

# Proposed Low Voltage Cable Laying at Sha Kiu Tsuen and 11kV Cable & Ducts Laying, Pole & Stay Erection at Deep Bay Road

## Ecological Impact Assessment Report

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CLP Power Hong Kong Limited

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## Ecological Impact Assessment Report 0793518



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## 1. INTRODUCTION

### 1.1 PROJECT BACKGROUND

CLP Power Hong Kong Limited has proposed the installation of low voltage (LV) cable at Deep Bay Road (hereafter called "The Project"). The Project Site is located at the developed area along Deep Bay Road in Tsim Bei Tsui (TBT), to the west of Tsim Bei Tsui Deep Bay Lookout as shown in **Figure 1.1**. The proposed work includes land excavation, filling, cable & ducts laying and pole & stay erection.

The Project Site is currently zoned within Coastal Protection Area (CPA) and Green Belt (GB) on the approved Lau Fau Shan & Tsim Bei Tsui Outline Zoning Plan (OZP) No. S/YL-LFS/11. It also falls in the Wetland Buffer Area (WBA) of the Deep Bay Area. An ecological impact assessment (EcoIA) is prepared to provide ecological baseline information, assess ecological impacts and provide mitigation measures for the Project as necessary. The Assessment Area for the purpose of the ecological impact assessment includes areas within 300 m from the boundary of the Project Site as shown in **Figure 1.1**.

### 1.2 OBJECTIVE OF THE REPORT

The main objective of the report is to summarise the findings of the literature review, ecological field surveys and analysis of all data collected so as to provide ecological data for assessing the potential ecological impact that would arise from the Project.

### 1.3 STRUCTURE OF THE REPORT

Following this introductory section, the remainder of this Report is arranged as follows:

- *Section 2 Relevant Legislation and Assessment Criteria*
- *Section 3 Literature Review*
- *Section 4 Ecological Survey Methodology*
- *Section 5 Survey Findings*
- *Section 6 Evaluation of Habitat and Species*
- *Section 7 Impact Identification and Evaluation*
- *Section 8 Cumulative Impacts*
- *Section 9 Mitigation and Precautionary Measures*
- *Section 10 Residual Ecological Impacts*
- *Section 11 Conclusion*

## 2. RELEVANT LEGISLATION AND ASSESSMENT CRITERIA

The relevant legislation and associated guidelines applicable to this EcoIA include the following:

- Forests and Countryside Ordinance (Cap. 96);
- Wild Animals Protection Ordinance (Cap. 170);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Town Planning Ordinance (Cap. 131);
- Environmental Impact Assessment Ordinance (Cap. 499) and the Technical Memorandum on Environmental Impact Assessment Process under the Environmental Impact Assessment Ordinance (EIAO-TM);
- Environmental Impact Assessment Ordinance (EIAO) Guidance Notes No. 6/2010, 7/2023 and 10/2023;
- Hong Kong Planning Standards and Guidelines Chapter 10 (HKPSG);
- United Nations Convention on Biodiversity (1992);
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- The International Union for Conservation of Nature (IUCN) Red List of Threatened Species; and
- Peoples' Republic of China (PRC) Regulations and Guidelines.

### 3. LITERATURE REVIEW

A review of findings from relevant scientific papers, reports and studies was conducted to identify any available ecological information. Based on recent aerial photos<sup>1</sup> and relevant previous studies, habitats and species of conservation importance previously recorded were identified and presented in the following sections.

#### 3.1 SITE OF CONSERVATION IMPORTANCE

Sites of conservation importance present in the Assessment Area include Mai Po Inner Deep Bay Ramsar Site, Ramsar Site Priority Sites for Enhanced Conservation, Site of Special Scientific Interest (SSSI), Inner Deep Bay and Shenzhen River Catchment Important Bird Area (IBA), Wetland Conservation Area (WCA), WBA and CPA. The extent of the sites of conservation importance are shown in **Figure 3.1**.

##### 3.1.1 MAI PO INNER DEEP BAY RAMSAR SITE

Mai Po Inner Deep Bay has been designated as a Ramsar Site in 1995 under the Ramsar Convention. The Ramsar Site covers about 1500 ha of wetland with a high diversity of habitats, including intertidal mudflats backed by mangroves, tidal shrimp ponds (gei wais), fishponds and reedbeds. The mangrove is the largest in Hong Kong while the reedbed is the largest in Hong Kong and Guangdong Province.

Management of the Mai Po Inner Deep Bay Ramsar Site is determined by a management plan maintained by Agriculture, Fisheries and Conservation Department. The management plan divided the Ramsar Site into several zones to determine the management actions for the area.

##### 3.1.2 SITE OF SPECIAL SCIENTIFIC INTEREST

The Inner Deep Bay SSSI falls within the Assessment Area. Inner Deep Bay SSSI was designated in 1986 in recognition of the ecological importance of the mudflat as a feeding and resting ground for waterbirds. Approximately 50,000 waterbirds of about 300 species visit the mudflat every winter. Among these species over 20 are considered to be globally threatened, including one fifth of the global population of Black-faced Spoonbill. The mudflat and shallow waters also support a wide variety of organisms that are of economic value such as mangrove crabs (e.g. *Scylla paramamosain*) and shrimps (e.g. *Metapenaeus* sp.), as well as being the type locality of Sesarmine Crab *Perisesarma maipoensis* which is endemic to the site.

