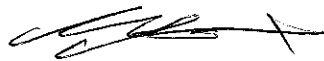



## Drainage Services Department

### Shek Wu Hui Effluent Polishing Plant

#### Baseline Monitoring Report (Ecology)

(Version 1)

Approved By	 _____ (Environmental Team Leader: Mr. KS Lee)
Approved By	 _____ (Qualified Ecologist: Ms. Betty Choi)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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Ref.: DSDSWHS1EM00\_0\_0018L.19

29 November 2019

AECOM Asia Company Limited  
8/F., Grand Central Plaza,  
Tower 2, 138 Shatin Rural Committee Road,  
Sha Tin, Hong Kong

By E-mail and Fax (3922 9797)

Attention: Mr. CHANG Ping Wah

Dear Mr. CHANG,

**Re: Contract No. SPW 08/2019 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1**


**Baseline Monitoring Report (Ecology) (Version 1)**

Reference is made to the Environmental Team's submission of the captioned *Baseline Monitoring Report (Ecology) (Version 1)* we received by e-mail on 22 November 2019.

Please be informed that we have no adverse comment on the captioned report. We hereby verify the captioned submission according to Condition 3.3 of FEP-02/474/2013.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

Yours sincerely,  
For and on behalf of  
Ramboll Hong Kong Limited



Ray Yan  
Independent Environmental Checker

c.c.	DSD	Attn.: Ms. Konica Cheung Wing Yan	Fax: 2369 4980
	Cinotech	Attn.: Mr. K.S. Lee	Fax: 3107 1388

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## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1 INTRODUCTION.....</b>	<b>2</b>
Background	2
<b>2 REVIEW OF MONITORING REQUIREMENTS.....</b>	<b>3</b>
<b>3 ECOLOGICAL MONITORING METHODOLOGY .....</b>	<b>4</b>
Assessment Area	4
Monitoring Methodology	4
<b>4 MONITORING RESULTS.....</b>	<b>6</b>
Introduction	6
Monitoring Date, Time, Frequency and Duration	6
Species Diversity and Abundance	8
Influencing Factors of Results and Implications	10
<b>5 DETERMINATION OF ACTION AND LIMIT LEVELS .....</b>	<b>12</b>
Proposed Analytical Method	13
<b>6 REVISIONS FOR INCLUSION IN THE EM&amp;A MANUAL.....</b>	<b>15</b>
<b>7 CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>15</b>
<b>8 REFERENCE.....</b>	<b>15</b>

## **LIST OF TABLES**

Table 2.1	Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sheung Yue and Shek Sheung Rivers during Pre-Construction Phase
Table 3.1	Monitoring Locations of the Project
Table 4.1	Definition of Terms
Table 4.2	Survey Information
Table 4.3	Overall Summary for Avifauna recorded in the 19-month Baseline Monitoring
Table 4.4	Summary for Waterbirds recorded in the 19-month Baseline Monitoring
Table 5.1	Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase
Table 5.2	Indicator Species

## **LIST OF FIGURES**

Figure 1	Survey Locations of Ecological Monitoring
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## **LIST OF APPENDICES**

Appendix A	Baseline Monitoring Results extracted from Baseline Monthly Monitoring Reports (No. 1 – No.19)
Appendix B1	Overall Survey Summary
Appendix B2	Survey Summary for Waterbirds at each Point Count Location
Appendix B3	Survey Summary of Waterbird by Month
Appendix C	List of Species recorded in Baseline Monitoring
Appendix D	Template of Statistical Analysis in Monthly Report



## **EXECUTIVE SUMMARY**

1. An Environmental Permit (EP) (Permit No. FEP-02/474/2013) was issued for the Further Expansion of Shek Wu Hui Effluent Polishing Plant (SEHEPP) under “North East New Territories New Development Areas” Environmental Impact Assessment (NENT NDAs EIA) Report (Registered No.: AEIAR-175/2013).
2. A baseline ecological monitoring for waterbird was conducted by China Hong Kong Ecology Consultants Ltd. along Ng Tung River, Sheung Yue River and Shek Sheung River. Cinotech Consultants Ltd. (Cinotech), the Environmental Team of the SEHEPP Main Works Stage 1, was assigned to prepare the baseline monitoring report based on the findings from the 19-month survey.
3. The purpose of the report is to provide baseline information of avifauna near the Expansion Project of SEHEPP, summary of baseline ecological monitoring process and determination of action and limit levels for construction phase. The report presents the locations, period, methodology, results and observations during the baseline period, which form the basis for comparisons of waterbird abundance in baseline, construction and post-construction phases, and to monitor whether construction activities would affect ecological lives and comply with recommended mitigation measures and the EP.
4. Transect and point count methods were adopted to determine baseline conditions of waterbirds using surrounding rivers. Collected numbers in abundance were applied to determine Action and Limit Levels (A/L Levels) of the Environmental Monitoring and Audit (EM&A) process to identify potential disturbances on waterbirds.

## 1 INTRODUCTION

### Background

- 1.1 The Further Expansion of Shek Wu Hui Effluent Polishing Plant (SWHEPP) is a designated Project (DP) under F.1 and F.2 of Part 1, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). The “North East New Territories New Development Areas” Environmental Impact Assessment (NENT NDAs EIA) Report (Registered No.: AEIAR-175/2013) covered the assessment for the Further Expansion of SWHSTW Phase 1A, 1B and 2, and the associated Environmental Monitoring and Audit (EM&A) Manual was approved on 18 October 2013.
- 1.2 The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) is operated and maintained by the Drainage Services Department (DSD). It provides secondary level treatment to sewage collected from Sheung Shui, Fanling and adjacent areas. SWHSTW was completed in two stages and expanded progressively in the past year. In 2009, the expansion of SWHSTW was completed and its design capacity was 93,000m<sup>2</sup>/day at average dry weather flow (ADWF). After the Resource Allocation Exercise 2017, the existing SWHSTW is proposed to be upgraded from secondary to tertiary treatment level as the new SWHEPP in 3 stages: Main Works Stage 1, Stage 2 and Stage 3.
- 1.3 A Further EP (Permit No. FEP-02/474/2013) was issued on 15 February 2018 to DSD as the Permit Holder to assume the responsibility for construction and operating the SWHEPP Project up to a capacity of 190,000m<sup>3</sup>/day.
- 1.4 As stipulated in the EM&A Manual of the NENT NDAs EIA report, if the development of a Project is within 200m of Ng Tung River, Sheung Yue River and Shek Sheung River and Long Valley, respectively, monitoring of waterbirds would be required. Waterbird species of conservation importance includes Little Egret (*Egretta garzetta*), Great Egret (*Ardea modesta*), Chinese Pond Heron (*Ardeola bacchus*), and Grey Heron (*Ardea cinerea*) were recorded at Ng Tung River and Shek Sheung River from the previous EIA study.
- 1.5 Baseline waterbird monitoring was carried out by China Hong Kong Ecology Consultants Ltd. along Ng Tung River, Sheung Yue River and Shek Sheung River under Contract No. SPW03/2017. The monitoring lasted for nineteen months between December 2017 and June 2019.
- 1.6 Cinotech Consultants Ltd. (Cinotech) was designated as the Environmental Team (ET) to undertake the EM&A works for “Shek Wu Hui Effluent Polishing Plant” (hereinafter called the “Project”). This Baseline Ecological Monitoring Summary Report is prepared by Cinotech to summarize the findings from 19-month baseline survey to provide the background, baseline condition, data summary and analysis of the waterbird baseline monitoring.

**2 REVIEW OF MONITORING REQUIREMENTS**

- 2.1 According to Section 14.3.2.2 of the approved EM&A Manual of the NENT NDAs EIA, a monitoring protocol with respect to waterbirds on Ng Tung River, Sheung Yue River and Shek Sheung River shall be followed for the development under NDAs project. The monitoring work should be undertaken within 200m (the maximum distance at which it is predicted that there may be some disturbance, and hence a reduction in numbers, of large waterbirds) from these rivers. The monitoring should be conducted in pre-construction, construction and operational phases of the concerned development.
- 2.2 A transect survey should be undertaken throughout the sections of the rivers where NDA construction activities are proposed; as the sensitive receivers (large waterbirds) are easily visible, the transect route needs only follow one bank of the rivers. The transect route should remain the same during the different phases in order to ensure that data are comparable.
- 2.3 Monitoring should be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET.
- 2.4 The monitoring requirements in the EM&A Manual is shown in **Table 2.1**.

**Table 2.1 Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sheung Yue and Shek Sheung Rivers during Pre-Construction Phase**

Phase	Methodology
Pre-construction (Baseline)	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels and LVNP for 12 months prior to the commencement of construction.

- 2.5 This monitoring work is specific to SWHSTW Further Expansion Works only. Waterbirds monitoring for other NDAs projects (e.g. Long Valley Nature Park (LVNP) or other parts of the NDAs) will be carried out under other contract(s) as a standalone survey(s).

### 3 ECOLOGICAL MONITORING METHODOLOGY

3.1 China Hong Kong Ecology Consultants Ltd. has prepared a Baseline Ecological Monitoring Plan which proposed the survey methodology for pre-construction phase. The plan was submitted to the Environmental Protection Department on 13 December 2016 and subsequently approved. The approved survey methodology is detailed below.

#### Assessment Area

3.2 Transect and point count surveys were proposed within the 500m boundary of Ng Tung River, Sheung Yue River and Shek Sheung River of the assessment area. Three transects and seven-point count locations during high and low tide were applied. These locations are shown in **Figure 1** and summarized in **Table 3.1**.

**Table 3.1 Monitoring Locations of the Project**

Location nos	Descriptions	Influenced by Tidal Action
Transect T1	Along Ng Tung River	No
Transect T2		
Point Count Location P1		
Point Count Location P2		
Point Count Location P3		
Point Count Location P4		
Point Count Location P5	At Shek Sheung River (Low-flow Channel)	No
Transect T3	Along Shek Sheung River & Sheung Yue River	Yes
Point Count Location P6	At Shek Sheung River	Yes
Point Count Location P7	At Intersection between Sheung Yue River and Shek Sheung River	Yes

#### Monitoring Methodology

3.3 Monitoring surveys were conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m would be subject to tidal conditions of that week as it varies throughout different times of the year. Nonetheless, the high and low tide relative to that week's tidal condition were taken into consideration.

3.4 At point count locations, surveyors identified and recorded bird species which were seen or heard along the river channel. For each point count, surveyors quantitatively recorded all species seen and heard for the duration of five minutes up to the distance where birds were still detectable. All avifauna along the walk transect were recorded. Noticeable behaviours (e.g. breeding behaviours such as nesting and presence of recently fledged juveniles, roosting and feeding activities, etc.) were recorded as well.

3.5 Ornithological nomenclature used in report shall followed *The Avifauna of Hong Kong*

(Carey et al. (2001)), *The Birds of Hong Kong and South China* (Viney et al. (2005)) and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

- 3.6 Weather conditions, tidal information at the time of the survey and other noticeable activities occurring within or in the vicinity of the survey areas (e.g. ongoing routine drainage channel maintenance works and other human activities that could create disturbances to birds) were recorded.

## 4 MONITORING RESULTS

### Introduction

- 4.1 19-month baseline waterbird monitoring was conducted by qualified ecologists from China Hong Kong Ecology Consultants Ltd. as per the approved monitoring plan. The following sections summarize the survey findings over the whole monitoring period. The definitions of terms used is explained in **Table 4.1**:

**Table 4.1 Definition of Terms**

Term	Definition
Abundance	The total number of individuals in a community.
Species Abundance	The number of individuals per species in a community.
Species Richness	The number of species in a community, abundance is taken out of consideration.
Species Diversity	It is a measure with respect to the combination of species richness and species abundance; more individuals and variety of species would indicate higher species diversity.

### Monitoring Date, Time, Frequency and Duration

- 4.2 The ecological monitoring was undertaken in the lowest and highest tide of the survey week from December 2017 to June 2019. Surveys were done along three transects and seven-point count locations, counting bird numbers with duration of 5 minutes in each point count location. Details are summarized in **Table 4.2**.

