	140	49	180	369	644	88	
Intermediate Egret	1									1					1	1					3	2		5	7		
Little Egret	8	20	91	27	2	5	8	14	6	20	5	5		7	55		17	7	36	29	26	84	47	157	388	5	
Swinhoe's Egret																								0	0		
Pacific Reef Heron																								0	0		
Eastern Cattle Egret		39						6			1						1	23		1	7	31		38	78		
Chinese Pond Heron	5	8	25	4					2	15	5			4	15	2	7	12	20	14	2	34	6	42	140		
Striated Heron																								0	0		
B-c Night Heron		6	14	8			10	6	1	1	2			1					3	1	4	8	19	31	57	29	
Yellow Bittern																								0	0		
Cinnamon Bittern																								0	0		
Eurasian Bittern																								0	0		
Black Stork																								0	0		
Black-headed Ibis																								0	0		
Eurasian Spoonbill																								0	0		
Black-faced Spoonbill			3	12								4										23	12	35	42		
Lesser Whistling Duck																		1				1		1	1		
Common Shelduck																								0	0		
Eurasian Wigeon																								0	0		
Falcated 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																								0	0		
Garganey																								0	0		
Northern Shoveler																								0	0		
Common Pochard																								0	0		
Baer's Pochard																								0	0		
Tufted Duck																								0	0		
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	2	8	6	3						1	2	1			3	1	1	2	4	7	14	8	3	25	55	1	
Watercock																								0	0		
Common Moorhen	2		27	2							1				1						8	2	2	12	41		

Eurasian Coot																			1			1	1
Pheasant-tailed Jacana	1																					0	1
Greater Painted-snipe																						0	0
Black-winged Stilt							5					2		3	3				19	5		24	32
Pied Avocet							23							64					382	64		446	469
Oriental Pratincole																						0	0
Northern Lapwing																						0	0
Grey-headed Lapwing	2																					0	2
Pacific Golden Plover			12											2							2	2	14
Grey Plover																						0	0
Common Ringed Plover																						0	0
Little Ringed Plover			2											2							2	2	4
Kentish Plover																						0	0
Lesser Sand Plover																						0	0
Greater Sand Plover																						0	0
Black-tailed Godwit																			17			17	17
Bar-tailed Godwit				4																	4	4	4
Whimbrel				37																	37	37	37
Eurasian Curlew			1																			0	1
Far Eastern Curlew																						0	0
Spotted Redshank			4				6		52										28			28	90
Common Redshank			119				9		91										92			92	311
Marsh Sandpiper																						0	0
Common Greenshank			8				1	8	59										97		1	98	173
Nordmann's Greenshank				1																	1	1	1
Green Sandpiper							2															0	2
Wood Sandpiper							5		1					1						1		1	7
Terek Sandpiper																						0	0
Common Sandpiper		2	3			1		1				2	4	1	3	2	2			8	2	10	21
Grey-tailed Tattler			3	49					1												49	49	53
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																						0	0
Long-billed Dowitcher																						0	0
Asian Dowitcher				4															5		4	9	9
Red Knot				1				2													1	1	3
Great Knot				17																		17	17
Sanderling																						0	0
Red-necked Stint														35						35		35	35
Little Stint																						0	0
Temminck's Stint																						0	0
Long-toed Stint																						0	0
Pectoral Sandpiper																						0	0
Sharp-tailed Sandpiper																						0	0
Dunlin																						0	0
Curlew Sandpiper									6													0	6
Spoon-billed Sandpiper																						0	0
Broad-billed Sandpiper				16																	16	16	16