##### 3.1.3 INNER DEEP BAY AND SHENZHEN RIVER CATCHMENT IMPORTANT BIRD AREA

Mai Po Inner Deep Bay Area and surrounding Shenzhen River Catchment are designated as an IBA by BirdLife International considering its international significance in bird population size and trends. As one of the two IBAs identified in Hong Kong, it is recognized to secure the long-term conservation of areas that are vital for waterbirds and biodiversity. This IBA covers 3,150 ha of wetland habitat which supports significantly large numbers of passage and wintering waterbirds, especially the threatened species such as Oriental White Stork, Dalmatian Pelican, Black-tailed Godwit, and Eurasian Curlew.

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<sup>1</sup> Google Aerial Photo. (2024).

### 3.1.4 WETLAND CONSERVATION AREA

Fishponds continuous and adjoining to the Deep Bay Area are designated under TPB PG-No. 12C as the WCA, with the aim of protecting the integrity of the Deep Bay wetland ecosystem. Any development in the WCA should normally comply with the "No-Net-Loss in Wetland" principle. Other than permitted essential conservation or infrastructural works, no developments involving pond filling or other works detrimental to the ecological function of the wetland are allowed within the WCA.

### 3.1.5 WETLAND BUFFER AREA

The WBA is also designated under TPB PG-No. 12C to include a buffer of about 500m on the landward side of the WCA. The planning intention is to protect the ecological integrity of wetlands within the WCA and prevent any development that would have a negative off-site disturbance impact on the WCA. Developments within the WBA are required to demonstrate that ecological impacts on the WCA will be minimized. As the Project Site falls within the WBA, mitigation measures would be required for any identified potential ecological impacts due to the Project.

### 3.1.6 COASTAL PROTECTION AREA

CPA is distributed along the coastal area of the Tsim Bei Tsui. This zoning is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted. These coastal areas should be protected against land filling, land excavation or stream diversion and encroachment by developments, for which permission from Town Planning Board (TPB) is required.

### 3.1.7 PRIORITY SITES FOR ENHANCED CONSERVATION

Given the international ecological importance, the Ramsar Site was designated as a Priority Site for Enhanced Conservation under the New Nature Conservation Policy (NNCP) in 2004. This priority site for enhanced conservation covered mudflat, mangrove and fishponds at TBT, which the combination of habitats is unique in Hong Kong.

## 3.2 PREVIOUSLY RECORDED SPECIES OF CONSERVATION IMPORTANCE

A literature review has been conducted to characterize the existing ecological conditions of the Assessment Area and to identify habitats and species of conservation importance in the area. A number of relevant studies including but not limited to the following were reviewed:

- Approved Lau Fau Shan and Tsim Bei Tsui Outline Zoning Plan S/YL-LFS/11
- TPB PG-No. 12C - Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance

- Protection of Wetlands in Hong Kong, AFCD (AFCD, 2000)<sup>2</sup>
- Hong Kong Biodiversity, an AFCD Biodiversity Newsletter (AFCD, 2006)<sup>3</sup> & (AFCD, 2007)<sup>4</sup>
- Mai Po Inner Deep Bay Ramsar Site Management Plan (AFCD, 2011)<sup>5</sup>
- Hong Kong Bird Report 2018 (HKBWS, 2024a)<sup>6</sup>
- Monthly Waterbird Monitoring Summer and Winter Report 2018-2023 (HKBWS, 2024b)<sup>7</sup>
- The Avifauna of Hong Kong<sup>8</sup>
- A Field Guide to the Terrestrial Mammals of Hong Kong (AFCD, 2007)<sup>9</sup>
- *Pteroptyx maipo* Ballantyne, a new species of bent-winged firefly (Coleoptera: Lampyridae) from Hong Kong, and its relevance to firefly biology and conservation. (Ballantyne et al., 2011)<sup>10</sup>
- A new species of firefly from Hong Kong – *Pteroptyx maipo* (Yiu, V, 2011)<sup>11</sup>
- A study of Rhagophthalmidae and Lampyridae in Hong Kong with descriptions of new species (Coleoptera) (Yiu, V, 2017)<sup>12</sup>
- Spraints demonstrate small population size and reliance on fishponds for Eurasian otter (*Lutra lutra*) in Hong Kong (McMillan et al., 2022)<sup>13</sup>
- Present population and habitat status of potentially threatened Asian horseshoe crabs *Tachypleus tridentatus* and *Carcinoscorpius rotundicauda* in Hong Kong<sup>14</sup>

The ecological survey periods and flora and fauna groups surveyed in the studies were tabulated in **Table 3.1** accordingly.

<sup>2</sup> AFCD (2000). Legislative Council Paper NO. CB(2) 397/00-01 (03) – Protection of Wetlands in Hong Kong. Information reviewed.

<sup>3</sup> Shek, C. T., and Chan, C. S. M. (2006). Mist Net Survey of Bats with Three New Bat Species Records for Hong Kong. *Hong Kong Biodiversity*, 11, 1-7.