**Table 4.2 Survey Information**

Survey Month	Survey Date	Time	
		High Tide	Low Tide
Dec 2017	21	13:00	10:00
	29	16:00	13:00
Jan 2018	04	13:00	09:00
	09	15:00	12:00
	19	12:00	10:00
	26	15:00	10:00
Feb 2018	01	11:00	14:00
	09	10:00	13:00
	14	12:00	10:00
	22	13:00	10:00
Mar 2018	02	10:00	14:00
	09	13:00	10:00
	12	09:00	12:00
	22	11:00	09:00
	28	10:00	13:00
Apr 2018	06	13:00	09:00
	13	10:00	13:00
	19	10:00	15:00
	27	10:00	13:00

Survey Month	Survey Date	Time	
		High Tide	Low Tide
<b>May 2018</b>	04	10:00	17:00
	11	10:00	13:00
	17	11:00	16:00
	25	09:00	13:00
<b>Jun 2018</b>	01	14:00	16:00
	04	10:00	08:00
	15	14:00	16:00
	20	13:00	09:00
	26	10:00	13:00
<b>Jul 2018</b>	01	11:00	16:00
	13	09:25	16:00
	16	11:55	N.A.
	18	N.A.	08:00
	26	N.A.	16:00
	27	09:10	N.A.
<b>Aug 2018</b>	10	08:30	17:00
	13	11:00	17:00
	24	08:16	16:55
	27	10:18	17:00
<b>Sep 2018</b>	07	09:00	15:48
	10	10:00	16:00
	21	09:00	15:00
	26	10:47	16:00
<b>Oct 2018</b>	5	09:00	14:16
	8	09:12	16:50
	15	15:44	09:14
	25	10:39	17:00
<b>Nov 2018</b>	5	09:00	14:24
	12	14:25	09:00
	19	N.A.	14:11
	22	10:00	N.A.
	28	N.A.	09:25
	30	17:00	N.A.
<b>Dec 2018</b>	7	11:13	16:21
	10	13:21	N.A.
	12	N.A.	09:00
	17	17:00	12:00
	27	15:00	09:10
<b>Jan 2019</b>	2	17:00	14:00
	9	13:26	08:00
	14	N.A.	10:00
	17	17:00	N.A.
	24	N.A.	08:00
	25	14:00	N.A.
<b>Feb 2019</b>	8	12:56	16:40
	14	16:40	08:46
	22	12:43	08:00
	25	14:00	09:00
<b>Mar 2019</b>	8	11:44	08:00
	11	N.A.	08:00
	15	15:41	N.A.
	22	11:25	08:00
	25	12:47	08:00

Survey Month	Survey Date	Time	
		High Tide	Low Tide
Apr 2019	4	10:24	16:48
	9	N.A.	08:00
	10	12:25	N.A.
	18	10:00	16:31
	22	11:35	17:00
May 2019	3	9:31	16:32
	6	N.A.	17:00
	8	11:28	N.A.
	17	09:00	16:20
	20	10:27	17:00
Jun 2019	31	08:21	15:26
	3	N.A.	17:00
	5	10:35	N.A.
	14	08:00	15:14
	17	N.A.	17:00
	18	09:55	N.A.
24	14:01	N.A.	
28	N.A.	14:00	

## Species Diversity and Abundance

### Overall Survey Results

- 4.3 A total of 59 avifauna species (both waterbirds and terrestrial species) were recorded in three transects and seven-point count locations during the 19-month baseline monitoring period. The total abundance recorded during point count was 18,825 individuals. The recorded species were mostly wetland dependant birds such as Little Egret *Egretta garzetta* and Chinese Pond Heron *Ardeola bacchus*. The rest of the species were common species recorded from the adjacent urban plantation, buildings and concrete embankment of the river channel.
- 4.4 For line transect survey, species observed was reported in terms of relative abundance. More “+” symbols indicate relatively higher presence of individuals of a species. In general, the tendency matches with the findings from point count, that is species frequently recorded in point count has more “+” symbols recorded in transect count. These results also supplement species that were observed outside the 5-minute point count.
- 4.5 Detailed data record extracted from 19 monthly monitoring reports can be found in **Appendix A**, named “Avifauna Recorded from the Survey”. The data are summarized in **Appendix B1 and B2**. A brief overall summary is found in **Table 4.3** below.



**Table 4.3 Overall Summary for Avifauna recorded in the 19-month Baseline Monitoring**

Season	Overall	Winter	Summer
No. of Survey Months	19	10	9
Total Abundance	18,825	8,663	10,162
Species Richness	59	58	50
Most Common Species (Abundance)	Crested Myna <i>Acridotheres cristatellus</i> (3,664)	Crested Bulbul <i>Pycnonotus jocosus</i> (1,482)	Crested Myna <i>Acridotheres cristatellus</i> (2,252)

Note: With reference to the Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2018), “Winter” season covers October to March while “Summer” season covers February to September.

- 4.6 The most abundant bird species were Crested Bulbul (*Pycnonotus jocosus*) and Crested Myna (*Acridotheres cristatellus*). 19 species are species of conservation importance, of which all except Greater Coucal *Centropus sinensis* are waterbirds.

#### Waterbirds

- 4.7 Given that the Action and Limit Levels set in the approved EM&A Manual focus on waterbirds, the following sections will explain the species diversity and abundance of waterbird and wetland dependent species (which are defined in the Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2018)). **Appendix B2** shows the 19-month survey summary for waterbirds. As some of the months were surveyed for two months, the average bird count in each month is calculated and shown in **Appendix B3**.
- 4.8 4,147 individuals of waterbird species were counted and 22 species was observed in the 19-month baseline monitoring. The most abundant waterbird species was Little Egret (*Egretta garzetta*) and frequently recorded species were Eastern Cattle Egret (*Bubulcus coromandus*), Great Egret (*Ardea alba*), Chinese Pond Heron (*Ardeola bacchus*), Grey Heron (*Ardea cinerea*), and Great Cormorant (*Phalacrocorax carbo*). The latter two species are winter visitors and therefore most/all sightings were made in winter season.
- 4.9 A brief summary for waterbirds can be found at **Table 4.4** below:

**Table 4.4 Summary for Waterbirds recorded in the 19-month Baseline Monitoring**

Season	Overall	Winter	Summer
No. of Survey Months	19	10	9
Total Abundance	4147	1,723	2424
Species Richness	22	22	19
Most Common Species (Overall Abundance)	Little Egret <i>Egretta garzetta</i> (1351)	Little Egret <i>Egretta garzetta</i> (571)	Little Egret <i>Egretta garzetta</i> (780)

Note: With reference to the Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2018), “Winter” season covers October to March while “Summer” season covers February to September.

- 4.10 All wild birds are protected under Wild Animals and Plants Ordinance (Cap.170) in Hong Kong, one species (Black Kite, *Milvus mugrants*) is under protection of Endangered Species of Animals and Plants Ordinance (Cap.586).
- 4.11 Eighteen (18) waterbird species of conservation importance were recorded in the baseline monitoring, including near threatened Collared Crow (*Corvus torquatus*) (IUCN, 2019), endangered Black-faced Spoonbill (*Platalea minor*) (IUCN, 2019; China Red Data Book). Moreover, locally/regionally concerned waterbird species found includes Black-winged Stilt (*Himantopus himantopus*), Chinese Pond Heron (*Ardeola bacchus*), Little Egret (*Egretta garzetta*), Pied Kingfisher (*Ceryle rudis*), Eastern Cattle Egret (*Bubulcus coromandus*), etc.

## Influencing Factors of Results and Implications

### Seasonal Distribution of Waterbird Species

- 4.12 As shown in **Appendix B3**, the average waterbird abundance was higher in winter (1,472 nos.) than in summer (1,118 nos.) while the species diversity was similar in both seasons. One of the reasons to explain such phenomenon is many waterbirds recorded are winter visitors, in particular Great Egret (*Ardea alba*), Grey Heron (*Ardea cinerea*) and Great Cormorant (*Phalacrocorax carbo*) that are among the top five counts.
- 4.13 To the north of the rivers is Ho Sheung Heung Egretty, where Little Egret *Egretta garzetta*, Chinese Pond Heron *Ardeola bacchus* and Eastern Cattle Egret *Bubulcus coromandus* nested (Anon, 2018). The flight-line survey of the NENT NDA EIA Study revealed that Sheung Yue River was a major foraging ground for Little Egret *Egretta garzetta* and Chinese Pond Heron *Ardeola bacchus*. This explains higher abundance of these two species in summer.
- 4.14 Due to the seasonal distribution of the waterbirds, determination of indicator species needs to consider the representativeness of different categories of waterbirds.

#### Tidal Influences on Avifauna

- 4.15 Referring to **Appendix B2**, the species abundance was nearly a double in low tide than in high tide. The major contribution was from Point Count locations PC6 and PC7 that covered the tidal section of Sheung Yue River and Shek Sheung River. Low tide level exposes muddy surfaces that submerged in water during high tide, which increases food availability and attracts waterbirds to forage.

#### Behaviours of Communities and Individuals

- 4.16 Sociality influences count numbers of different species. During the surveys, foraging behaviour of waterbirds in the rivers and roosting behaviours of Ardeids and Recurvirostridae were observed. No other remarkable behaviour was noticed.
- 4.17 Observations for important behaviours including breeding, brooding, nesting or presence of recently fledged juveniles will be part of construction phase monitoring.

#### Human Activities

- 4.18 As mentioned in baseline reports, noticeable human activities that could possibly generate disturbance and noise include construction works, fishing, vegetation management and playing remote control boats. They will have certain levels of influence that affect waterbirds' distribution and numbers, especially bird species relying on the river channel such as herons and egrets. Ecological surveyors' observations will thus be crucial to determine whether ecological impacts done to birds are affected by the Project or by other means.

## 5 DETERMINATION OF ACTION AND LIMIT LEVELS

5.1 In the approved EM&A Manual of the NENT NDA EIA Study, the numbers of waterbird species refer to the combined numbers using the channels and Long Valley Nature Park (LVNP). Since there is no programme on the development of LVNP, concurrent construction of the LVNP with the SWHEPP is not anticipated. Therefore, analysis of the variation of waterbird species and abundance will be based on the baseline data collected from Ng Tung, Sheung Yue and Shek Sheung Rivers.

5.2 **Table 5.1** presents the Action and Limit (A/L) Levels and responses to evidence of disturbance to waterbirds using the rivers during construction phase modified from the approved EM&A Manual of the NENT NDAs EIA.

**Table 5.1 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase**

Action Level	Responses	Limit Level	Responses
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce the source of disturbance.	Decline in numbers of all waterbird species relative to numbers during baseline monitoring such that the limit level response is triggered.	Investigate cause and if caused identified related to the Project instigate remedial action.  Review and adjust project's management measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce the source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified related to the Project instigate remedial action.  Review and adjust project's management measures to improve conditions for affected species.

Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline survey data.

5.3 The A/L Levels in **Table 5.1** are set up based on decline in two waterbird groups: (1) all waterbirds and (2) any one waterbird species occurring in significant numbers.

5.4 For the first waterbird group, all waterbird and wetland dependent species defined in the Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society will be considered (Anon, 2018).

5.5 For the second waterbird group, six waterbird species with the highest abundance recorded during the 19-month baseline monitoring are selected as "waterbird species occurring in significant numbers". The numbers of these six indicator species are listed in **Table 5.2** below.

**Table 5.2 Indicator Species**

Ranking among Waterbirds	Species Name	Common Name	Abundance in 19-month Baseline Survey	Average Abundance	
				Winter	Summer
1	<i>Egretta garzetta</i>	Little Egret	1,351	347	507
2	<i>Ardeola bacchus</i>	Chinese Pond Heron	975	226	399
3	<i>Ardea cinerea</i>	Grey Heron	532	313	21
4	<i>Ardea alba</i>	Great Egret	306	131	69
5	<i>Bubulcus coromands</i>	Eastern Cattle Egret	287	81	68
6	<i>Phalacrocorax carbo</i>	Great Cormorant	278	170	0

- 5.6 Grey Heron *Ardea cinerea* and Great Cormorant *Phalacrocorax carbo* can indicate the degree of winter visitor birds' usage of Ng Tung, Sheung Yue and Shek Sheung Rivers to provide the whole picture of any impacts on different categories of bird species using these river channels between pre-construction and construction phases.
- 5.7 No migratory species was found in significant number in the summer season. Although Little Egret *Egretta garzetta* and Chinese Pond Heron *Ardeola bacchus* had higher abundance in summer possibly due to breeding activity (**Section 4.16** refers), the number of nests in Ho Sheung Heung Egretty is not stable over the years (-36.2% in 2018 when compared with 2017). The cause for the abundance fluctuation in the rivers should be reviewed with caution.

### Proposed Analytical Method

- 5.8 The number and species of waterbirds utilizing the rivers fluctuate every day naturally. Therefore, the survey data is proposed to be collectively analysed in a reporting month to increase the sample size and to reduce random error on one survey day. Since occurrence of waterbirds has distinctive seasonal pattern, the construction phase data for the two waterbird groups shall be compared with the baseline data for the respective month and season.
- 5.9 After consideration of the main factors listed in **Section 5**, a one-tailed Student t-test is proposed for statistical analysis by comparing the waterbird-related data collected in baseline and construction phase monitoring. If the collected data for the reporting month fails to show no significant difference from that in the baseline phase at 95% confidence level, the action level will be triggered. Likewise, the limit level is set at 99% confidence

level.

- 5.10 In addition, if important behaviours such as breeding, brooding, nesting and presence of recently fledged juveniles of species of conservation importance are observed, the Resident Engineer, Contractor and IEC should be notified immediately after the survey. The Contractor should review current construction programme and minimize disturbance due to construction activities.
- 5.11 A template of the monthly reporting is attached in **Appendix D** for easy presentation.

## **6 REVISIONS FOR INCLUSION IN THE EM&A MANUAL**

- 6.1 As mentioned in **Section 5.1**, there is no programme on the development of the Long Valley Nature Park at the time of the baseline monitoring. Comparison of the construction and baseline monitoring data shall be on the three rivers only. The revised Event and Action Plan in **Table 5.1** shall be included in the updated EM&A Manual.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

- 7.1 This report is the summary of the baseline waterbird information on Ng Tung River, Shek Sheung River and Sheung Yue River collected from December 2017 to June 2019. Methodology, survey results (species diversity, richness and distribution) and other observations related to the baseline ecological monitoring for all avifauna and waterbird were summarized. Potential influential factors on the river usage were also identified.
- 7.2 Updated Action and Limit Levels are proposed for EM&A process during construction phase. A one-tailed t test method is proposed for statistical analysis to identify whether there is significant decline in all waterbirds and indicator species. Action/Limit level shall be triggered if reduction in bird abundance is found in both the respective month and season.