Summary of Waterbird Counts, June 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	58	21						19		12		2			15	3	18	13	29	34	51		85	224	4		
Great Crested Grebe																								0	0		
Great Cormorant	1																			1				0	2		
Dalmatian Pelican																								0	0		
Grey Heron																					20			20	20		
Purple Heron																					1			1	1		
Great Egret	6	5	73	7	31		8	5	40	9	5	7	4	2	6	6	3	12	1	74	360	74	83	517	664	46	
Intermediate Egret																					1			1	1		
Little Egret	13	21	87	2	3		1	6	4	7	4	10		1	31	4	1	54	6	135	176	88	9	273	566	9	
Swinhoe's Egret																								0	0		
Pacific Reef Heron																								0	0		
Eastern Cattle Egret	2	2	4					1			2							7		1	19	7		26	38	1	
Chinese Pond Heron	38	34	49							13	9	3		3	24	3	3	3	17	49	4	36		40	252		
Striated Heron			1																		4	2		2	7		
B-c Night Heron	22	1	18		2		2	2		8												18	2	4	24	73	11
Yellow Bittern		3								1					1				2	1			3		3	8	
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																								0	0		
Common Shelduck																								0	0		
Eurasian Wigeon																								0	0		
Falcated 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																								0	0		
Garganey																								0	0		
Northern Shoveler																								0	0		
Common Pochard																								0	0		
Baer's Pochard																								0	0		
Tufted Duck																								0	0		
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	7	8	8							12	2				9	1		1	12	7	9	10		19	76		
Watercock																								0	0		
Common Moorhen	4	3	21								1											1		1	29		
Eurasian Coot																								0	0		

Pheasant-tailed Jacana																					0	0							
Greater Painted-snipe																					0	0							
Black-winged Stilt																					2	4	24	2	26	30			
Pied Avocet																										47	47		
Oriental Pratincole																										0	0		
Northern Lapwing																										0	0		
Grey-headed Lapwing																										0	0		
Pacific Golden Plover																										0	0		
Grey Plover																										0	0		
Common Ringed Plover																										0	0		
Little Ringed Plover				5																						3	2	5	10
Kentish Plover																											0	0	
Lesser Sand Plover																											0	0	
Greater Sand Plover																											0	0	
Black-tailed Godwit																											6	6	6
Bar-tailed Godwit																											0	0	
Whimbrel																											0	0	
Eurasian Curlew																											26	26	26
Far Eastern Curlew																											0	0	
Spotted Redshank																											0	0	
Common Redshank																											4	4	4
Marsh Sandpiper																											0	0	
Common Greenshank																											38	38	38
Nordmann's Greenshank																											0	0	
Green Sandpiper																											2	0	2
Wood Sandpiper																											0	0	
Terek Sandpiper																											0	0	
Common Sandpiper	1			5																							0	6	
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																											0	0	
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																											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																				2		2	2					
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					3																3	3	3					
Saunders's Gull																						0	0					
Whiskered Tern																						0	0					
White-winged Tern																						0	0	1				
Gull-billed Tern																				1		1	1					
Caspian Tern																						0	0					
Total	153	98	271	9	39	0	11	33	44	62	23	22	4	6	87	14	13	97	50	306	795	276	99	1170	2137	72		
	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	2	0%	0	0%	0	0%																						
Ardeids etc	1631	76%	907	78%	67	93%																						
Ducks, grebes, pelicans	224	10%	85	7%	4	6%																						
Rails, coot etc	105	5%	20	2%	0	0%																						
Shorebirds	169	8%	152	13%	0	0%																						
Gulls and terns	6	0%	6	1%	1	1%																						
TOTAL	2137	100%	1170	100%	72	100%																						
Date of count: 19 Jun 2016																												
High tide measured at TBT: 2.7m																												
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																					0	1			
Black Kite								3		1										2		3	3	3	9	9		
White-bellied Sea Eagle																								0	0			
Eastern Marsh Harrier																								0	0			
Eastern Buzzard																								0	0			
Greater Spotted Eagle																								0	0			
Eastern Imperial Eagle																								0	0			
Peregrine Falcon																								0	0			
Pied Kingfisher	2	4	5															1	3			3	1	4	18			
Common Kingfisher	2	7	3							1														0	13			
White-throated Kingfisher	1						1							1										1	3			
Black-capped Kingfisher																								0	0			
Red-billed Starling																						2		2	2			
Collared Crow	1							1		1												5	1	6	8			
Crested Serpent Eagle		1																						0	1	1		
Bonelli's Eagle																								0	0	2		
Besra																								0	0	1		