<sup>4</sup> Shek, C. T., Chan, C. S. M., and Wan, Y. F. (2007). Camera Trap Survey of Hong Kong Terrestrial Mammals in 2002-06. *Hong Kong Biodiversity*, 15, 1-11.

<sup>5</sup> AFCD (2011). Mai Po Inner Deep Bay Ramsar Site Management Plan.

<sup>6</sup> HKBWS (2024a). Hong Kong Bird Report 2018.

<sup>7</sup> HKBWS (2024b). Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2018-2023.

<sup>8</sup> Carey, G. J., Chalmers, M. L., Diskin, D. A., Kennerley, P. R., Leader, P. J., Leven, M. R., Lewthwaite, R. W., Melville, M. S., Turnbull, M. M., and Young, L. (2001). The Avifauna of Hong Kong. Hong Kong Bird Watching Society, Hong Kong.

<sup>9</sup> Shek, C. T. (2007). A Field Guide to the Terrestrial Mammals of Hong Kong

<sup>10</sup> Ballantyne, L. A., Fu, X. H., Shih, C.-H., Cheng, C.-Y., and Yiu, V. (2011). *Pteroptyx maipo* Ballantyne, a new species of bent-winged firefly (Coleoptera: Lampyridae) from Hong Kong, and its relevance to firefly biology and conservation. *Zootaxa*, 2931, 8-34.

<sup>11</sup> Yiu, V. (2011). A new species of firefly from Hong Kong – *Pteroptyx maipo* Ballantyne, 2011. *Insect News (Hong Kong Entomological Society Newsletter)*, 3, 2-7.

<sup>12</sup> Yiu, V. (2017). A study of Rhagophthalmidae and Lampyridae in Hong Kong with descriptions of new species (Coleoptera): Part 2. *Lampyrid*, 4, 59-111.

<sup>13</sup> McMillan, S. E., Wong, A. T. C., Tang, S. S. Y., Yau, E. Y. H., Gomersall, T., Wong, P. Y. H., Vu, A. K. H., Sin, S. Y. W., Hau, B. C. H., and Bonebrake, T. C. (2022). Spraints Demonstrate Small Population Size and Reliance on Fishponds for Eurasian Otter (*Lutra lutra*) in Hong Kong. *Conservation Science and Practice*, 5(1).

<sup>14</sup> Kwan, V. (2016). Present population and habitat status of potentially threatened Asian horseshoe crabs *Tachypleus tridentatus* and *Carcinoscorpius rotundicauda* in Hong Kong: a proposal for marine protected areas. *Biodiversity and Conservation*, 25(4).

TABLE 3.1 PREVIOUS STUDIES RELEVANT TO THE ASSESSMENT AREA

Study	Survey Period	Flora and Fauna Groups Surveyed
AFCD, 2007 <sup>16</sup>	2002 – 2006	Terrestrial Mammal
AFCD, 2006 <sup>17</sup>	2003 – 2005	Bat
McMillan et al., 2022 <sup>18</sup>	2018 – 2019	Eurasian Otter
HKBWS, 2024a <sup>19</sup>	2018	Avifauna
HKBWS, 2024b <sup>20</sup>	Oct 2018 – Mar 2023	Avifauna
Yiu, V, 2011 <sup>21</sup>	N/A	Firefly
Kwan, 2016 <sup>22</sup>	2012 and 2014	Horseshoe Crab

### 3.2.1 HABITAT AND VEGETATION

Based on a review of the recent aerial photos, the identified major habitats are woodland, plantation, shrubland, seasonally wet grassland, mangrove, developed area, fishpond, watercourse, and mudflat/ coastal water body. From the aerial photos, the Project Site is currently a developed area.

No flora species of conservation importance was previously recorded within the Assessment Area.

### 3.2.2 FAUNA SPECIES OF CONSERVATION IMPORTANCE RECORDED IN PREVIOUS STUDIES

#### 3.2.2.1 TERRESTRIAL MAMMAL

A total of 7 mammal species of conservation importance were previously recorded within the Assessment Area. Details of the mammal species of conservation importance are shown in

**Table 3.2** Mammal species of conservation importance previously recorded within the Assessment Area

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Previous Studies
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	短吻果蝠	Cap.170	AFCD, 2006
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap.170	AFCD, 2006
Lesser Yellow Bat	<i>Scotophilus kuhlii</i>	中黃蝠	Cap.170; Fellowes: (LC)	AFCD, 2006

<sup>16</sup> Shek, C. T., Chan, C. S. M., and Wan, Y. F. (2007). *Op. cit.*

<sup>17</sup> Shek, C. T., and Chan, C. S. M. (2006). *Op. cit.*

<sup>18</sup> McMillan, S. E., Wong, A. T. C., Tang, S. S. Y., Yau, E. Y. H., Gomersall, T., Wong, P. Y. H., Vu, A. K. H., Sin, S. Y. W., Hau, B. C. H., and Bonebrake, T. C. (2022). *Op. cit.*