## **8 REFERENCE**

- Anon. (2018). Monthly Waterbird Monitoring Biannual Report 2 (October 2017 to March 2018), Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2017-18. 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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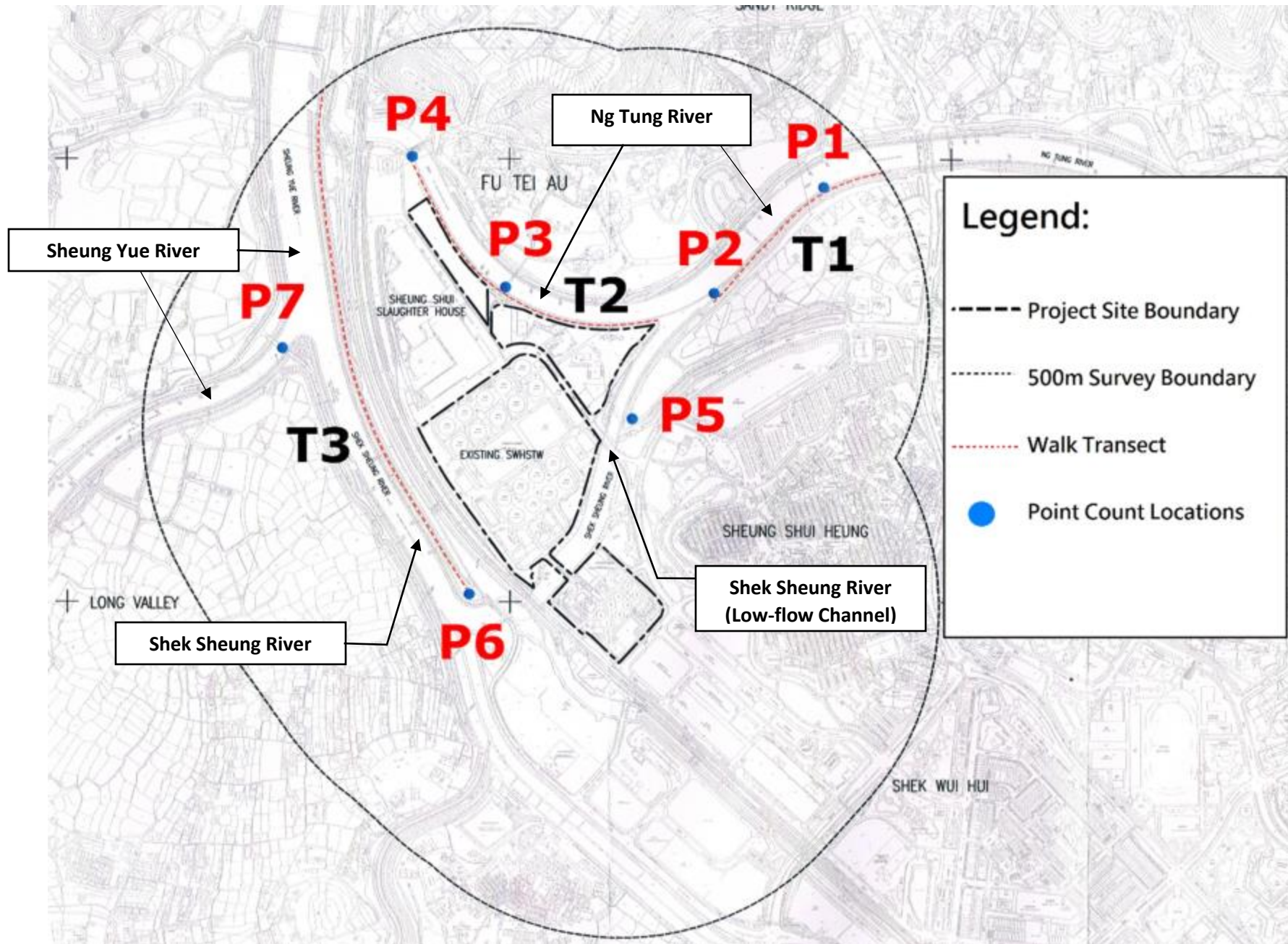
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## FIGURES

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**Figure 1** Survey Locations of Ecological Monitoring

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**APPENDIX A  
BASELINE MONITORING RESULTS  
EXTRACTED FROM BASELINE  
MONTHLY MONITORING REPORTS  
(NO. 1 – NO.19)**

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Note:

R – Resident; WV – Winter visitor; PM – Passage migrant;

SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident

+, occasional; ++, common; +++, abundant/dominant species in the the study area

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)

Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status

Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.

Species in bold represents Species of Conservation Interest.













Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	12/03/2018														22/03/2018													
				High Tide							Low Tide							High Tide							Low Tide						
				Tide Level (m)							Tide Level (m)							Tide Level (m)							Tide Level (m)						
				9:00							12:00							11:00							9:00						
				Abundance							Abundance							Abundance							Abundance						
				Walk	Transect	Point Count Locations					Walk	Transect	Point Count Locations					Walk	Transect	Point Count Locations					Walk	Transect	Point Count Locations				
T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7		
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+	2	3	2											+	+	+	3	6	8						
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586	+																+	+										
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R		+	+			3		+									+	+	+									
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R	+	+	+	1			2	+	+			2					+	+	+				1	2	3			
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶇	R, PRC(RC)		+	+														+	+		1								
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																	+	+										
Common Greenshank	<i>Tringa nebularia</i>	青腳鶇	RC, PM, WV																												
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																												
Common Koel	<i>Eudynamis scolopacea</i>	鳩鵒	R	+	+	+	1	1	2	1	1	1	+	+	+	1	1	1	1												
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV&PM																												
Common Tailorbird	<i>Oriolotus sutorius</i>	長尾縫紉鶇	R		+																										
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		+			2	3			+	+	+	2	2		1	2	3	+	+	+	+	2						
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		+					1		+	+							+	+	+									
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鴉	WV																	+	+										
Domestic Pigeon	<i>Columba livia</i>	原鴿	R																												
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶇	PM,WV																												
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶇	R, PM, (LC)				+			4									7			+									
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R																												
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶇	WV, PRC		+	+																									
Great Egret	<i>Ardea alba</i>	大白鶇	R, WV, PRC(RC)	+	+	+	1			1	1	+	+	+	1					1	+	+		3	1						
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶇	R,VU		+	+																									
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶇	UPM, WV																												
Grey Heron	<i>Ardea cinerea</i>	蒼鶇	WV, PRC																												
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶇鶇	WV																												
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	SWV, LC																												
House Swift	<i>Apus nipalensis</i>	小白腹雨燕	SPM, R																												
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R		+	+			1	2			+	+	+	1															
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																					3							
Large Hawk Cuckoo	<i>Hierococcyx sparveroides</i>	大鷹鴉	PM, Sv																												
Little Egret	<i>Egretta garzetta</i>	小白鶇	R, PRC(RC)	+	+	+	1	2		1	3	1	+	+	+	1	1	1	1	1	2	1	+	+	+	1	6	3			
Magpie	<i>Pica pica</i>	喜鵲	R																												
Magpie Robin	<i>Copsychus saularis</i>	鶇鴉	R		+	+	1																								
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R		+	+				2			+	+																	
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶇	WV								1																				
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶇	WV																												
Pied Kingfisher	<i>Ceryle rudis</i>	藍魚狗	UR, (LC)								1													2							
Red-billed Blue Magpie	<i>Urocyba erythrorhyncha</i>	紅咀藍鶇	R																												
Rufous-backed Shrike	<i>Lanius schach</i>	棕背白鶇	R																												
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鶇	R	+	+	+	2	1	1	1			+	+																	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																												
Stejneger's Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鶇	WV																												
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	WV		+	+																									
White-breasted Waterhen	<i>Amaurornis phoeniceus</i>	白胸苦蕒鳥	R																												
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸鴨	R, (LC)																												
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶇鶇	R		+	+				1																					
Yellow-browed Warbler	<i>Phylloscopus montanus</i>	黃眉柳鶇	WV, SpM	+	+			1	1	1																					
No. of Birds at Each Point							6	8	9	5	8	18	14																		
No. of Birds Recorded from Point Count											68																				
No. of Species Recorded from Point Count																															
Total No. of Species																															
Total No. of Conservation Interest Species																															

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant;  
SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
+, occasional; ++, common; +++, abundant/dominant species in the the study area  
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap 586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellows et al. (2002): RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.  
Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

				28/03/2018																				
Weather Condition				Sunny																				
				High Tide							Low Tide													
Tide Level (m)				1.76							1.27													
Start Time				10:00							13:00													
				Abundance							Abundance													
				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations										
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	++	3	5						+	+	+	1	2	1		2	2	1	
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586																					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+	+	+	4	3			5		3	+	++			5				7	3	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R		+				2					+	+		2						1	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R, PRC(RC)	+	+	+				1	1	3	5	+	+	+	1	1	1			1	2	4
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT	+	+				1															
Common Greenshank	<i>Tringa nebularia</i>	青腳鶯	RC, PM, WV																					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																					
Common Koel	<i>Eudynamis scolopacea</i>	鳩鵲	R	+	+	+	1	1	1	1	1		1	+	+	+	2	1	1	2	1	1	1	
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶯	WV&PM																					
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫紉鶯	R	+										+	+		1	1	1	2				
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鸚	R	++	+				6	5				+	+	+	2	3	3	2			5	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	++	+	++			5	6	3	2	2	+	+	+	2	2	5		2	7	3	
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鴉	WV											+										
Domestic Pigeon	<i>Columba livia</i>	原鴿	R													+								
Dusky Warbler	<i>Phylloscopus fuscescens</i>	褐柳鶯	PM,WV			+								+										
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM, (LC)			++						9	2			++							11	2
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹叢雀	R	++	+				5	4														
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	WV, PRC													+								
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV, PRC(RC)			+								+	+								1	1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶇	R,VU			+			1															
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶯	UPM, WV																					
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV, PRC																					
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶯鶇	WV																					
Grey-headed Lapwing	<i>Vanellus cinerens</i>	灰頭麥雞	SWV, LC			+						1												
House Swift	<i>Apus nipalensis</i>	小白腹燕	SPM, R																					
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R	+	+				6					+	+					3				1
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																					
Large Hawk Cuckoo	<i>Hierococcyx sparveroides</i>	大鷹鴉	PM, Sv																					
Little Egret	<i>Egretta garzetta</i>	小白鶯	R, PRC(RC)	+	+	+	1	2		1	4	6	3	+	+	+	1	2	1	1	2	6	4	
Magpie	<i>Pica pica</i>	喜鵲	R																					
Magpie Robin	<i>Coppychus saularis</i>	鶯鶇	R	+	+		1	2	1	1				+	+			1	1	1	1	2		
Masked Laughing Thrush	<i>Garrulus perspicillatus</i>	黑臉噪鶯	R	++	+	+	7							+	+	+		5					3	
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶯	WV																					1
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV																					
Pied Kingfisher	<i>Ceryle rudis</i>	藍魚狗	UR, (LC)	+			2							+										
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶯	R	+			2																	
Rufous-backed Shrike	<i>Lanius schach</i>	棕背白鶯	R													+								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鶯	R	+	+	+		2	3	2	1			+	+				2	1	1	2	2	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																					
Stejneger's Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鶯	WV																					
White Wagtail	<i>Motacilla alba</i>	白鶯鶇	WV		+				1															
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦蕒鳥	R	+				1																
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸鷓鴣	R, (LC)		+																			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R	+	+	+				1				+	+					2	1			
Yellow-browed Warbler	<i>Phylloscopus mornatus</i>	黃眉柳鶯	WV, SpM	+	+	+	1	2	2	1	1		1	+	+		1						1	
No. of Birds at Each Point							21	17	23	31	21	27	17				8	14	26	15	13	40	35	
No. of Birds Recorded from Point Count							157							151										
No. of Species Recorded from Point Count							23							18										
Total No. of Species				27							25													
Total No. of Conservation Interest Species				9							6													

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant;  
 SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
 +, occasional; ++, common; +++, abundant/dominant species in the study area  
 Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
 All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
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 Followes et al. (2002): RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.  
 Species in bold represents Species of Conservation Interest



Table 1. Avifauna recorded from the survey

Date	19/4/2018														Date	27/4/2018																											
	Sunny															Cloudy																											
Weather Condition	High Tide							Low Tide							High Tide							Low Tide																					
	2.07							1.26							2.00							1.26																					
Tide Level (m)																																											
	10:00							15:00							10:00							13:00																					
Start Time	Abundance														Walk Transect	Abundance																											
	Walk Transect							Point Count Locations								Walk Transect							Point Count Locations																				
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7
				Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv																																				
Black-necked Starling	<i>Sturnus nigricollis</i>	黑頸椋鳥	R																																								
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM, RC																																								
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鸚	R																																								
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R																																								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R, PRC(RC)																																								
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																																								
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	CaM, WV																																								
Common Kocil	<i>Eudynamys scolopacea</i>	綠鴉	R																																								
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鴉	WV&PM																																								
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R																																								
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鸚	R																																								
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R																																								
Dusky Warbler	<i>Phylloscopus fuscatus</i>	樹柳鶯	PM,WV																																								
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM, (LC)																																								
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R																																								
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV, PRC(RC)																																								
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉	R,VU																																								
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鴉	UPM, WV																																								
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶯	WV																																								
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R																																								
Large Hawk Cuckoo	<i>Hierococcyx sparverioides</i>	大鷹鴉	PM, Sv																																								
Little Egret	<i>Egretta garzetta</i>	小白鶯	R, PRC(RC)																																								
Maggie	<i>Pica pica</i>	喜鴉	R																																								
Maggie Robin	<i>Copsychus saularis</i>	鶯鴉	R																																								
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶯	R																																								
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶯	WV																																								
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV																																								
Pied Kingfisher	<i>Ceryle rudis</i>	藍魚狗	UR, (LC)																																								
Red-billed Blue Magpie	<i>Uroessa erythrorhyncha</i>	紅咀藍鶯	R																																								
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞	R																																								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R																																								
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																								
White Wagtail	<i>Motacilla alba</i>	白鶯	WV																																								
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R																																								
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R																																								
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R, (LC)																																								
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶯	R																																								
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM																																								
No. of Birds at Each Point																																											
No. of Birds Recorded from Point Count																																											
No. of Species Recorded from Point Count																																											
Total No. of Species																																											
Total No. of Conservation Interest Species																																											

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrant

SpM – Spring migrant; Sv–Summer Visitor; UR: Uncommon resident

CaM - Common autumn migrant

+, occasional; ++, common; +++, abundant/dominant species in the the study area

Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)

All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)

Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status

Fellows et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional

Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in

breeding and/or roosting sites rather than in general occurrence.