Summary of Waterbird Counts, July 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	39	23						19		7	8	4			16			34	14	27	10	64		74	201	3
Great Crested Grebe																								0	0	
Great Cormorant	1																							0	1	
Dalmatian Pelican																								0	0	
Grey Heron	2						2														9		2	11	13	1
Purple Heron																					1		1	1	1	
Great Egret	34	41	413	1	17	12	51	2	12	40	3	2	13	10	14	9	16	55	11	55	95	88	92	275	906	11
Intermediate Egret	3						7														5		7	12	15	
Little Egret	25	25	295		62	24	40	6	43	41	5	1	21	22	40	16	36	67	8	100	46	158	161	365	923	14
Swinhoe's Egret																								0	0	
Pacific Reef Heron																								0	0	
Eastern Cattle Egret				120	21										1							64		141	205	206
Chinese Pond Heron	38	51	140		5	4	3	1	2	36	5	1	1	4	61	14	19	48	40	74	13	130	13	156	560	1
Striated Heron	1		1												2						3	2		5	7	
B-c Night Heron	3	2	5			2	3	2	1	3					3	1		2		1	8	5	6	19	36	
Yellow Bittern	1	1							1	2		1			2							3		3	8	
Cinnamon Bittern	2	2																						0	4	
Eurasian Bittern																								0	0	
Black Stork																								0	0	
Black-headed Ibis																								0	0	
Eurasian Spoonbill																								0	0	
Black-faced Spoonbill																								0	0	
Common Shelduck																								0	0	
Eurasian Wigeon																								0	0	
Falcated 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																								0	0	
Garganey																								0	0	
Northern Shoveler																								0	0	
Common Pochard																								0	0	
Baer's Pochard																								0	0	
Tufted Duck																								0	0	
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	6	6	7				2	1		1	3	1		3	4		2	3	1	2	4	11	2	17	46	
Watercock																								0	0	
Common Moorhen	3		15				1			1					2			1			1	3	1	5	24	
Eurasian Coot																								0	0	

Pheasant-tailed Jacana																					0	0	
Greater Painted-snipe																					0	0	
Black-winged Stilt		5								1		3	10	1							11	19	3
Pied Avocet																					0	0	
Oriental Pratincole																					0	0	
Northern Lapwing																					0	0	
Grey-headed Lapwing																					0	0	
Pacific Golden Plover																					0	0	
Grey Plover																					0	0	
Common Ringed Plover																					0	0	
Little Ringed Plover		1	4							38		18		38							38	61	
Kentish Plover																					0	0	
Lesser Sand Plover																					0	0	
Greater Sand Plover																					0	0	
Black-tailed Godwit																					0	0	
Bar-tailed Godwit																					0	0	
Whimbrel																					0	0	
Eurasian Curlew																					0	0	
Far Eastern Curlew																					0	0	
Spotted Redshank																					0	0	
Common Redshank			69			6		12				24		58		24		6			30	169	
Marsh Sandpiper			1																		0	1	
Common Greenshank			39																		0	39	
Nordmann's Greenshank																					0	0	
Green Sandpiper											1		1	1							2	2	
Wood Sandpiper		19	11							13		32		13							13	75	
Terek Sandpiper																					0	0	
Common Sandpiper		4	4			1		3			11		2	2	14		13		1		14	41	
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																					0	0	
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												9		2		9					9	11	
Pectoral Sandpiper																					0	0	
Sharp-tailed Sandpiper																					0	0	
Dunlin																					0	0	
Curlew Sandpiper												2				2					2	2	
Spoon-billed Sandpiper																					0	0	
Broad-billed Sandpiper																					0	0	
Ruff																					0	0	