<sup>19</sup> HKBWS (2024a). *Op. cit.*

<sup>20</sup> HKBWS (2024b). *Op. cit.*

<sup>21</sup> Yiu, V. (2011). *Op. cit.*

<sup>22</sup> Kwan, V. (2016). *Op. cit.*

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Eurasian Otter	<i>Lutra lutra</i>	歐亞水獺	Cap.170; Cap.586; Fellowes: RC; RLCV(EN); CSMPS(II); CITES(I)	McMillan et al., 2022
Small Indian Civet	<i>Viverricula indica</i>	小靈貓	Cap.170, Cap.586, RLCV(VU), CSMPS(II), CITES(III)	AFCD, 2007
Small Asian Mongoose	<i>Herpestes javanicus</i>	紅頰獴	Cap.170; RLCV(VU); CITES(III)	AFCD, 2007
Leopard Cat	<i>Prionailurus bengalensis</i>	豹貓	Cap.170; Cap.586; RLCV(VU); CITES(II)	AFCD, 2007

## Notes:

## Conservation Status:

- Cap. 170: Protected under Wild Animals Protection Ordinance
- Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance
- Fellowes – Fellowes et al. (2002): RC = Regional Concern, LC = Local 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.
- RLCV – Red List of China's Vertebrate (2020): VU = Vulnerable
- CSMPS – China State Major Protection Status: Appendix II
- CITES – Under Appendix I, II or III of Convention on International Trade in Endangered Species of Wild Fauna and Flora

Eurasian Otter, a species with highly restricted distribution in Hong Kong, was recorded within the Assessment Area between 2018 - 2019. According to the recent study, otter signs (i.e. spraints, tracks, scratchings, resting sites) were recorded within the wetland habitat mosaic (i.e. mangrove, mudflat/coastal waters) at the southeastern part of Assessment Area around Tsim Bei Tsui. Besides its presence within the Assessment Area, it can also be found in multiple localities within the Inner Deep Bay Area including Pak Nai, Mong Tseng Wai, Tin Shui Wai Channel and Fung Lok Wai<sup>23, 24</sup>. The indicative area of historical presence of Eurasian Otter<sup>25</sup> is presented in **Figure 3.2**.

TABLE 3.2 MAMMAL SPECIES OF CONSERVATION IMPORTANCE PREVIOUSLY RECORDED WITHIN THE ASSESSMENT AREA

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	短吻果蝠	Cap.170	AFCD, 2006
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap.170	AFCD, 2006
Lesser Yellow Bat	<i>Scotophilus kuhlii</i>	中黃蝠	Cap.170; Fellowes: (LC)	AFCD, 2006

<sup>23</sup> McMillan, S. E., Wong, A. T. C., Tang, S. S. Y., Yau, E. Y. H., Gomersall, T., Wong, P. Y. H., Vu, A. K. H., Sin, S. Y. W., Hau, B. C. H., and Bonebrake, T. C. (2022). *Op. cit.*

<sup>24</sup> Hui, M. K. Y., Leong, A. K. Y., Zhang, H., Yang, F., Yeung, H. Y., Lo, Y. F. P., and Yang, J. H. (2024). *Op. cit.*

<sup>25</sup> McMillan, S. E., Wong, A. T. C., Tang, S. S. Y., Yau, E. Y. H., Gomersall, T., Wong, P. Y. H., Vu, A. K. H., Sin, S. Y. W., Hau, B. C. H., and Bonebrake, T. C. (2022). *Op. cit.*

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Eurasian Otter	<i>Lutra lutra</i>	歐亞水獺	Cap.170; Cap.586; Fellowes: RC; RLCV(EN); CSMPS(II); CITES(I)	McMillan et al., 2022
Small Indian Civet	<i>Viverricula indica</i>	小靈貓	Cap.170, Cap.586, RLCV(VU), CSMPS(II), CITES(III)	AFCD, 2007
Small Asian Mongoose	<i>Herpestes javanicus</i>	紅頰獴	Cap.170; RLCV(VU); CITES(III)	AFCD, 2007
Leopard Cat	<i>Prionailurus bengalensis</i>	豹貓	Cap.170; Cap.586; RLCV(VU); CITES(II)	AFCD, 2007

Notes:

Conservation Status:

- Cap. 170: Protected under Wild Animals Protection Ordinance
- Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance
- Fellowes – Fellowes et al. (2002): RC = Regional Concern, LC = Local 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.
- RLCV – Red List of China's Vertebrate (2020): VU = Vulnerable
- CSMPS – China State Major Protection Status: Appendix II
- CITES – Under Appendix I, II or III of Convention on International Trade in Endangered Species of Wild Fauna and Flora

### 3.2.2.2 AVIFAUNA

A total of 84 avifauna species of conservation importance were previously recorded within the Assessment Area. A vast majority of these avifauna were wetland dependent species recorded at the mudflat area by HKBWS studies<sup>26, 27</sup>. Details of the avifauna species of conservation importance are shown in **Table 3.3**.