Species in bold represents Species of Conservation Interest

**Table1. Avifauna recorded from the survey**

				4/5/2018														11/5/2018																													
				Cloudy														Sunny periods																													
				High Tide							Low Tide							High Tide							Low Tide																						
				2.01							1.20							1.76							1.15																						
				10:00							17:00							10:00							13:00																						
				Abundance							Abundance							Abundance							Abundance																						
				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations																			
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7				
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+		6		1		5	1	++	+	++	2	4	1		2	5	3	+	+		+		3			1	3			+	+	+	1	4				1	2		
<b>Black Kite</b>	<b><i>Milvus migrans</i></b>	<b>黑鳶</b>	R, WV, (RC), Cap.586			+								+	+	+																															
Black-necked Starling	<i>Sturnus nigricollis</i>	黑頸鵲	R	+	+	+	3	5		2	2	3	1	+	+	++	3	2	2	1		6	7	+	+	+	+	3		2			3	4		+	+	++	2	4	2				4	3	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R		+	+		2						1	+	+	1	2					2																								
<b>Chinese Pond Heron</b>	<b><i>Ardeola bacchus</i></b>	<b>池鶯</b>	R, PRC(RC)	+		+	1	1						1	+	+	2	3	1	2	1	3	2	+	+	+	+	3	1		1	2	2	+	+	+	+	+	1	2			1			3	
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R																																												
<b>Collared Crow</b>	<b><i>Corvus torquatus</i></b>	<b>白頸鴉</b>	UR, LC, NT			+																																									
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																					+																							
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	+		+	1					1	1	+		+	1	1				1	1	1	+		+	1								1	+		+	1						1	1
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶯	WV&PM			+						1				+						1	1																								
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫紉鶯	R	+	+	+	2		2					+	+	+	1	1	1	2			1	+	+	+	+	2	3	2	1		1			+	+	+	1	2	1	2				2	
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鸚	R	+	++	+	4		3	5		4	2	++	++	++	2	4	4	3	2	3	7	+	++	++	++	2	2	6	4	1	3	3	++	++	++	++	4	4	3	2	2	4	3		
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	++	+++	++	3	10	17	4	4	2	4	++	++	++	4	6	15	3	2	6	6	+	+++	++	++	2	2	17	2	2	5	6	++	+++	++	++	4	3	13	2	4	3	10		
<b>Eastern Cattle Egret</b>	<b><i>Bubulcus coromandus</i></b>	<b>牛背鶯</b>	R, PM, (LC)									2				++						9	2																								
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		++				14						+++	+				19			3		++	+			11						+++					15							
<b>Great Egret</b>	<b><i>Ardea alba</i></b>	<b>大白鶯</b>	R, WV, PRC(RC)	+	+		1	1						+	+	+	1	2				1	1		+					1	1					+	+	+	1						1	1	
<b>Greater Coucal</b>	<b><i>Centropus sinensis</i></b>	<b>褐翅鴉</b>	R, VU	+			1							+		+									+					1																	
<b>Grey Heron</b>	<b><i>Ardea cinerea</i></b>	<b>蒼鶯</b>	WV, PRC																					+																							
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R			+			2						+	+				2			3														+										
Large Hawk Cuckoo	<i>Herodias sparverioides</i>	大鷹鴟	PM, Sv			+						1		+	+	+	1	1		1	1	1	1														+										
<b>Little Egret</b>	<b><i>Egretta garzetta</i></b>	<b>小白鶯</b>	R, PRC(RC)	+	+	+	2			3				2	+	+	1	2	1			2	3	2	+		1			3	2		3	2	+	+	+	+	2		1			6	3		
Magpie	<i>Pica pica</i>	喜鵲	R			+					3			2	+	+						1	2		+					3						+	+				2				2		
Magpie Robin	<i>Copsychus saularis</i>	鶇鶇	R			+									+	+				1	1	1	1																								
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+	+	+	4	2	3					3	+	+	2	3		4			4	+	+	+	+	2		3						+	+	+							4		
<b>Pied Kingfisher</b>	<b><i>Ceryle rudis</i></b>	<b>斑魚狗</b>	UR, (LC)	+			2																																								
Plain Prinia	<i>Prinia inornata</i>	純色鶇鶇	R																																												
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞	R			+		1																						1		1	2		2	1	+	+	+	4	2	3	1			2	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	2	3	6	1	1			+	+	+	2	2	3	2	2	3	4																								
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																					+						2																	
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	WV	+			1							+		+						1																									
White-breasted Waterhen	<i>Amurornis phoeniceus</i>	白胸苦蕒鳥	R																																												
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R													+																															
<b>White-throated Kingfisher</b>	<b><i>Halcyon smyrnensis</i></b>	<b>白胸翡翠</b>	R, (LC)													+								+	+	+	+	2	1			1	1	+	+	+	+	+	1						1	1	
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶇鶇	R	+			1	1						+	+	+	1	1	1			1	1																								
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM																																												
No. of Birds at Each Point							10	36	48	23	10	18	21				24	33	51	22	15	43	51	+						16	16	41	18	5	23	23				14	27	36	15	8	22	35	
No. of Birds Recorded from Point Count								166								239								142								157															
No. of Species Recorded from Point Count								20								21								17								15															
Total No. of Species								26								25								20								17															
Total No. of Conservation Interest Species								8								7								5								4															

Note:  
 R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrant  
 SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
 CaM – Common autumn migrant  
 +, occasional; ++, common; +++, abundant/dominant species in the the study area  
 Status was decided according to AFD biodiversity website (www.hkbiodiversity.net)  
 All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
 Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
 CR: Rare in China Red Data Book Status  
 VU: Vulnerable in China Red Data Book Status  
 NT: Near Threatened in IUCN Red List Status  
 Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.  
 Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	17/5/2018														25/5/2018																											
				Sunny periods														Sunny																											
				High Tide							Low Tide							High Tide							Low Tide																				
				2.77							1.12							1.96							1.03																				
Start Time				11:00				Start Time				16:00				Start Time				9:00				Start Time				13:00																	
Abundance				Abundance														Abundance																											
Walk Transect				Point Count Locations							Walk Transect							Point Count Locations							Walk Transect							Point Count Locations													
T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7						
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	++	2	4	4	1	8	2	++	+	++	4	7	2	3	9	4	+++	+	++	21	8	2	2	5	3	+	+	++	5	7	1	1	6	2						
Black Kite	<i>Milvus migrans</i>	黑鸢	R, WV, (RC), Cap.586			+				1																																			
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R			+			2			5	4	+	+	+++	2	3	5	2		6	2	+	+	+	1	2	1	2	3	+	+	+	2	3	2		4	1					
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸛	R																																										
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R, PRC(RC)			+			1	1				+	+	+	1	2	1	2	1	5	+	+	+	2	1	1	1	1	1	+	+	++	1	1	1	1	8						
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R																																				1						
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																																										
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																																										
Common Koel	<i>Eudynamis scolopacea</i>	噪鵲	R	+	+	+	1			1	1	+	+	+	1	1	1					1		+	+		1	1										1							
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶯	WV&PM																																										
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫紉鶯	R			+	+		1	1	2		+	+	+						1	2	+	+	+				1									1							
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鸛	R	++	++	+	3	5	2	5	1	7	3	++	++	+++	7	4	5	6	2	5	6	++	+	++	7	3	6	3	2	4	4	+	+	++	3	5	2	2	3	4	2		
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	++	++		5	3	4	2	4	2	+	+++	+++	2	4	14	5	1	7	3	+	+++	++	2	3	12	7	1	6	3	+	+++	+++	1	4	11	5	2	9	4		
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM, (LC)																																						1				
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			+++			7	12				+++	+			15	6					++	+			10	4											7					
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV, PRC(RC)									+				1							+				1																		
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R, VU	+			1						+			1		1					+			1																			
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV, PRC																																										
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R														2							+																					
Large Hawk Cuckoo	<i>Herodiaspiza sparrowoides</i>	大鷹鴉	PM, Sv			+	+						+	+								1		+																					
Little Egret	<i>Egretta garzetta</i>	小白鷺	R, PRC(RC)	+		+	1	3			6		+	+	++	1	2			1	2	6	7	+	+	1	1			1	1	2	+	+	++	2	2	1	1	2	9	5			
Magpie	<i>Pica pica</i>	喜鵲	R	+		+	1										2																												
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R			+			1								1						1	+	+		1	1												1					
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R			+	+		2	4		4	3	+	+	+	3	4	4	5			2	+	+														5	3	3				
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)																																										
Plain Prinia	<i>Prinia inornata</i>	純色鶇雀	R			+	+		1			1	+	+										+				2																	
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞	R																																										
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R			+			3			+	+	+	1	4	3	2	1	5	2		+	+	+	2	3	2	1	2	1	+	+	+	2	3	1	1	2	2	2				
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																					+			6																		
White Wagtail	<i>Motacilla alba</i>	白鶇鶯	WV																																										
White-breasted Waterhen	<i>Amurornis phoeniceus</i>	白胸苦蕒鳥	R			+				1			+																																
White-rumped Munia	<i>Lonchura striata</i>	白胸文鳥	R																																										
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R, (LC)																																										
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶇雀	R	+		+	1				1	1	+	+	+	1	1	1				1	1	+	+		1												1						
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM																																										
No. of Birds at Each Point							9	18	22	29	5	42	18				24	33	53	35	11	43	37				35	26	40	21	8	21	24				15	27	35	15	11	39	38		
No. of Birds Recorded from Point Count																																													
No. of Species Recorded from Point Count																																													
Total No. of Species									19																				19															19	
Total No. of Conservation Interest Species									4																				4															5	

Note:  
 R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrator  
 SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
 CaM - Common autumn migrant  
 +, occasional; ++, common; +++, abundant/dominant species in the the study area  
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 Species in bold represents Species of Conservation Interest





Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	15/6/2018														20/6/2018																										
				Mainly cloudy														Sunny period																										
				High Tide							Low Tide							High Tide							Low Tide																			
				2.00							1.07							1.91							1.23																			
				14:00							16:00							13:00							9:00																			
				Abundance							Abundance							Abundance							Abundance																			
				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations																
				T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+			2	3			1	1	+	+	+	4	5	2		1	4	1	+			1	3																	
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv										+	+	+								+																					
<b>Black Kite</b>	<b><i>Milvus migrans</i></b>	<b>黑鷹</b>	R, WV, (RC), Cap.586										+																															
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領掠鳥	R	+	+	+	2	4	1		3	2	+	+	+	1	3	3	2		3	4	+	+	+	2		3	1		3	2	+	+	+	1	3	6	3		3	1		
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頸鶇	R										+	+	+					2																			2					
<b>Chinese Pond Heron</b>	<b><i>Ardeola bacchus</i></b>	<b>池鶯</b>	R, PRC(RC)	+	+	+	1	1		1	2	1	3	+	+	+	2	1		1	1	4	5	+	+	+	1	1		1	1		2	+	+	+	2	3		1	1	2	3	
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R										+										+																					
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT										+	+									+																					
Common Koel	<i>Eudynamys scolopacea</i>	噪鵲	R	+			1						+	+									+																					
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R	+	+		1	1	1				+	+					1				+						1	1														
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	++	++	++	2	4	3	3		2	3	++	++	++	3	5	3	4	2	5	3	+	++	++	2	4	2	5	2	7	3	++	++	++	3	5	5	6	3	6	4	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	++	++	1	3	9	5	3	3	7	+	+++	+++	2	5	18	7	3	6	6	+	++	++	2	5	16	5	2	8	5	+	+++	+++	3	5	13	7		4	7	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛脊鶯	R, PM, (LC)									1										4																			3			
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	+	++	+			11	5			2	+	++	+			2	12	6		+	+	+			3	9	5			3	+	+	+			4	15	5			3
<b>Great Egret</b>	<b><i>Ardea alba</i></b>	<b>大白鶯</b>	R, WV, PRC(RC)	+			1						+					1					+					1	1														1	1
<b>Greater Coucal</b>	<b><i>Centropus sinensis</i></b>	<b>褐翅鴉</b>	R, VU										+																															
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R				+						3		+					4																								
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																																									
Little Egret	<i>Egretta garzetta</i>	小白鶯	R, PRC(RC)	+	+	+	1	1			1	2	2	+	+	+	1	2			1	3	6	5	+	+	+	1	1			1	2	1	+	+	+	2	3	1	1	2	3	5
Magpie	<i>Pica pica</i>	喜鵲	R				+																																					
Magpie Robin	<i>Copsychus saularis</i>	鶉鴉	R															1										1																
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+	+	+	3	5	5	3		4		+	+	+	4	3	5	4			2	+	+	+	2	5	3	3			4	+	+	+	4	3	4				5	
<b>Pied Kingfisher</b>	<b><i>Ceryle rudis</i></b>	<b>斑魚狗</b>	UR, (LC)																																									
Plain Prinia	<i>Prinia inornata</i>	純色鶉鶯	R				+			1																																		1
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	4	2	2	1	2	2	+	+	+	1	3			2	1	4	2	+	+	+	2	2		1		3	+	+	+	2	4	2	1	1	3	4		
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																									
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R																		8																							
<b>White-throated Kingfisher</b>	<b><i>Halcyon smyrnensis</i></b>	<b>白胸翡翠</b>	R, (LC)																																									
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶉鶯	R	+					1				+				1	1					+																					
No. of Birds at Each Point							11	25	36	22	8	19	24				19	31	47	34	19	36	30				16	25	34	25	6	23	24				21	37	48	26	8	30	33	
No. of Birds Recorded from Point Count							145								216								153								203													
No. of Species Recorded from Point Count							15								21								15								17													
Total No. of Species							17								24								18								22													
Total No. of Conservation Interest Species							4								6								5								5													

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrator  
SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
CaM - Common autumn migrant  
+, occasional; ++, common; +++, abundant/dominant species in the study area  
Status was decided according to AFCOD biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.  
Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