Wader sp.					85		53															138	138	138				
Small wader sp.																							0	0	0			
Black-tailed Gull																							0	0	0			
Heuglin's Gull																							0	0	0			
Caspian Gull																							0	0	0			
Slaty-backed Gull																							0	0	0			
Pallas's Gull																							0	0	0			
Large Gull spp.																							0	0	0			
Brown-headed Gull																							0	0	0			
Black-headed Gull					1	3	4															8	8	8				
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	158	180	1004	121	191	45	173	31	59	146	24	10	35	39	156	40	73	300	76	386	270	565	578	1413	3517	33		
	Deep Bay Area	%	Ramsar Site	%	SI	%																						
Cormorants	1	0%	0	0%	0	0%																						
Ardeids etc	2679	76%	1052	74%	27	82%																						
Ducks, grebes, pelicans	201	6%	74	5%	3	9%																						
Rails, coot etc	70	2%	22	2%	0	0%																						
Shorebirds	558	16%	257	18%	3	9%																						
Gulls and terns	8	0%	8	1%	0	0%																						
TOTAL	3517	100%	1413	100%	33	100%																						
Date of count: 24 Jul 2016																												
High tide measured at TBT: 2.7m																												
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		2	2				
Black Kite		8				1		1		17				2	5	3		1		1	8	8	2	18	47			
White-bellied Sea Eagle																								0	0			
Eastern Marsh Harrier																								0	0			
Eastern Buzzard																								0	0			
Greater Spotted Eagle																								0	0			
Eastern Imperial Eagle																								0	0			
Peregrine Falcon																								0	0			
Pied Kingfisher	4	1	5			2									1	4	4	2	3	6	9	2	17	32				
Common Kingfisher	2	2	3						2					1	1	2			4	3	3	3	3	20				
White-throated Kingfisher	1	3	2	1			1	2	1					1	1		1	1	1	4	4	2	10	20				
Black-capped Kingfisher																							0	0				
Red-billed Starling			5															4			4		4	9				
Collared Crow						3							1		5						8	5	3	16	17			
Besra																							0	0			2	

Summary of Waterbird Counts, August 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	43	15						20		20	5	3			12			31	23	50	11	57		68	233	2	
Great Crested Grebe																									0	0	
Great Cormorant	1																								0	1	
Dalmatian Pelican																									0	0	
Grey Heron	8	5	5				6	1		9	1	1						1				10	1	6	17	47	
Purple Heron																									0	0	
Great Egret	27	140	286	97	1		44	41	44	26	17	12		5	16	10	14	26	9	55	68	113	177	358	938	27	
Intermediate Egret	1			2																2	3			2	5	8	1
Little Egret	21	171	202	36	11		43	32	19	41	18	1	5	23	76	10	23	25	47	104	27	155	101	283	935	16	
Swinhoe's Egret																									0	0	
Pacific Reef Heron																									0	0	
Eastern Cattle Egret	1	1									2											3		3	7		
Chinese Pond Heron	43	59	67				1	14	5	62	29	1		1	71	15	10	62	40	25	7	172	5	184	512	3	
Striated Heron			2																			1		1	3		
B-c Night Heron	20	20	35		1		24	20		8	12	1			8	1	1	5		1	18	37	29	84	175		
Yellow Bittern	4		1					3		3	3	1			2			2				7		7	19		
Cinnamon Bittern																									0	0	1
Eurasian Bittern																									0	0	
Black Stork																									0	0	
Black-headed Ibis																									0	0	
Eurasian Spoonbill																									0	0	
Black-faced Spoonbill																									0	0	
Common Shelduck																									0	0	
Eurasian Wigeon																									0	0	
Falcated Duck																									0	0	
Gadwall																									0	0	
Baikal Teal																									0	0	
Eurasian Teal	1																								0	1	
Mallard																									0	0	
Spot-billed Duck																									0	0	
Chinese Spot-billed Duck																									0	0	
Indian Spot-billed Duck																									0	0	
Northern Pintail																									0	0	
Garganey																									0	0	
Northern Shoveler																									0	0	
Common Pochard																									0	0	
Baer's Pochard																									0	0	
Tufted Duck																									0	0	
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	4	2	9				2	5		16	3	1		1		6	3	4				19	2	21	56	1	
Watercock																									0	0	
Common Moorhen			17					1		13		3			2								2	2	36		
Eurasian Coot																									0	0	