TABLE 3.3 AVIFAUNA SPECIES OF CONSERVATION IMPORTANCE PREVIOUSLY RECORDED WITHIN THE ASSESSMENT AREA

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Greater White-fronted Goose	<i>Anser albifrons</i>	白額雁	CSMPS(II)	HKBWS, 2024b
Baikal Teal	<i>Sibirionetta formosa</i>	花臉鴨	Cap.586; CITES(II)	HKBWS, 2024b
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	Fellowes: RC	HKBWS, 2024b
Falcated Duck	<i>Mareca falcata</i>	羅紋鴨	Fellowes: RC	HKBWS, 2024b
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	Fellowes: RC	HKBWS, 2024b
Mallard	<i>Anas platyrhynchos</i>	綠頭鴨	Fellowes: RC	HKBWS, 2024b
Northern Pintail	<i>Anas acuta</i>	針尾鴨	Fellowes: RC	HKBWS, 2024b
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	Fellowes: RC	HKBWS, 2024b

<sup>26</sup> HKBWS (2024a). *Op. cit.*

<sup>27</sup> HKBWS (2024b). *Op. cit.*

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Tufted Duck	<i>Aythya fuligula</i>	鳳頭潛鴨	Fellowes: LC	HKBWS, 2024b
Chinese Francolin	<i>Francolinus pintadeanus</i>	中華鶴鵠	RLCV(VU)	HKBWS, 2024a
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鷀	Fellowes: LC	HKBWS, 2024b
Great Crested Grebe	<i>Podiceps cristatus</i>	鳳頭鸕鷀	Fellowes: RC	HKBWS, 2024b
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鶲	Fellowes: RC	HKBWS, 2024b
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鶲	Fellowes: RC	HKBWS, 2024b
Northern Lapwing	<i>Vanellus vanellus</i>	鳳頭麥雞	Fellowes: LC	HKBWS, 2024b
Pacific Golden Plover	<i>Pluvialis fulva</i>	太平洋金斑鶴	Fellowes: LC	HKBWS, 2024b
Grey Plover	<i>Pluvialis squatarola</i>	灰斑鶴	Fellowes: RC	HKBWS, 2024a, HKBWS, 2024b
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鶴	Fellowes: (LC)	HKBWS, 2024b
Kentish Plover	<i>Charadrius alexandrinus</i>	環頸鶴	Fellowes: RC	HKBWS, 2024b
Lesser Sand Plover	<i>Charadrius mongolus</i>	蒙古沙鶴	Fellowes: LC	HKBWS, 2024b
Greater Sand Plover	<i>Charadrius leschenaultii</i>	鐵嘴沙鶴	Fellowes: RC	HKBWS, 2024b
Oriental Plover	<i>Charadrius veredus</i>	東方鶴	Fellowes: LC	HKBWS, 2024b
Whimbrel	<i>Numenius phaeopus</i>	中杓鶲	Fellowes: LC	HKBWS, 2024b
Far Eastern Curlew	<i>Numenius madagascariensis</i>	紅腰杓鶲	Fellowes: LC; RLCV(VU); IUCN(EN)	HKBWS, 2024b
Ruddy Turnstone	<i>Arenaria interpres</i>	翻石鶲	Fellowes: LC	HKBWS, 2024b
Great Knot	<i>Calidris tenuirostris</i>	大濱鶲	Fellowes: LC; RLCV(EN); IUCN(EN)	HKBWS, 2024b
Red Knot	<i>Calidris canutus</i>	紅腹濱鶲	Fellowes: LC; RLCV(VU)	HKBWS, 2024b
Broad-billed Sandpiper	<i>Calidris falcinellus</i>	闊嘴鶲	Fellowes: LC	HKBWS, 2024b
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	尖尾濱鶲	Fellowes: LC; IUCN(VU)	HKBWS, 2024b
Curlew Sandpiper	<i>Calidris ferruginea</i>	彎嘴濱鶲	Fellowes: RC	HKBWS, 2024b
Temminck's Stint	<i>Calidris temminckii</i>	青腳濱鶲	Fellowes: LC	HKBWS, 2024b
Long-toed Stint	<i>Calidris subminuta</i>	長趾濱鶲	Fellowes: LC	HKBWS, 2024b
Spoon-billed Sandpiper	<i>Calidris pygmaea</i>	勺嘴鶲	Fellowes: GC; RLCV(CR); IUCN(CR)	HKBWS, 2024b
Red-necked Stint	<i>Calidris ruficollis</i>	紅頸濱鶲	Fellowes: LC	HKBWS, 2024b
Sanderling	<i>Calidris alba</i>	三趾濱鶲	Fellowes: LC	HKBWS, 2024b