		Date	26/6/2018																					
		Weather Condition	Sunny																					
			High Tide							Low Tide														
		Tide Level (m)	2.30							Tide Level (m) 1.37														
		Start Time	10:00							Start Time 13:00														
			Abundance							Abundance														
			Walk Transect			Point Count Locations				Walk Transect			Point Count Locations											
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			+						1												
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv											+										
<b>Black Kite</b>	<b><i>Milvus migrans</i></b>	<b>黑鷹</b>	R, WV, (RC), Cap.586		+			1								+							1	
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+	+	+	1	4	3	3		4	2	+	+	+	2	3	3	1		2	4	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頸鶉	R		+																			
<b>Chinese Pond Heron</b>	<b><i>Ardeola bacchus</i></b>	<b>池鷺</b>	R, PRC(RC)	+		+	1	2				1	2	2	+	+	+	2	2	1		2	2	3
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R			+																		
<b>Collared Crow</b>	<b><i>Corvus torquatus</i></b>	<b>白頸鴉</b>	UR, LC, NT																					
Common Koel	<i>Eudynamys scolopacea</i>	噪鵲	R		+																			
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R	+		+		2					1	+	+	+	1	1		1			1	
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶉	R	++	++	++	3	5	3	4		6	6	++	++	++	2	3	5	4		3	2	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	+++	++	2	5	14	5		6	5	+	+++	+++	3	3	15	3	2	3	5	
<b>Eastern Cattle Egret</b>	<b><i>Bubulcus coromandus</i></b>	<b>牛脊鷺</b>	R, PM, (LC)													+							3	
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	+	+++	+	2	9	3		4			++	+					13	5			
<b>Great Egret</b>	<b><i>Ardea alba</i></b>	<b>大白鷺</b>	R, WV, PRC(RC)	+	+		1	1						+	+		1						1	
<b>Greater Coucal</b>	<b><i>Centropus sinensis</i></b>	<b>褐翅鴉鵂</b>	R, VU																					
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R		+		4									+								
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R			+																		
<b>Little Egret</b>	<b><i>Egretta garzetta</i></b>	<b>小白鷺</b>	R, PRC(RC)	+	+	+	4			1	1	1	2	+	+	+	2	1	1	1	2	3	2	
Magpie	<i>Pica pica</i>	喜鵲	R			+										+								
Magpie Robin	<i>Copsychus saularis</i>	鶉鴉	R		+	+			1														1	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+		+	5							+	+	+	3		5	4		2		
<b>Pied Kingfisher</b>	<b><i>Ceryle rudis</i></b>	<b>斑魚狗</b>	UR, (LC)																					
Plain Prinia	<i>Prinia inornata</i>	純色鶉鶯	R		+	+			2				1	+	+		1	1						
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	1	1	2		2	2	2	+	+	+	2	3	1	2	1	2	1	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																					
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R																					
<b>White-throated Kingfisher</b>	<b><i>Halcyon smyrnensis</i></b>	<b>白胸翡翠</b>	R, (LC)	+																				
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶉鶯	R	+										+	+								1	
No. of Birds at Each Point							17	26	31	21	2	27	20				17	18	45	21	7	22	20	
No. of Birds Recorded from Point Count							144							150										
No. of Species Recorded from Point Count							15							15										
Total No. of Species							22							18										
Total No. of Conservation Interest Species							5							5										

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrator  
SpM – Spring migrant; Sv – Summer Visitor; UR: Uncommon resident  
CaM - Common autumn migrant  
+, occasional; ++, common; +++, abundant/dominant species in the study area  
Status was decided according to AFCDB biodiversity website (www.hkbbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.  
Species in bold represents sites of Conservation Interest











Table1. Avifauna recorded from the survey

Date	21/9/2018														21/9/2018														26/9/2018														26/9/2018																
	Sunny														Sunny														Mainly cloudy														Cloudy with a few showers																
Tide Level (m)	High Tide														Low Tide														High Tide														Low Tide																
	2.10														0.59														2.58														1.09																
Start Time	9:00														15:00														10:47														16:00																
	Abundance														Abundance														Abundance														Abundance																
Walk Transect	Point Count Locations														Walk Transect	Point Count Locations														Walk Transect	Point Count Locations														Walk Transect	Point Count Locations													
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7																
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv																																																								
Black Kite	<i>Milvus migrans</i>	黑鸢	R, WV, (RC), Cap.586																																																								
Black-necked Starling	<i>Sturnus nigricollis</i>	黑颈椋鸟	R	+	+		1	2				1	1	+	+		1	1				2		2	1		+	+	+	1	2		1		1	3	+	+	++	2	1		2		4	6													
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅长脚鹬	PM, RC									4																																															
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R																																																								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鹭	R, PRC(RC)	+	+		1				1	1	1	+	+		1	1			1		2	4		+	+	+	1	2	1	1	1	1	2	+	+	+	2	2		1		2	3														
Cinereous Tit	<i>Parus cinereus</i>	喜鹊山雀	R																																																								
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鸟	R																																																								
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鹬	WV, PM																																																								
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾鹪鹩	R									1																																															
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鸚	R	+	++	+	2	2	4	5	2	2	3	+	++	++	4	3	7	4		5	2	+	++	++	3	4	3	5		3	4	+	++	+++	2	4	4	3		4	6																
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	++	++	1	3	9	5		3	3	+	+++	+++	2	3	8	5	2	2	5	+	+++	+++	2	5	12	3	2	5	4	++	+++	+++	3	5	9	6	1	3	7																
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鸚	WV																																																								
Dusky Warbler	<i>Phylloscopus fuscatus</i>	樹柳鶯	PM,WV																																																								
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鹭	R, PM, (LC)										1																																														
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R																																																								
Great Egret	<i>Ardea alba</i>	大白鹭	R,WV, PRC(RC)	+	+		1	6	3					+	+							9																																					
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鹬	UPM, WV																																																								
Grey Heron	<i>Ardea cinerea</i>	苍鹭	WV, PRC	+	+		1	1				1	2																																														
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶺鴒	WV																																																								
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R																																																								
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																																																								
Little Egret	<i>Egretta garzetta</i>	小白鹭	R, PRC(RC)	+	+	+	1	1	1				4	+	+	+	1	2				1		7	+	+	+	1	1	1	1	1	+	+	+	1	2						1	2		4													
Maggie	<i>Pica pica</i>	喜鵲	R																																																								
Maggie Robin	<i>Copsychus saularis</i>	鶺鴒	R	+	+	+	1							+	+																																												
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R						1	7												4		3																																			
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶇	WV																																																								
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腹柳鶯	WV																																																								
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)	+			1																																																				
Plain Prinia	<i>Prinia inornata</i>	纯色鹟鶯	R							1																																																	
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞	R																																																								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	1			2			1	+	+	+	1	2	1			1	1	2	+	+	+	1	2	1	1	1	2	+	+	+	2	3	1	1	1	2	3																
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																																								
Stejneger's Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鶇	WV																																																								
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	WV																																																								
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R, (LC)																																																								
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶯	R																																																								
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM																																																								
No. of Birds at Each Point							9	11	21	24	3	12	16				10	12	26	16	5	16	40				10	16	29	15	4	11	20				12	21	14	23	3	24	44																
No. of Birds Recorded from Point Count										96													125																																				
No. of Species Recorded from Point Count										16													17																																				
Total No. of Species										19													20																																				
Total No. of Conservation Interest Species										7													6																																				

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant ;UPM – Uncommon passage migrant  
SpM – Spring migrant; Sv–Summer Visitor; UR: Uncommon resident  
CaM - Common autumn migrant  
+, occasional; ++, common; +++, abundant/dominant species in the study area  
Status was decided according to AFCD biodiversity website (www.hk biodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
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Species in bold represents Species of Conservation Interest

































Table1. Avifauna recorded from the survey

Date	3/5/2019													3/5/2019													8/5/2019													6/5/2019															
	Cloudy with few rains													Cloudy with few rains													Rainy													Cloudy with few rains															
Weather Condition	High Tide													Low Tide													High Tide													Low Tide															
	2.16													0.54													2.70													0.60															
Tide Level (m)	9:31													16:32													11:28													17:00															
	Abundance													Abundance													Abundance													Abundance															
Common Name	Species Name	Chinese Name	Status	Walk Transect													Walk Transect													Walk Transect													Walk Transect												
				Point Count Locations													Point Count Locations													Point Count Locations													Point Count Locations												
				T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7												
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+	3	2	1	1	1	1	1	+	+	+	4	2	1	2	3	1	1	+	+	+	1	1	1	1	1	1	1	+	+	+	4	2	1	1	1	1	1												
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586											+																																									
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV, LC																																																				
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+	+	+	1	1			2			+	+	+	1			1		1	1	+	+	+	1					1		+	+	+	1	1					2	1											
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R			+																																																	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		+				2														3																					2											
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R, PRC(RC)	+	+	1	1			1	2	1		+	+	+	1	2			1	3	3	+			1					1		+	+	1	1						2	1	3										
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R			+						3																																	2										
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																																										1										
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																																																				
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	+	+	+	1			1		1	1	+	+	+	1	1		1		1	1	+	+		1					1	1	+	+	+	1	1		1			2	1											
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM																																																				
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R		+	+			1						+	+			1		1				+	+									+	+		1	1	1															
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	+	++	++	2		3	2		2	3	++	++	++	4	3	5	2	3	4		+	+	+	1	2		3		3	2	+	++	+++	4	5		2	2	3	3												
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	+++	++	2	3	9	4		3	3	++	+++	+++	3	5	11	2		2	2	+	++	++	2		5	1		2	4	+	+++	+++	2	5	12	3			4	3											
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM, (LC)																				3																																
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		+	+			6						+	+							2		+										+	+							5	3											
Great Egret	<i>Ardea alba</i>	大白鷺	R,WV, PRC(RC)																						+										+																				
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶇	R,VU		+				1						+								1												+									1											
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R		+	+					3				+										+										+										3										
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																																																				
Large Hawk Cuckoo	<i>Hierococcyx sparveriioides</i>	大嘴烏鴉	PM, Sv	+	+	+	1			1	1				+	+							1	+	+		1								+									1	1										
Little Egret	<i>Egretta garzetta</i>	小白鷺	R, PRC(RC)	+	+	+	1			1		1		+	+	+	1	1				2	4	3	+	+	1			2	1	1	+	+	+	+	1	2		1	2	1	2	2	3										
Magpie	<i>Pica pica</i>	喜鵲	R			+																																							1										
Magpie Robin	<i>Copsychus saularis</i>	鶇鴉	R		+				1						+	+						1		+	+		1								+	+																			
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	藍臉噪鶇	R	+	+						4				+	+						4			+	+				4					+	+							3												
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)																																																				
Plain Prinia	<i>Prinia inornata</i>	褐色鶇鶇	R		+			1							+	+						1	1		+	+						1	+	+	+	+							1												
Red-billed Blue Magpie	<i>Urocissa erythrorhynchos</i>	紅咀藍鶇	R																																																				
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	1		1	2		1		+	+	+	2		1			2	1	+	+	+	1	2		1		1	+	+	+	+					1	1	1	2	1										
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																																				
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	WV												+							1																																	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R																																																				
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R, (LC)																																																				
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶇鶇	R	+	+			1	1					+	+	+		1	1	1				+	+		1	1				1	+	+	+	+					1	1			1										
No. of Birds at Each Point							11	10	22	14	2	20	13				13	18	28	19	5	29	26				6	16	7	6	11	9	13				14	24	20	14	7	26	20												
No. of Birds Recorded from Point Count																																																							
No. of Species Recorded from Point Count																																																							
Total No. of Species							21										27											20										24																	
Total No. of Conservation Interest Species							3										6											4										6																	

Note:  
R – Resident, WV – Winter visitor, PM – Passage migrant, UPM – Uncommon passage migrant, CaM - Common autumn migrant,  
SpM – Spring migrant, Sv – Summer Visitor, UR – Uncommon resident, SWV – Scarce winter visitor  
+, occasional; ++, common; +++, abundant/dominant species in the study area  
Status was decided according to AFCDB biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellowes et al. (2002); RC=Regional Concern, LC=Local Concern, PRC=Potential Regional  
Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	17/5/2019							17/5/2019							20/5/2019							20/5/2019																					
				T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7			
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+	3	3	1				2	1	+	+	+	2	4	1	1	2	+	+	+	1	3				1			+	+	+	2	3	1	1		3	2			
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586			+																1																								
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV, LC																																											
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+	+	+	1	2					1	2	+	+	+	1	1				2	2	+	+	+	1	1						1	1	2	+	+	+	2	1	1	1	1	
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R			+																																								
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R																				3																				2			
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R, PRC(RC)	+			1	1					2		+	+	+																										3	2	5	
Cinereus Tit	<i>Parus cinereus</i>	蒼背山雀	R																																											
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																																											
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																																											
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	+	+	+	1	1	1				1	1	+	+																														
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM																																											
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R			+			1	1					+	+	+	1	1																											
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	+	++	++	4	2		4			3	4	+	++	++	5	2			2	3			+	++	++	2	3			2		4	3	+	++	++	4	3	3		5	2	
Crested Myna	<i>Acriderotheres cristatellus</i>	八哥	R	+	++	++	2	3	9	4		2	3	5	+	++	++	3	2	13	4	2	5	3	+	++	++	5	8	3	2	4	2	+	++	++	2	4	12	3		6	5			
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM, (LC)																																											
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			+	+			4																																				
Great Egret	<i>Ardea alba</i>	大白鷺	R,WV, PRC(RC)																																											
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉	R,VU	+			1																																							
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R																																											
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																																											
Large Hawk Cuckoo	<i>Hierococcyx sparverioides</i>	大嘴烏鴉	PM, Sv			+	+			1				1	+	+																														
Little Egret	<i>Egretta garzetta</i>	小白鷺	R, PRC(RC)	+	+	+	1	1				1	1	+	+	+	1	2		1	3	2	5	+	+	+	1		1		1	3	1	+	+	+	2	1			2	3	5			
Magpie	<i>Pica pica</i>	喜鵲	R																																											
Magpie Robin	<i>Copsychus saularis</i>	鶉鴉	R	+		+	1								+	+			1		1																									
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+	+			4						3	+	+	+					5																								
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)																																											
Plain Prinia	<i>Prinia inornata</i>	褐色鶉鶇	R			+			1						+	+																														
Red-billed Blue Magpie	<i>Urocissa erythrorhynchos</i>	紅咀藍鶇	R																																											
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	1			2	1		1	+	+	+	1	1			2		1			+	+	+	1	1																
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																											
White Wagtail	<i>Motacilla alba</i>	白鶉鶇	WV																																											
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R																																											
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸鷺	R, (LC)																																											
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶉鶇	R			+									+	+	+	1		1																										
No. of Birds at Each Point							14	14	20	14	6	10	19					9	21	19	13	7	19	21				8	22	12	8	5	27	14					9	20	24	23	5	37	26	
No. of Birds Recorded from Point Count																																														
No. of Species Recorded from Point Count																																														
Total No. of Species																																														
Total No. of Conservation Interest Species																																														