Pheasant-tailed Jacana																					0	0		
Greater Painted-snipe																					0	0		
Black-winged Stilt	10	1	2					3					15	20			23	15			38	74		
Pied Avocet																	18				18	18		
Oriental Pratincole																					0	0		
Northern Lapwing																					0	0		
Grey-headed Lapwing																					0	0		
Pacific Golden Plover																	82				82	82		
Grey Plover																					0	0		
Common Ringed Plover																					0	0		
Little Ringed Plover	4	1	9							3			8		14	2	8				10	41		
Kentish Plover												1						1			1	1		
Lesser Sand Plover																					0	0		
Greater Sand Plover										5							159				159	164		
Black-tailed Godwit																	121				121	121		
Bar-tailed Godwit																					0	0		
Whimbrel																					176	176	187	
Eurasian Curlew																					107	107	107	
Far Eastern Curlew																					0	0		
Spotted Redshank																					0	0		
Common Redshank													10	3	21	319	10				329	355		
Marsh Sandpiper													8								8	9		
Common Greenshank																					321	321	390	
Nordmann's Greenshank																					0	0		
Green Sandpiper												3									3	5		
Wood Sandpiper	124	3	13										4								4	161		
Terek Sandpiper																					0	0		
Common Sandpiper	7	16	34					5	3	7			1	10		7	1	6	1	13	5	19	98	1
Grey-tailed Tattler													3								0	3		
Ruddy Turnstone																					1	1	1	
Red-necked Phalarope																					0	0		
Pintail Snipe																					0	0		
Swinhoe's Snipe																					0	0		
Pintail/Swinhoe's Snipe	6																				0	6		
Common Snipe	1																				0	2		
Long-billed Dowitcher																					0	0		
Asian Dowitcher																					0	0		
Red Knot																					0	0		
Great Knot																					1	1	1	
Sanderling																					0	0		
Red-necked Stint																	4				4	4	4	
Little Stint																					0	0		
Temminck's Stint																					0	0		
Long-toed Stint																	1				1	1	1	
Pectoral Sandpiper																					0	0		
Sharp-tailed Sandpiper																					0	0		
Dunlin																					0	0		
Curlew Sandpiper																	7				7	7	7	
Spoon-billed Sandpiper																					0	0		
Broad-billed Sandpiper																					0	0		
Ruff																					0	0		

Small wader spp.																							0	0		
Wader sp.																							0	0		
Black-tailed Gull																							0	0		
Heuglin's Gull																							0	0		
Caspian Gull																					3		3	3		
Slaty-backed Gull																							0	0		
Pallas's Gull																							0	0		
Large Gull spp.																							0	0		
Brown-headed Gull																							0	0		
Black-headed Gull										1													0	1		
Saunders's Gull																							0	0		
Whiskered Tern																					2		2	2		
White-winged Tern																							0	0		
Gull-billed Tern																							0	0		
Caspian Tern																							0	0		
Total	326	436	766	135	13	0	125	140	68	226	90	24	5	42	200	42	51	221	143	278	1484	637	327	2448	4815	52