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Dunlin	<i>Calidris alpina</i>	黑腹濱鷸	Fellowes: RC	HKBWS, 2024b
Little Stint	<i>Calidris minuta</i>	小濱鷸	Fellowes: LC	HKBWS, 2024b
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	半蹼鷸	Fellowes: RC	HKBWS, 2024b
Swinhoe's Snipe	<i>Gallinago megala</i>	大沙錐	Fellowes: LC	HKBWS, 2024b
Terek Sandpiper	<i>Xenus cinereus</i>	翹嘴鷸	Fellowes: RC	HKBWS, 2024b
Grey-tailed Tattler	<i>Tringa brevipes</i>	灰尾漂鷸	Fellowes: LC	HKBWS, 2024b
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	Fellowes: RC	HKBWS, 2024b
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鷸	Fellowes: RC	HKBWS, 2024b
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	Fellowes: LC	HKBWS, 2024b
Spotted Redshank	<i>Tringa erythropus</i>	鶴鷸	Fellowes: RC	HKBWS, 2024b
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	Fellowes: RC	HKBWS, 2024b
Nordmann's Greenshank	<i>Tringa guttifer</i>	小青腳鷸	Cap.586; Fellowes: GC; RLCV(EN); CSMPS(II); IUCN(EN); CITES(I)	HKBWS, 2024b
Oriental Pratincole	<i>Glareola maldivarum</i>	普通燕鶲	Fellowes: LC	HKBWS, 2024b
Pallas's Gull	<i>Ichthyaetus ichthyaetus</i>	漁鷗	Fellowes: LC	HKBWS, 2024b
Black-tailed Gull	<i>Larus crassirostris</i>	黑尾鷗	Fellowes: LC	HKBWS, 2024b
Mew Gull	<i>Larus canus</i>	海鷗	Fellowes: LC	HKBWS, 2024b
Lesser Black-backed Gull	<i>Larus fuscus</i>	烏灰銀鷗	Fellowes: LC	HKBWS, 2024b
Caspian Tern	<i>Hydroprogne caspia</i>	紅嘴巨鷗	Fellowes: RC	HKBWS, 2024b
Little Tern	<i>Sternula albifrons</i>	白額燕鷗	Fellowes: LC	HKBWS, 2024b
Oriental Stork	<i>Ciconia boyciana</i>	東方白鶴	Fellowes: GC; RLCV(EN); IUCN(EN); CITES(I)	HKBWS, 2024b
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鷀	Fellowes: PRC	HKBWS, 2024b
Eurasian Spoonbill	<i>Platalea leucorodia</i>	白琵鷺	Cap.586; Fellowes: LC; CSMPS(II); CITES(II)	HKBWS, 2024b
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	Fellowes: PGC; RLCV(EN); CSMPS(II); IUCN(EN)	HKBWS, 2024b
Yellow Bittern	<i>Ixobrychus sinensis</i>	黃葦鳽	Fellowes: (LC)	HKBWS, 2024b
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	Fellowes: (LC)	HKBWS, 2024b
Striated Heron	<i>Butorides striata</i>	綠鷺	Fellowes: (LC)	HKBWS, 2024b
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	Fellowes: PRC (RC)	HKBWS, 2024b

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	Fellowes: (LC)	HKBWS, 2024b
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	Fellowes: PRC	HKBWS, 2024b
Great Egret	<i>Ardea alba</i>	大白鷺	Fellowes: PRC (RC)	HKBWS, 2024b
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	Fellowes: RC	HKBWS, 2024b
Little Egret	<i>Egretta garzetta</i>	小白鷺	Fellowes: PRC (RC)	HKBWS, 2024b
Chinese Egret	<i>Egretta eulophotes</i>	黃嘴白鷺	Fellowes: GC; RLCV(EN); CSMPS(II); IUCN(VU)	HKBWS, 2024b
Western Osprey	<i>Pandion haliaetus</i>	鷗	Cap.586; Fellowes: RC; CSMPS(II); CITES(II)	HKBWS, 2024b
Crested Serpent Eagle	<i>Spilornis cheela</i>	蛇鷹	Cap.586; Fellowes: (LC); CSMPS(II); CITES(II)	HKBWS, 2024b
Greater Spotted Eagle	<i>Clanga clanga</i>	烏鵰	Cap.586, Fellowes: GC, RLCV(EN), CSMPS(II), IUCN(VU), CITES(II)	HKBWS, 2024b
Eastern Imperial Eagle	<i>Aquila heliaca</i>	白肩鵟	Cap.586; Fellowes: GC; RLCV(EN); CSMPS(I); IUCN(VU); CITES(I)	HKBWS, 2024b
Besra	<i>Accipiter virgatus</i>	松雀鷹	Cap.586; CSMPS(II); CITES(II)	HKBWS, 2024b
Eastern Marsh Harrier	<i>Circus spilonotus</i>	白腹鷂	Cap.586; Fellowes: (RC); CSMPS(II); CITES(II)	HKBWS, 2024b
Black Kite	<i>Milvus migrans</i>	黑鷲	Cap.586; Fellowes: (RC); CSMPS(II); CITES(II)	HKBWS, 2024b
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	白腹海鷺	Cap.586; Fellowes: (RC); RLCV(VU); CSMPS(I); CITES(II)	HKBWS, 2024b
Eastern Buzzard	<i>Buteo japonicus</i>	普通鷲	Cap.586; CSMPS(II); CITES(II)	HKBWS, 2024b
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	Fellowes: (LC)	HKBWS, 2024b
Black-capped Kingfisher	<i>Halcyon pileata</i>	藍翡翠	Fellowes: LC; IUCN(VU)	HKBWS, 2024b
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	Fellowes: (LC)	HKBWS, 2024b
Peregrine Falcon	<i>Falco peregrinus</i>	遊隼	Cap.586; Fellowes: (LC); CSMPS(II); CITES(I)	HKBWS, 2024b
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	Fellowes: LC, IUCN(VU)	HKBWS, 2024b
Red-billed Starling	<i>Spodiopsar sericeus</i>	絲光椋鳥	Fellowes: GC	HKBWS, 2024a, HKBWS, 2024b
White-cheeked Starling	<i>Spodiospar cineraceus</i>	灰椋鳥	Fellowes: PRC	HKBWS, 2024a