Note:  
R – Resident, WV – Winter visitor, PM – Passage migrant, UPM – Uncommon passage migrant  
SpM – Spring migrant, Sv – Summer Visitor, UR – Uncommon resident, SWV – Scarce winter  
+, occasional; ++, common; +++, abundant/dominant species in the the study area  
Status was decided according to AFCED biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional  
Species in bold represents Species of Conservation Interest



Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	31/5/2019							31/5/2019													
				Cloudy							Cloudy with few rains													
				High Tide							Low Tide													
				2.12							0.66													
8:21							15:26																	
				Abundance							Abundance													
				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations										
				T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+	2	3		1		1		+	+	+	1	4				2	1	
<b>Black Kite</b>	<b><i>Milvus migrans</i></b>	<b>黑鷹</b>	R, WV, (RC), Cap.586		+			1																
<b>Black-crowned Night Heron</b>	<b><i>Nycticorax nycticorax</i></b>	<b>夜鷺</b>	R, WV, LC																					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+		+	1	1					1	2	+	+	+	1			1		1	
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R		+																			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		+					3						+							2	
<b>Chinese Pond Heron</b>	<b><i>Ardeola bacchus</i></b>	<b>池鷺</b>	R, PRC(RC)	+		+		1				2	2	+		+	1	2			3	4	1	
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R			+								3	+	+				4				
<b>Collared Crow</b>	<b><i>Corvus torquatus</i></b>	<b>白頸鴉</b>	UR, LC, NT																					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R	+			1																	
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	+	+	+		1		1			1	1	+	+	+	1	2	1	1		1	2
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM																					
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R		+	+			1	1					+	+	+	1	2	1			1	
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	++	++	++	2	5		5	2	3	4	+	++	++		3	2	4			5	4
Crested Myna	<i>Acrideros cristatellus</i>	八哥	R	+	+++	+++	3	3	10	2			4	2	+	+++	+++	2	5	13	3	2	5	6
<b>Eastern Cattle Egret</b>	<b><i>Bubulcus coromandus</i></b>	<b>牛背鷺</b>	R, PM, (LC)													+								
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		+					3					+	+			4				4	
<b>Great Egret</b>	<b><i>Ardea alba</i></b>	<b>大白鷺</b>	R,WV, PRC(RC)			+										+								
<b>Greater Coucal</b>	<b><i>Centropus sinensis</i></b>	<b>褐翅鵲鴉</b>	R,VU	+	+		1										+							
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R												+	+			4				3	
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R																					
Large Hawk Cuckoo	<i>Hierococcyx sparveriioides</i>	大嘴烏鴉	PM, Sv	+		+		1					1	1		+	+						1	
<b>Little Egret</b>	<b><i>Egretta garzetta</i></b>	<b>小白鷺</b>	R, PRC(RC)	+	+	+	1	3		1	1	1	3	+	+	+	1	1				4	3	1
Magpie	<i>Pica pica</i>	喜鵲	R			+										+								
Magpie Robin	<i>Copsychus saularis</i>	鶇鴉	R												+	+				1				
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R		+	+				4					+									
<b>Pied Kingfisher</b>	<b><i>Ceryle rudis</i></b>	<b>藍魚狗</b>	UR, (LC)	+				1																
Plain Prinia	<i>Prinia inornata</i>	褐色鶇鶇	R			+									+	+		1	1					
Red-billed Blue Magpie	<i>Urocissa erythrorhynchos</i>	紅咀藍鶇	R														+							
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+		+	1	2					1		+	+				1				
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																					
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	WV																					
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			+																		
<b>White-throated Kingfisher</b>	<b><i>Halcyon smyrnensis</i></b>	<b>白胸翡翠</b>	R, (LC)																					
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶇鶇	R	+	+			1	1						+	+			1					
No. of Birds at Each Point							11	23	12	22	5	14	17				7	19	28	16	9	24	23	
No. of Birds Recorded from Point Count																								126
No. of Species Recorded from Point Count																								18
Total No. of Species										25										22				
Total No. of Conservation Interest Species										6											5			

Note:

R – Resident, WV – Winter visitor, PM – Passage migrant, UPM – Uncommon passage migrant  
 SpM – Spring migrant, Sv – Summer Visitor, UR – Uncommon resident, SWV – Scarce winter  
 +, occasional; ++, common; +++, abundant/dominant species in the the study area  
 Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
 All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
 Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
 CR: Rare in China Red Data Book Status  
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 NT: Near Threatened in IUCN Red List Status  
 Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional  
 Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

Common Name	Species Name	Chinese Name	Status	5/6/2019							3/6/2019							14/6/2019							14/6/2019																		
				Sunny							Rainy							Weather Condition							Cloudy																		
				High Tide							Low Tide							High Tide							Low Tide																		
				Tide Level (m) 2.84							Tide Level (m) 0.32							Tide Level (m) 2.27							Tide Level (m) 0.53																		
Start Time 10:35							Start Time 17:00							Start Time 8:00							Start Time 15:14																						
Abundance							Abundance							Abundance							Abundance																						
Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations				Walk Transect			Point Count Locations																			
T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7				
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	+	3	4	2	3	2	+	+	+	3	5	4	1	1	+	+	+	4	5	2	3	3	+	+	+	3	2	1	1	4	3							
Black Drongo	<i>Dicrurus macrocerus</i>	黑卷尾	Sv																																								
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586																																								
Black-necked Starling	<i>Sturnus nigricollis</i>	黑頸椋鳥	R		+	+		1			1	+	+		1			1	1	+	+	+	1	1	1		1		+	+			2	1	2								
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R															3																	3								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R, PRC(RC)	+		+	1	2			2	1	1	+	+	+	1	1				2	1	3	+		+	1	1		1	2	2	+	+	1	2	1	2	2	3		
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		+				2																													3					
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT																																								
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																																								
Common Koel	<i>Eudynamis scolopacea</i>	噪鵲	R	+	+	+		1	1			1	1	+	+		1		1	+	+	+	1	1													2	1					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶺	WV, PM																								1		1	1	+	+											
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R	+	+		1	1							1	1																						1					
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鸚	R	+	++	+		3	3	5		3	2	+	+	+	2		3	2		4			+	++	++	3	5	2	4		3	4	+	++	++	2	3	3	5	4	3
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	++	++	2	4	7	2	2	3	5	+	++	++	3	5	11	3		5	5	+	+++	++	4	9	3	4	2	5	+	+++	++	3	2	11	5	6	5		
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM, (LC)																																								
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	+	++				5					+	+		4																						4	2			
Great Egret	<i>Ardea alba</i>	大白鷺	R,WV, PRC(RC)		+	+					1									1	+	+		1																1			
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉	R,VU																																								
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R																																								
Little Egret	<i>Egretta garzetta</i>	小白鷺	R, PRC(RC)	+		+	1				1	3	+	+	+	1	2			2	2	4	+	+	+	1	1	2		2	+	+	+	1	2		1	1	3	3			
Maggie	<i>Pica pica</i>	喜鵲	R																																				1				
Maggie Robin	<i>Copsychus saularis</i>	鶺鴒	R		+	+		1																															1				
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+		+	5						+	+	+	3						4																	5				
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)																																				1				
Plain Prinia	<i>Prinia inornata</i>	純色鶯鶯	R	+												1																											
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶯	R																																								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	1	1	2		2	+	+		1	1			1	1	2	+	+	+	1	2		1	1	+	+	+	1	2		1	2	2					
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																								
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	WV																																								
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R																																								
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶯鶯	R	+	+			1																																			
No. of Birds at Each Point						9	20	14	19	5	13	16																															
No. of Birds Recorded from Point Count																																											
No. of Species Recorded from Point Count																																											
Total No. of Species																																											
Total No. of Conservation Interest Species																																											

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant;  
SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor  
+, occasional; ++, common; +++, abundant/dominant species in the the study area  
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional  
Species in bold represents Species of Conservation Interest

Table1. Avifauna recorded from the survey

Date			18/6/2019							17/6/2019							Date			24/6/2019							28/6/2019																				
Weather Condition			Sunny intervals and a few showers							Sunny intervals and a few showers							Weather Condition			Cloudy periods with showers							Sunny intervals with few showers																				
Tide			High Tide							Low Tide							Tide			High Tide							Low Tide																				
Tide Level (m)			2.73							Tide Level (m) 0.34							Tide Level (m)			2.09							Tide Level (m) 0.86																				
Start Time			9:55							Start Time 17:00							Start Time			14:01							Start Time 14:00																				
Abundance			Abundance							Abundance							Abundance			Abundance																											
Walk Transect			Point Count Locations							Walk Transect			Point Count Locations							Walk Transect			Point Count Locations							Walk Transect			Point Count Locations														
Common Name	Species Name	Chinese Name	Status	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7	T1	T2	T3	P1	P2	P3	P4	P5	P6	P7				
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	+	+	1						1				+										+	+	1				1															
Black Drongo	<i>Dicrurus macrocerus</i>	黑卷尾	Sv																																												
Black Kite	<i>Milvus migrans</i>	黑鷹	R, WV, (RC), Cap.586													+																															
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	+	+	+	1	1	1						+	+	+					1	2	2			+	+	+	1	1					1	+	+	+	1	1	1	1	2			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R												+																												2				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶺鴒	R, PRC(RC)	+	+	+	2	1	1	2	1	3			+	+	+	1	2	1	1	1	2	5			+	+	+	1	2			1			1	+	+	+	1	2		1	1	2	3
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R													+																												3			
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR, LC, NT													+																															
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R																																												
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	+		+		1					1		+		+																											1			
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM																																												
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R			+	+		2	2						+	+	+	1		1	1						+	+														1				
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	+	+	+	+	3	2	2		4	3		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	+	+	+	+	2	4	7	2		4		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶺鴒	R, PM, (LC)			+	+					2	5																																		
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	+	+	+			3																																						
Great Egret	<i>Ardea alba</i>	大白鶺鴒	R,WV, PRC(RC)	+				1																																							
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉	R,VU																																												
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R																																												
Little Egret	<i>Egretta garzetta</i>	小白鶺鴒	R, PRC(RC)	+	+	+	1	2		1	1	1	2		+	+	+	2	2	1	1	2	2	4			+	+	+	1	2				1			2	+	+	+	2		1	2	3	5
Maggie	<i>Pica pica</i>	喜鵲	R																																												
Maggie Robin	<i>Copsychus saularis</i>	鶺鴒	R		+	+				1	1					+		1		1								+																			
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	+	+	+		4		3			3																																		
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR, (LC)																																												
Plain Prinia	<i>Prinia inornata</i>	純色鶺鴒	R																																												
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶺鴒	R																																												
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	+	+	+	2	1	1	2			1		+	+	+	1	2	2		1	1	2			+	+	+	1	2			1		1	1	+	+	+	1	1	2		1	2	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R																																												
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	WV																																												
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R																																												
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶺鴒	R	+	+	+																																									
No. of Birds at Each Point							9	19	15	19	3	15	24				12	17	23	24	4	18	31				6	17	16	7	3	7	12				11	18	15	21	3	19	22				
No. of Birds Recorded from Point Count				104							129							68																													
No. of Species Recorded from Point Count				16							20							13																													
Total No. of Species				20							23							16																													
Total No. of Conservation Interest Species				4							7							2																													

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant;  
SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter  
+, occasional; ++, common; +++, abundant/dominant species in the the study area  
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
All bird species are under protection of Wild Animals Protection Ordinance (Cap. 170)  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap. 586)  
CR: Rare in China Red Data Book Status  
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Fellowes et al. (2002); RC=Regional Concern; LC=Local Concern; PRC=Potential Regional  
Species in bold represents Species of Conservation Interest

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**APPENDIX B1  
OVERALL SURVEY SUMMARY**

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App B1 - Overall Survey Summary