	Deep Bay Area	%	Ramsar Site	%	SI	%
Cormorants	1	0%	0	0%	0	0%
Ardeids etc	2644	55%	942	38%	48	92%
Ducks, grebes, pelicans	234	5%	68	3%	2	4%
Rails, coot etc	92	2%	23	1%	1	2%
Shorebirds	1838	38%	1410	58%	1	2%
Gulls and terns	6	0%	5	0%	0	0%
TOTAL	4815	100%	2448	100%	52	100%

Date of count: 21 Aug 2016
High tide measured at TBT: 2.8m

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	1
Black Kite	2	1						5		6	2				3	2	2				7	13		20	30	
White-bellied Sea Eagle																								0	0	
Eastern Marsh Harrier																								0	0	
Eastern Buzzard																								0	0	
Greater Spotted Eagle																								0	0	
Eastern Imperial Eagle																								0	0	
Peregrine Falcon																								0	0	
Pied Kingfisher	1	2	6						2	1					2	3	2	2			1	9	2	12	22	
Common Kingfisher		9	8					2		3	3	1			4		2	3	4	1	2	12		14	42	1
White-throated Kingfisher	1		9					2		1					1	2		3		2	2	7		9	23	
Black-capped Kingfisher																								0	0	
Red-billed Starling			14																					0	14	
Collared Crow		3	1					1		3						2	18	4			21	25		46	53	

Summary of Waterbird Counts, September 2016

SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPS T	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Little Grebe	12	40	1			2		5		22	5	5			38	4	3	13	24	65	23	55	2	80	262	1	
Great Crested Grebe																								0	0		
Great Cormorant		1		2		3				1	1				1				1	1	4	1	5	10	15		
Dalmatian Pelican																								0	0		
Grey Heron	17	6	33					9	42	11	1	1		2	3				1		57	19	34	110	183	2	
Purple Heron																								0	0		
Great Egret	18	38	248	21		1		65	20	23	3	1		3	2	13	14	1	1	59	276	97	41	414	807	61	
Intermediate Egret		1								1					3			1	2	4	5	2		7	17		
Little Egret	7	50	140	1		3		13	1	23	10	24	1	7	74	26	31	6	22	130	136	132	5	273	705	35	
Swinhoe's Egret																								0	0		
Pacific Reef Heron																								0	0		
Eastern Cattle Egret		37	5					4			6				8	24	21			4	9	49		58	118	26	
Chinese Pond Heron	33	57	76			4			1	33	4	1	1	2	53	20	23	27	25	68	19	99	4	122	447		
Striated Heron		2																			1			1	3		
B-c Night Heron	3	3	1		7	3			1	4										1	5		11	16	28	1	
Yellow Bittern			1	2					1	1					2								3	3	7		
Cinnamon Bittern																								0	0		
Eurasian Bittern																								0	0		
Black Stork																								0	0		
Black-headed Ibis																								0	0		
Eurasian Spoonbill																								0	0		
Black-faced Spoonbill		5																						0	5		
Common Shelduck																								0	0		
Eurasian Wigeon																								0	0		
Falcated Duck																								0	0		
Gadwall																								0	0		
Baikal Teal																								0	0		
Eurasian Teal																						161		161	161		
Mallard																								0	0		
Spot-billed Duck																								0	0		
Chinese Spot-billed Duck																								0	0		
Indian Spot-billed Duck																								0	0		
Northern Pintail																								0	0		
Garganey				37																				37	37	37	
Northern Shoveler																								0	0		
Common Pochard																								0	0		
Baer's Pochard																								0	0		
Tufted Duck																								0	0		
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	8	3					1	1	8	4				4			2		2	1	10		11	37	1	
Watercock																								0	0		
Common Moorhen			11						1					7	2							2	1	3	21		
Eurasian Coot																								0	0		