Notes:  
Conservation Status:

- Cap. 170: Protected under Wild Animals Protection Ordinance. All birds in Hong Kong are protected under Cap. 170
- Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance
- Fellowes – Fellowes et al. (2002): PGC = Potential Global Concern, GC = Global Concern, PRC = Potential Regional Concern, RC = Regional Concern, LC = Local 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.
- RLCV – Red List of China's Vertebrate (2020): VU = Vulnerable, EN = Endangered, CR = Critically Endangered
- CSMPS – China State Major Protection Status: Appendix II
- IUCN: International Union for Conservation of Nature Red List of Threatened Species (2025). VU = Vulnerable, EN = Endangered, CR = Critically Endangered
- CITES – Under Appendix (I), Appendix (II) or Appendix (III) of Convention on International Trade in Endangered Species of Wild Flora and Fauna

### 3.2.2.3 HERPETOFAUNA

No herpetofauna species of conservation importance were previously recorded within the Assessment Area.

### 3.2.2.4 BUTTERFLY AND ODONATE

No butterfly and odonate species of conservation importance were previously recorded within the Assessment Area.

### 3.2.2.5 AQUATIC ASSEMBLAGES

No freshwater vertebrate and invertebrate species of conservation importance were previously recorded within the Assessment Area.

Nursery grounds for two (2) horseshoe crab species namely, *Carcinoscorpius rotundicauda* and *Tachypleus tridentatus* were identified in mudflats at Tsim Bei Tsui<sup>28</sup>. A seagrass species of conservation importance, namely *Halophila beccarii*, was also recorded within the mudflats of Tsim Bei Tsui in a study<sup>29</sup>. Detailed conservation status of the horseshoe crab and seagrass recorded within the Assessment Area is presented in **Table 3.4**.

TABLE 3.4 AQUATIC SPECIES OF CONSERVATION IMPORTANCE RECORDED FROM PREVIOUS STUDIES

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Previous Studies
<b>Horseshoe Crab</b>				
Mangrove Horseshoe crab	<i>Carcinoscorpius rotundicauda</i>	圓尾蟹	<ul style="list-style-type: none"> <li>• Grade II National Key Protected Species</li> </ul>	Kwan, 2016 <sup>30</sup>
Chinese Horseshoe crab	<i>Tachypleus tridentatus</i>	中華蟹	<ul style="list-style-type: none"> <li>• Grade II National Key Protected Species</li> <li>• IUCN (EN)</li> </ul>	Kwan, 2016 <sup>31</sup>

<sup>28</sup> Kwan, V. (2016). *Op. cit.*

<sup>29</sup> Yip, K. L., and Lai, C. C. (2006). *Halophila minor* (Hydrocharitaceae), a new record with taxonomic notes of the *Halophila* from the Hong Kong Special Administrative Region, China. *Journal of Systematics and Evolution*, 44(4), 457.

<sup>30</sup> Kwan, V. (2016). *Op. cit.*

<sup>31</sup> Kwan, V. (2016). *Op. cit.*

Seagrass				
Beccari's Halophila	<i>Halophila beccariei</i>	貝克喜鹽草	• IUCN (VU) • RLCHP: VU	Yip and Lai, 2006 <sup>32</sup>
Notes:				
Conservation Status:				
<ul style="list-style-type: none"> <li>RLCHP – Red List of China's Higher Plants (2020). VU = Vulnerable</li> <li>IUCN – International Union for Conservation of Nature Red List of Threatened Species (2025). VU = Vulnerable, EN = Endangered</li> </ul>				

### 3.2.2.6 FIREFLIES

Maipo Bent-winged Firefly *Pteroptyx maipo* was first recorded in Hong Kong Wetland Park in 2009<sup>35</sup>. According to AFCD<sup>37</sup>, Maipo Bent-winged Firefly is the only species that depends on mangrove ecosystems in Hong Kong, with their distribution mainly within mangrove ecosystems and their fringes. While the larvae feed on snails found on the tidal mudflats, the adults inhabit short vegetation in the vicinity. This species is found in various locations in Hong Kong, including the Mai Po Nature Reserve, Tin Shui Wai, near Tsim Bei Tsui, Hong Kong Wetland Park, Sheung Pak Nai, and at the mangrove around outlet of Kam Tin River near Nam Sang Wai<sup>38</sup>. Detailed conservation status of the firefly recorded within the Assessment Area is presented in **Table 3.5**.

TABLE 3.5 FIREFLY SPECIES OF CONSERVATION IMPORTANCE RECORDED FROM PREVIOUS STUDIES

Common Name	Scientific Name	Chinese Name	Conservation/Protection Status	Previous Studies
Maipo Bent-winged Firefly	<i>Pteroptyx maipo</i>	米埔屈翅螢	IUCN (EN)	Yiu, 2011 & 2017, Ballantyne et al., 2011

Notes:

- IUCN: International Union for Conservation of Nature Red List of Threatened Species (2024). EN = Endangered

### 3.2.3 IDENTIFICATION OF INFORMATION GAP

With reference to the reviewed data, it is considered that the Project Site and its vicinity have been covered and studied for certain taxa groups (i.e. terrestrial mammal, avifauna and fireflies). However, the ecological profile of some taxa groups (i.e. herpetofauna, butterflies and odonates) in the Assessment Area was limited.