Waterbird Ecological Monitoring (WINTER 2017 - 2019)																																
Common Name	Species Name	Chinese Name	Water Dependent?	Abundance (Point Count)																				Rank	Min	Max	Average					
				High Tide										Low Tide							Combined											
				PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4					PC5	PC6	PC7	Total	
Aretic Warbler	<i>Phylloscopus borealis</i>	極北柳鶯		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	0	0	0				
Barn Swallow	<i>Hirundo rustica</i>	燕鵙		9	14	12	0	0	21	9	65	7	13	7	8	6	20	7	68	16	27	19	8	6	41	16	133	16	0	21	67	
Black Drongo	<i>Dicrurus macrocoercus</i>	黑卷尾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Black Kite	<i>Milvus migrans</i>	黑鷹	Y	1	0	0	0	0	1	0	2	0	0	0	2	0	0	1	4	1	0	2	0	0	2	1	6	41	0	2	3	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	51	0	1	1	
Black-necked Stilt	<i>Sturnus nigricollis</i>	黑頸椋鳥		19	35	16	8	21	50	64	213	24	49	35	14	15	78	65	280	43	84	51	22	36	128	129	493	6	8	78	247	
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷺	Y	0	0	0	0	0	0	8	0	0	0	0	0	0	0	23	77	100	0	0	0	0	0	31	77	108	18	0	77	54
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	藍喉鶇		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵪		6	10	7	18	1	1	5	48	22	19	10	19	3	16	92	28	29	17	37	4	4	21	140	15	1	22	70	70	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	Y	14	23	1	4	15	14	42	113	21	39	7	9	22	44	105	247	35	62	8	13	37	58	147	360	8	1	105	180	
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀		0	0	0	0	0	0	2	6	0	0	0	0	0	8	8	0	0	0	4	0	0	10	14	32	0	8	7	7	
Collared Crow	<i>Corvus torquatus</i>	白頸鵪	Y	0	0	0	1	0	0	2	3	0	0	0	1	2	0	5	8	0	0	2	2	0	7	11	35	0	5	6	6	
Common Greenshank	<i>Tringa nebularia</i>	青腳鵪	Y	0	0	0	0	2	0	2	0	0	0	0	3	2	1	6	0	0	0	5	2	1	8	40	0	3	4	4	0	
Common Kestrel	<i>Falco tinnunculus</i>	紅隼		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	Y	0	0	0	1	0	0	0	1	1	0	1	0	0	0	2	1	0	1	0	0	0	3	48	0	1	2	2	2	
Common Koel	<i>Eudynamis scolopacea</i>	噪鵪		5	3	3	6	3	9	5	34	7	6	5	7	3	7	8	43	12	9	8	13	6	16	13	77	23	3	9	39	
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	Y	2	3	3	4	14	3	3	32	4	8	4	3	13	2	7	41	6	11	7	7	27	5	10	73	24	2	14	37	
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾絲雀		3	5	7	16	0	0	4	35	6	10	9	12	1	2	6	46	9	15	16	28	1	2	10	81	22	0	16	41	
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鵪		71	125	100	135	24	91	115	661	95	161	122	146	28	129	140	821	166	286	222	281	52	220	255	1,482	1	24	161	741	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥		48	85	166	55	36	112	156	658	47	105	172	65	174	155	734	95	190	338	120	52	286	311	1,392	2	16	174	696		
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鶇		1	1	5	3	1	1	5	17	4	3	6	6	2	2	4	27	5	4	11	9	3	3	9	44	27	1	6	22	
Domestic Pigeon	<i>Columba livia</i>	原鴿		0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	47	0	4	2	2	
Dusky Warbler	<i>Phylloscopus fuscatus</i>	柳鶯		0	1	1	2	0	0	0	4	0	0	0	2	7	0	1	0	10	0	1	3	9	0	1	0	14	32	0	7	7
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	Y	0	1	0	0	0	56	4	61	0	0	0	0	0	57	43	100	0	1	0	0	113	47	161	14	0	57	81	114	
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀		0	0	0	22	53	7	0	15	97	0	0	17	48	0	4	62	131	0	0	39	101	7	4	77	228	11	0	62	114
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	Y	9	17	3	11	0	24	53	117	8	20	8	36	0	34	55	161	17	37	11	47	0	58	108	278	10	0	55	139	
Great Egret	<i>Ardea alba</i>	大白鷺	Y	7	22	3	1	2	9	20	64	9	22	4	2	0	26	80	143	16	44	7	3	2	35	100	207	12	0	80	104	
Greater Coucal	<i>Centropus sinensis</i>	棉翅鴛鴦		1	0	1	2	0	0	0	4	0	0	0	1	0	0	1	1	0	1	3	0	0	5	44	0	2	3	3	3	
Green Sandpiper	<i>Tringa ochropus</i>	白腰長腳鷺*	Y	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	51	0	1	1	1	1	
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	Y	1	24	1	57	1	22	71	177	1	16	3	50	2	42	220	334	2	40	4	107	3	64	291	511	5	1	220	256	
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶇		0	1	0	2	0	1	0	4	1	3	2	0	0	2	3	11	1	4	2	2	0	3	15	31	0	3	8	8	
Grey-backed Thrush	<i>Turdus hortulorum</i>	灰背鶇		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	51	0	1	1
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥鷺	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	51	0	1	1	1
House Swift	<i>Apus nipalensis</i>	小白腹雨燕	Y	10	0	0	0	0	5	9	24	0	0	0	0	6	8	26	10	0	12	0	0	11	17	50	26	0	12	25	25	
Intermediate Egret	<i>Egretta intermedia</i>	中白鷺	Y	0	0	0	0	0	9	1	10	0	0	0	0	9	1	10	0	0	0	0	0	18	2	20	30	0	9	10	10	10
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥		6	20	19	21	2	0	15	83	6	11	13	51	1	5	24	111	12	31	32	72	3	5	39	194	13	0	51	97	
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鶇		0	0	0	3	0	0	0	3	0	0	1	0	0	0	1	2	0	0	1	3	0	0	1	5	44	0	3	3	3
Large Hawk Cuckoo	<i>Hierococcyx sparverioides</i>	大鷹鴉		0	0	0	1	0	1	0	2	0	0	1	0	1	0	0	2	4	0	1	0	2	0	1	2	6	41	0	2	3
Little Egret	<i>Egretta garzetta</i>	小白鷺	Y	25	54	7	14	31	39	51	221	28	58	14	15	29	76	130	350	53	112	21	29	60	115	181	571	3	7	130	286	
Magpie	<i>Pica pica</i>	喜鵪		1	1	0	2	0	4	16	24	0	2	0	1	0	7	37	47	1	3	0	3	0	11	53	71	25	0	37	36	36
Magpie Robin	<i>Copsychus saularis</i>	鶇鴒		5	7	10	17	2	7	4	52	3	12	6	12	2	11	5	51	8	19	16	29	4	18	9	103	19	2	17	52	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇		17	62	79	32	5	3	11	209	27	68	84	37	4	25	30	275	44	130	163	69	9	28	41	484	7	3	84	242	
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶇		0	0	0	0	1	0	5	6	1	0	0	0	0	5	6	1	0	0	0	1	0	10	12	34	0	5	6	6	
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯		0	0	0	0	0	0	2	2	0	0	0	2	1	0	0	0	3	0	0	2	1	0	2	5	44	0	2	3	3
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鶇	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	14	75	89	0	0	0	0	0	14	75	89	21	0	75	45	
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚鴉	Y	2	3	1	0	0	0	1	7	0	2	0	0	0	1	1	4	2	5	1	0	0	1	2	11	35	0	3	6	6
Plain Prinia	<i>Prinia inornata</i>	綉色鶇鶇		0	1	3	0	0	0	0	4	0	0	3	4	0	0	0	7	0	1	6	4	0	0	11	35	0	4	6	6	
Red-billed Blue Magpie	<i>Urociaa erythrorhynchos</i>	紅咀藍鶇		2	0	0	0	0	0	0	2	3	1	0	0	0	0	4	5	1	0	0	0	0	0	6	41	0	3	3	3	
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞		0	0	1	1	1	0	0	3	0	1	2	0	2	2	0	7	0	1	3	2	0	10	39	0	2	5	5	5	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩		37	67	29	28	13	38	45	257	37	75	28	32	13	54	55	294	74	142	57	60	26	92	100	551	4	13	75	276	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥		0	23	6	0	17	25	0	71	0	0	0	0	39	0	2	41	0	23	6	0	56	25	2	112	17	0	39	56	
Stejneger's Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鶇		0	1	1	1	1	5	1	10	0	1	3	1	0	1	6	12	0	2	4	2	1	6	7	22	29	0	6	11	11
White Wagtail	<i>Motacilla alba</i>	白鶇		12	33	15	15	9	16	23	123	17	40	32	22	16	30	47	204													



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**APPENDIX B2  
SURVEY SUMMARY FOR WATERBIRDS  
AT EACH POINT COUNT LOCATION**

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App B2 - Survey Summary for Waterbirds at each Point Count Location

Ecological Monitoring - Point Counts for Waterbirds (2017-2019)																																																
Common Name	Species Name	Chinese Name	Water Dependent?	Abundance (Point Count)																									Rank																			
				High Tide								Low Tide								Combined																												
				PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total																					
Black Kite	<i>Milvus migrans</i>	黑鳶	Y	1	2	1	0	0	2	2	8	0	0	2	0	0	3	5	10	1	2	3	0	0	5	7	18	13																				
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	Y	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	19																				
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	19																				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷺	Y	0	0	0	0	0	12	0	12	0	0	0	0	0	23	83	106	0	0	0	0	0	35	83	118	7																				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	Y	45	65	7	18	56	48	88	327	67	95	13	37	69	121	246	648	112	160	20	55	125	169	334	975	2																				
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	Y	0	3	0	1	0	0	2	6	0	0	3	1	2	0	11	17	0	3	3	2	2	0	13	23	10																				
Common Greenshank	<i>Tringa nebularia</i>	青腳鷺	Y	0	0	0	0	2	0	0	2	0	0	0	0	3	2	2	7	0	0	0	0	5	2	2	9	15																				
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	19																					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	Y	2	1	0	1	0	0	0	4	1	0	1	0	0	0	0	2	3	1	1	1	0	0	0	6	16																				
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷺	Y	2	6	3	4	18	4	3	40	4	13	4	4	17	3	10	55	6	19	7	8	35	7	13	95	8																				
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	Y	0	1	0	0	0	93	12	106	0	0	3	0	0	124	54	181	0	1	3	0	0	217	66	287	5																				
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	Y	9	17	3	11	0	24	53	117	8	20	8	36	0	34	55	161	17	37	11	47	0	58	108	278	6																				
Great Egret	<i>Ardea alba</i>	大白鷺	Y	12	42	6	3	2	10	26	101	11	47	6	3	0	31	107	205	23	89	12	6	2	41	133	306	4																				
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鷺	Y	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	2	0	0	2	18																					
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	Y	2	26	1	57	1	23	73	183	1	16	3	50	2	43	234	349	3	42	4	107	3	66	307	532	3																				
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	19																					
Intermediate Egret	<i>Egretta intermedia</i>	中白鷺	Y	0	0	0	0	0	9	1	10	0	0	0	0	0	9	1	10	0	0	0	0	0	18	2	20	11																				
Little Egret	<i>Egretta garzetta</i>	小白鷺	Y	56	111	10	30	81	84	111	483	76	136	21	42	102	198	293	868	132	247	31	72	183	282	404	1,351	1																				
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	14	75	89	0	0	0	0	0	14	75	89	9																					
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	Y	3	6	1	1	0	0	1	12	0	2	0	0	0	4	1	7	3	8	1	1	0	4	2	19	12																				
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦蕒鳥	Y	0	1	0	1	0	1	0	3	0	0	0	0	0	1	1	0	1	0	1	0	1	1	4	17																					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	Y	2	2	1	1	0	1	1	8	1	0	0	0	0	1	1	3	3	2	1	1	0	2	2	11	14																				
<b>Number of Waterbird Individuals Recorded at each Point Count</b>				134	283	33	128	161	313	374	-	169	329	64	173	196	610	1,180	-	303	612	97	301	357	923	1,554	-																					
<b>Number of Waterbirds in each Stream (Ng Tung River (non-tidal), Shek Sheung River (low-flow channel, non-tidal), Shek Sheung River/Sheung Yue River (tidal))</b>				578					161	687	-	735					196	1,790	-	1,313					357	2,477	-																					
<b>Number of Waterbird Individuals Recorded in Each Tide</b>				1,426								2,721								4,147																												
<b>Number of Waterbird Species Recorded at each Point Count</b>				10	13	9	11	7	14	13	-	8	7	10	7	7	14	17	-	10	13	12	11	8	17	18	-																					
<b>Number of Waterbird Species Recorded in Each Tide</b>				20								19								22																												
<b>Average Number of Individuals Encountered Each Month at Each Point Count Location during 19-month Baseline Monitoring Survey</b>				7	15	2	7	8	16	20	-	9	17	3	9	10	32	62	-	16	32	5	16	19	49	82	-																					
<b>Most Abundant Waterbird at each Point Count Location and their Abundance</b>				56	111	10	57	81	93	111	483	76	136	21	50	102	198	293	868	132	247	31	107	183	282	404	1,351	小白鷺	小白鷺	小白鷺	蒼鷺	小白鷺	牛背鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	蒼鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺

App B2 - Survey Summary for Waterbirds at each Point Count Location

Ecological Monitoring - Point Counts for Waterbirds (Winters in 2017-2019)																																																			
Common Name	Species Name	Chinese Name	Water Dependent?	Abundance (Point Count)																				Stat																											
				High Tide								Low Tide								Combined								Rank	Combined																						
				PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total		Min	Max																					
Black Kite	<i>Milvus migrans</i>	黑鷹	Y	1	0	0	0	0	1	0	2	0	0	2	0	0	1	1	4	1	0	2	0	0	2	1	6	14	0	2																					
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0																					
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	18	0	1																						
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷺	Y	0	0	0	0	0	8	0	8	0	0	0	0	0	23	77	100	0	0	0	0	0	31	77	108	7	0	77																					
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	Y	14	23	1	4	15	14	42	113	21	39	7	9	22	44	105	247	35	62	8	13	37	58	147	360	3	8	147																					
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	Y	0	0	0	1	0	0	2	3	0	0	0	1	2	0	5	8	0	0	0	2	2	0	7	11	11	0	7																					
Common Greenshank	<i>Tringa nebularia</i>	青腳鷺	Y	0	0	0	0	2	0	0	2	0	0	0	0	3	2	1	6	0	0	0	0	5	2	1	8	13	0	5																					
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0																					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	Y	0	0	0	1	0	0	0	1	1	0	1	0	0	0	0	2	1	0	1	1	0	0	0	3	15	0	1																					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷺	Y	2	3	3	4	14	3	3	32	4	8	4	3	13	2	7	41	6	11	7	7	27	5	10	73	9	5	27																					
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	Y	0	1	0	0	0	56	4	61	0	0	0	0	0	57	43	100	0	1	0	0	0	113	47	161	6	0	113																					
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鱘鱗	Y	9	17	3	11	0	24	53	117	8	20	8	36	0	34	55	161	17	37	11	47	0	58	108	278	4	0	108																					
Great Egret	<i>Ardea alba</i>	大白鷺	Y	7	22	3	1	2	9	20	64	9	22	4	2	0	26	80	143	16	44	7	3	2	35	100	207	5	2	100																					
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鷺	Y	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	18	0	1																					
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	Y	1	24	1	57	1	22	71	177	1	16	3	50	2	42	220	334	2	40	4	107	3	64	291	511	2	2	291																					
Grey-headed Lapwing	<i>Vanelus cinereus</i>	灰頭麥雞	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	18	0	1																					
Intermediate Egret	<i>Egretta intermedia</i>	中白鷺	Y	0	0	0	0	0	9	1	10	0	0	0	0	0	9	1	10	0	0	0	0	0	18	2	20	10	0	18																					
Little Egret	<i>Egretta garzetta</i>	小白鷺	Y	25	54	7	14	31	39	51	221	28	58	14	15	29	76	130	350	53	112	21	29	60	115	181	571	1	21	181																					
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	14	75	89	0	0	0	0	0	14	75	89	8	0	75																					
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	Y	2	3	1	0	0	0	1	7	0	2	0	0	0	1	1	4	2	5	1	0	0	1	2	11	11	0	5																					
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	Y	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	16	0	1																					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	Y	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	16	0	1																					
<b>Number of Waterbird Individuals Recorded for each Point Count</b>				61	148	20	95	66	186	248	-	72	165	43	116	71	331	802	-	133	313	63	211	137	517	1,050	-																								
<b>Number of Waterbirds in each Stream (Ng Tung River (non-tidal), Shek Sheung River (low-flow channel, non-tidal), Shek Sheung River/Sheung Yue River (tidal))</b>				324				66	434	-	396				71	1,133	-	720				137	1,567	-																											
<b>Number of Waterbird Individuals Recorded for each Tide</b>				824								1,600								2,424																															
<b>Number of Waterbird Species Recorded for each Point Count</b>				8	9	8	10	7	11	10	-	7	7	8	7	6	13	15	-	9	9	10	10	8	14	15	-																								
<b>Number of Waterbird Species Recorded for each Tide</b>				18								16								20																															
<b>Average Number of Individuals Encountered Each Month at Each Point Count Location during 19-month Baseline Monitoring Survey</b>				6	15	2	10	7	19	25	-	7	17	4	12	7	33	80	-	13	31	6	21	14	52	105	-																								
<b>Most Abundant Waterbird for each Point Count and their Abundance</b>				小白鷺	小白鷺	小白鷺	蒼鷺	小白鷺	牛背鷺	蒼鷺	小白鷺	小白鷺	小白鷺	小白鷺	蒼鷺	小白鷺	小白鷺	蒼鷺	小白鷺	小白鷺	小白鷺	蒼鷺	小白鷺	小白鷺	蒼鷺	小白鷺	小白鷺	25	54	7	57	31	56	71	221	28	58	14	50	29	76	220	350	53	112	21	107	60	115	291	571