Pheasant-tailed Jacana																					0	0			
Greater Painted-snipe																					0	0			
Black-winged Stilt	14	23	96					37	13	16	18				1	3		36	8	20	37	65	265		
Pied Avocet																			28				28	28	
Oriental Pratincole																							0	0	
Northern Lapwing																							0	0	
Grey-headed Lapwing			1																				0	1	
Pacific Golden Plover																			98				98	98	
Grey Plover																							0	0	
Common Ringed Plover																							0	0	
Little Ringed Plover		19							3	3		2	14			7		17	23	24			47	88	
Kentish Plover			1																				13	14	
Lesser Sand Plover																							0	0	
Greater Sand Plover																			24				24	24	
Black-tailed Godwit																			350				350	350	
Bar-tailed Godwit																							0	0	
Whimbrel			41	11															11		11		22	63	
Eurasian Curlew																			99				99	99	
Far Eastern Curlew																							0	0	
Spotted Redshank																							0	0	
Common Redshank			8											1		1	760	1					761	770	
Marsh Sandpiper		1												5	4	377	5						382	387	
Common Greenshank			27								1			2		739	3						742	769	
Nordmann's Greenshank																							0	0	
Green Sandpiper											1									1			1	1	
Wood Sandpiper	7	113	1						7	4		2	1	1	6		18	69	17				86	229	
Terek Sandpiper																		1					1	1	
Common Sandpiper	6	16	30	1	1		1		4		2	19	1	1	3	4	4		20	2			22	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	2																						0	2	
Common Snipe																		2					2	2	
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																	8						0	8	
Long-toed Stint																							0	0	
Pectoral Sandpiper																							0	0	
Sharp-tailed Sandpiper																							0	0	
Dunlin																							0	0	
Curlew Sandpiper																			1				1	1	
Spoon-billed Sandpiper																							0	0	
Broad-billed Sandpiper																			1				1	1	
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						1																1	1	1			
White-winged Tern																							0	0			
Gull-billed Tern																							0	0			
Caspian Tern																							0	0			
Total	122	420	724	75	9	16	0	98	105	144	60	59	2	23	226	90	95	77	80	422	3301	557	194	4052	6148	128	
	Deep Bay Area	%	Ramsar Site	%	SI	%																					
Cormorants	15	0%	10	0%	0	0%																					
Ardeids etc	2320	38%	1004	25%	125	98%																					
Ducks, grebes, pelicans	460	7%	278	7%	1	1%																					
Rails, coot etc	58	1%	14	0%	1	1%																					
Shorebirds	3294	54%	2745	68%	1	1%																					
Gulls and terns	1	0%	1	0%	0	0%																					
TOTAL	6148	100%	4052	100%	128	100%																					
Date of count: 13 Sep 2016																											
High tide measured at TBT: 2.5m																											
Wetland-dependent species																											
SPECIES	SRA	SRB	DBA	DBB	DBC	DBD	DBE	DBF (TBT)	SPR	NSW	LHW	WEP	Sha Kiu	NW / LFS	TKC	LC	TSW	MPS T	ST	SPS	MPNR	Ramsar ponds	Ramsar intertidal areas	Ramsar Site	DEEP BAY AREA	Starling Inlet	
Western Osprey																									0	0	
Black Kite	1	4				3	2	2		1	1			13			7		4	1	7	10	5	22	46	1	
White-bellied Sea Eagle																								0	0		
Eastern Marsh Harrier																								0	0		
Eastern Buzzard																								0	0		
Greater Spotted Eagle																								0	0		
Eastern Imperial Eagle																								0	0		
Peregrine Falcon																								0	0		
Pied Kingfisher	1	2	1							3		1								1			0	9			
Common Kingfisher	1	6	7	1		1			1	2	1				4	2	1	1	1	2		9	2	11	31		
White-throated Kingfisher		5			1										1						1	1	1	3	8		
Black-capped Kingfisher										1													0	1			
Red-billed Starling	1																						0	1			
Collared Crow						1		2		2	1			1	2	4	10		1		11	19	1	31	35		
Crested Serpent Eagle																							0	0			