App B2 - Survey Summary for Waterbirds at each Point Count Location

Ecological Monitoring - Point Counts for Waterbirds (Summers in 2017-2019)																																												
Common Name	Species Name	Chinese Name	Water Dependent?	Abundance (Point Count)																								Stat																
				High Tide								Low Tide								Combined								Rank	Combined															
				PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Total		Min	Max														
Black Kite	Milvus migrans	黑鷹	Y	0	2	1	0	0	1	2	6	0	0	0	0	0	2	4	6	0	2	1	0	0	3	6	12	7	0	6														
Black-crowned Night Heron	Nycticorax nycticorax	夜鷺	Y	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	14	0	1														
Black-faced Spoonbill	Platalea minor	黑臉琵鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0														
Black-winged Stilt	Himantopus himantopus	黑翅長腳鷺	Y	0	0	0	0	0	4	0	4	0	0	0	0	0	0	6	6	0	0	0	0	0	4	6	10	9	0	6														
Chinese Pond Heron	Ardeola bacchus	池鷺	Y	31	42	6	14	41	34	46	214	46	56	6	28	47	77	141	401	77	98	12	42	88	111	187	615	2	12	187														
Collared Crow	Corvus torquatus	白頭鴉	Y	0	3	0	0	0	0	0	3	0	0	3	0	0	6	9	0	3	3	0	0	0	6	12	7	0	6															
Common Greenshank	Tringa nebularia	青腳鷸	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	14	0	1															
Common Kestrel	Falco tinnunculus	紅隼	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	14	0	1															
Common Kingfisher	Alcedo atthis	普通翠鳥	Y	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	12	0	2														
Common Sandpiper	Actitis hypoleucos	磯鷺	Y	0	3	0	0	4	1	0	8	0	5	0	1	4	1	3	14	0	8	0	1	8	2	3	22	5	0	8														
Eastern Cattle Egret	Bubulcus coromandus	牛背鷺	Y	0	0	0	0	0	37	8	45	0	0	3	0	0	67	11	81	0	0	3	0	0	104	19	126	3	0	104														
Great Cormorant	Phalacrocorax carbo	普通鸕鶿	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0														
Great Egret	Ardea alba	大白鷺	Y	5	20	3	2	0	1	6	37	2	25	2	1	0	5	27	62	7	45	5	3	0	6	33	99	4	0	45														
Green Sandpiper	Tringa ochropus	白腰草鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	14	0	1														
Grey Heron	Ardea cinerea	蒼鷺	Y	1	2	0	0	0	1	2	6	0	0	0	0	0	1	14	15	1	2	0	0	0	2	16	21	6	0	16														
Grey-headed Lapwing	Vanelus cinereus	灰頭麥雞	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0														
Intermediate Egret	Egretta intermedia	中白鷺	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0														
Little Egret	Egretta garzetta	小白鷺	Y	31	57	3	16	50	45	60	262	48	78	7	27	73	122	163	518	79	135	10	43	123	167	223	780	1	10	223														
Pied Avocet	Recurvirostra avosetta	反嘴鷸	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0														
Pied Kingfisher	Ceryle rudis	斑魚狗	Y	1	3	0	1	0	0	0	5	0	0	0	0	0	3	0	3	1	3	0	1	0	3	0	8	11	0	3														
White-breasted Waterhen	Amaurornis phoenicurus	白胸苦惡鳥	Y	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	13	0	1															
White-throated Kingfisher	Halcyon smymensis	白胸翡翠	Y	2	2	0	0	0	1	1	6	1	0	0	0	0	1	1	3	3	2	0	0	0	2	2	9	10	0	3														
Number of Waterbird Individuals Recorded for each Point Count				73	135	13	33	95	127	126		97	164	21	57	125	279	378		170	299	34	90	220	406	504																		
Number of Waterbirds in each Stream (Ng Tung River (non-tidal), Shek Sheung River (low-flow channel, non-tidal), Shek Sheung River/Sheung Yue River (tidal))				254				95	253	-	339				125	657	-	593				220	910	-																				
Number of Waterbird Individuals Recorded for each Tide				602								1,121								1,723																								
Number of Waterbird Species Recorded for each Point Count				7	10	4	4	3	11	8	-	4	4	5	4	4	9	12	-	7	10	6	5	4	12	13	-																	
Number of Waterbird Species Recorded for each Tide				14								13								20																								
Average Number of Individuals Encountered Each Month at Each Point Count Location during 19-month Baseline Monitoring Survey				10	14	3	8	32	12	16	43	24	41	4	14	31	31	32	86	24	30	6	18	55	34	39	-																	
Most Abundant Waterbird for each Point Count and their Abundance				池鷺/小白鷺	小白鷺	池鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	池鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺	小白鷺											
				31	57	6	16	50	45	60	262	48	78	7	28	73	122	163	518	79	135	12	43	123	167	223	780																	

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**APPENDIX B3  
SURVEY SUMMARY OF WATERBIRD BY  
MONTH**

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Waterbird Ecological Monitoring (2017-2019)																							
Common Name	Species Name	Chinese Name	Water Dependent?	Average Number per Month															no. of individuals recorded in whole baseline monitoring	Rank			
				Winter					Summer					Stat									
				Oct	Nov	Dec	Jan	Feb	Mar	Sub-total	Apr	May	Jun	Jul	Aug	Sep	Sub-total	Min			Max	Avg	
Black Kite	<i>Milvus migrans</i>	黑鸢	Y	1	0	0	0	3	0	4	1	2	2	1	0	2	8	0	4	1.1	18	13	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鹭	Y	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0.0	1	19	
Black-faced Spoonbill	<i>Platalea minor</i>	黑脸琵鹭	Y	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1	1	19	
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅长脚鹬	Y	15	19	8	13	16	0	71	0	0	0	0	0	10	10	0	71	11.7	118	7	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鹭	Y	47	45	27	33	33	42	226	57	68	92	72	57	54	399	27	226	65.5	975	2	
Collared Crow	<i>Corvus torquatus</i>	白头鸦	Y	0	0	1	2	1	2	6	5	1	1	0	0	0	6	0	6	1.3	23	10	
Common Greenshank	<i>Tringa nebularia</i>	青脚鹬	Y	0	0	1	0	2	1	4	1	0	0	0	0	0	1	0	4	0.7	9	15	
Common Kestrel	<i>Falco tinnunculus</i>	红隼	Y	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0.0	1	19	
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鸟	Y	0	0	1	1	0	0	2	1	1	0	0	0	0	2	0	2	0.3	6	16	
Common Sandpiper	<i>Actitis hypoleucos</i>	矶鹬	Y	4	14	4	8	10	7	46	2	2	1	0	9	3	17	0	46	8.3	95	8	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鹭	Y	0	1	19	11	10	42	81	30	11	18	7	2	1	68	0	81	17.7	287	5	
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸬鹚	Y	5	56	36	26	35	12	170	0	0	0	0	0	0	0	0	170	26.1	278	6	
Great Egret	<i>Ardea alba</i>	大白鹭	Y	26	29	19	22	18	18	131	10	8	13	10	8	20	69	8	131	25.4	306	4	
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鹬	Y	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0.1	2	18	
Grey Heron	<i>Ardea cinerea</i>	苍鹭	Y	38	77	52	72	63	12	313	0	0	0	0	0	21	21	0	313	49.8	532	3	
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰头麦雉	Y	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.1	1	19		
Intermediate Egret	<i>Egretta intermedia</i>	中白鹭	Y	0	0	1	10	0	0	10	0	0	0	0	0	0	0	0	10	1.5	20	11	
Little Egret	<i>Egretta garzetta</i>	小白鹭	Y	59	64	40	52	47	87	347	85	90	99	99	72	62	507	40	347	92.3	1351	1	
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鹬	Y	9	11	8	16	11	0	55	0	0	0	0	0	0	0	0	55	8.4	89	9	
Pied Kingfisher	<i>Ceryle rudis</i>	斑鱼狗	Y	0	0	0	0	1	5	6	1	2	1	0	0	1	5	0	6	1.2	19	12	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦恶鸟	Y	0	0	0	0	0	1	1	1	1	0	0	0	0	1	0	1	0.2	4	17	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	Y	0	0	0	0	1	0	1	0	4	0	0	0	1	5	0	4	0.5	11	14	
<b>Average Number of Individuals Recorded in each Month</b>				204	316	214	263	248	227	-	193	187	227	189	148	175	-	-	-	-	4147		
<b>Average Number of Individuals Recorded in each Season</b>				1472							1118							-			4147		
<b>Number of Species Recorded in each Month</b>				9	9	14	12	14	13	-	13	12	8	5	5	10	-	-	-	-	22		
<b>Number of Species Recorded in each Season</b>				19							20							-			22		
<b>The Most Abundant Species in a Month and their Abundance</b>				小白鹭	苍鹭	苍鹭	苍鹭	苍鹭	小白鹭	小白鹭	小白鹭	小白鹭	小白鹭	小白鹭	小白鹭	小白鹭	-	-	-	-	小白鹭		
				59	77	52	72	63	87	347	85	90	99	99	72	62	507	-	-	-	-	1172	

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**APPENDIX C  
LIST OF SPECIES RECORDED IN  
BASELINE MONITORING**

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**Appendix C - List of Species Recorded in Baseline Monitoring**

Common Name	Scientific Name	Chinese Name	Distribution	Conservation Status	Wetland-dependent
Arctic Warbler	<i>Phylloscopus borealis</i>	極北柳鶯	PM	/	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, SV	/	
Black Drongo	<i>Dicurus macrocerus</i>	黑卷尾	SV	/	
Black Kite	<i>Milvus migrans</i>	黑鳶	WV, R	Cap586, RC	*
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	WV, R	LC	*
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	WV	EN(IUCN,CRB), PGC	*
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R	/	
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷺	PM	RC	*
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R	/	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R	/	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC	*
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R	/	
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	NT(IUCN), LC	*
Common Greenshank	<i>Tringa nebularia</i>	青腳鶇	WV, PM	RC	*
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	WV, AM	Cap586	*
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R	/	*
Common Koel	<i>Eudynamis scolopacea</i>	噪鶇	R	/	
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM	/	*
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R	/	
Crested bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	/	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	/	
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鶇	WV	/	
Domestic Pigeon	<i>Columba livia</i>	原鴿	R	/	
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	WV, PM	/	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	PM, R	LC	*
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	/	
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	WV	PRC	*
Great Egret	<i>Ardea alba</i>	大白鷺	WV, R	PRC	*
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶇	R	VU(CRB)	
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶇	UWV, UPM	/	*
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	*
Grey Wagtail	<i>Motacilla cinerea</i>	灰鶇鶇	WV, PM	/	
Grey-backed Thrush	<i>Turdus hortolorum</i>	灰背鶇	WV	/	
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	SWV	LC	*
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R	/	
Intermediate Egret	<i>Egretta intermedia</i>	中白鷺	PM	RC	*
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R	/	
Jungle Crow	<i>Corvus macrorhynchos</i>	大嘴烏鴉	R	/	
Large Hawk Cuckoo	<i>Hierococcyx sparverioides</i>	大鷹鴉	PM, SV	/	
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC	*
Magpie	<i>Pica serica</i>	喜鵲	R	/	
Magpie Robin	<i>Copsychus saularis</i>	鵲鶇	R	/	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	/	
Olive Backed Pipit	<i>Anthus hodgsoni</i>	樹鶇	WV, PM	/	
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV	/	
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鶇	WV	RC	*
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	LC	*
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R	/	
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶇	R	/	
Rufous-backed Shrike	<i>Lanius schach</i>	棕背伯勞	R	/	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	/	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R	/	
Stejneger's Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鶇	WV, PM	/	
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	WV, PM	/	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R	/	*
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R	/	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	LC	*
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R	/	
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, PM	/	

R: Resident, WV: Common winter visitor, UWV: Uncommon winter visitor, SWV: Scarce winter visitor, PM: Passage migrant; Uncommon passage migrant, AM: Autumn migrant;

SpM: Spring migrant; SV: Summer visitor; UR: Uncommon resident; R: Resident

Cap586: Endangered Species of Animals and Plants Ordinance, CR: Rare in China Red Data Book Status, VU: Vulnerable in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status, EN: Endangered in IUCN Red List Status

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; PGC: Potential Global Concern

Reference: AFCD Biodiversity Website, China Red Data Book Status (CRB), Hong Kong Bird Watching Society, & IUCN, Fellowes et al. (2002)

Species in grey represents its conservation status

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**APPENDIX D  
TEMPLATE OF STATISTICAL ANALYSIS  
IN MONTHLY REPORT**

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