To fill in the identified information gaps, especially within the Project Site, there is a need to obtain up-to-date and site-specific baseline data for the Project. Given the small scale of the Project and the existing conditions of the Project Site and its vicinity are majorly developed area, daytime and night-time ecological surveys were conducted to verify the desktop review findings, latest ecological conditions of the Assessment Area and establish an updated and

<sup>32</sup> Yip, K. L., and Lai, C. C. (2006). *Op. cit.*

<sup>35</sup> Biodiversity Information Hub. (n.d.). *Pteroptyx maipo*. Accessed on 18 February 2025. Retrieve from <https://bih.gov.hk/en/fast-facts/species-named-after-hong-kong/index-id-23.html>

<sup>37</sup> Cheng, J. C. Y., Shih, R. C. H., and Leung, M. H. (2020). Habitat Characteristics of Fireflies in Hong Kong. *Hong Kong Biodiversity*, 26, 19-24.

<sup>38</sup> Yiu, V. (2011). *Op. cit.*

representative ecological profile of the Assessment Area. The methodology and survey findings are presented in **Section 4** and **Section 5** respectively.

## 4. ECOLOGICAL SURVEY METHODOLOGY

The Assessment Area comprises an area within 300 m from the Project Site. With reference to the reviewed data in **Section 3**, it is considered that the Project Site and its vicinity have been covered and studied for some taxa groups (i.e. terrestrial mammals, avifauna and fireflies) in the literature, while other taxa groups (i.e. herpetofauna, butterflies and odonates) were less covered.

In order to supplement and establish a complete set of baseline data for the Project, ecological surveys, covering both day and night surveys, were conducted on 11 August and 22 August 2025. A summary of the ecological baseline survey methodologies is provided in **Table 4.1**. Survey transects follow mainly the existing roads (**Figure 4.1** refers), aiming to cover all types of habitats within the Assessment Area with available access.

TABLE 4.1: SUMMARY OF THE ECOLOGICAL BASELINE SURVEY METHODOLOGIES

Survey Type	Methodology	Survey Date
Habitat and Vegetation	Habitat mapping and vegetation identification through ground truthing in major habitats, in order to ensure the habitat map reflects current conditions and to distinguish between habitats which cannot always be reliably distinguished from aerial photos. Representative colour photos were taken for each habitat type and any important ecological features identified.	11, 22 August 2025
Mammal	Quantitative (active searching along the survey transect) and qualitative (recorded within Assessment Area); including day and night surveys.  As mammals usually occur at low densities, in addition to direct observation, any observation of signs of mammal activity, such as tracks, scats or burrows were actively sought.	11, 22 August 2025
Avifauna	Quantitative (active searching along the survey transect) and qualitative (recorded within Assessment Area); including day and night surveys.  The presence and abundance of avifauna species at various habitats observed from transects was recorded visually and aurally. Any signs of breeding (e.g. nests, recently fledged juveniles) within the Assessment Area were also recorded if observed. Observations were made using 8×42 binoculars and photographic records taken, where possible.	11, 22 August 2025
Herpetofauna	Quantitative (active searching along the survey transect) and qualitative (recorded within Assessment Area); including day and night surveys.  Active searching in potential hiding places such as among leaf litter, inside holes and under stones and logs were actively searched within the Assessment Area. Auditory detection of species specific calls was also used to survey frogs and toads.	11, 22 August 2025
Butterfly and Odonates	Qualitative (recorded within Assessment Area) survey; including only day survey.	11, 22 August 2025

Survey Type	Methodology	Survey Date
	Particular attention was given to food/ host plants for butterfly larvae and favoured habitats for both groups, such as shrubland for butterflies and streams for odonates (both adults and larvae).	
Aquatic fauna	Active searching at sizable streams and notable water bodies by direct observation for aquatic fauna, including but not limited to fish, and macroinvertebrates; including day and night surveys.	11, 22 August 2025
Firefly	Qualitative (recorded within Assessment Area) survey; including night survey. Surveys commenced immediately after sunset and lasted for approximately 2 hours.  Active searching on the potential habitats such as mangrove and watercourses utilized by fireflies.	11, 22 August 2025

## 5. SURVEY FINDINGS

Based on the reviewed literature and the baseline surveys, the Project Site is located within WBA and partially encroached onto CPA. Nine (9) habitat types have been identified in the Assessment Area, including Woodland (Young), Plantation, Shrubland, Seasonally Wet Grassland, Developed Area, Fishpond, Semi-natural Watercourse, Mangrove and Mudflat/ Coastal Water Body. Habitats present within the Assessment Area are shown in **Figure 5.1**.

### 5.1 HABITAT AND VEGETATION

**Table 5.1** summarises the area of each habitat recorded in the Assessment Area. The representative habitat photos are presented in **Annex 1**. A total of 209 flora species were recorded within the Assessment Area. None of them is flora species of conservation importance. The list of flora species recorded in the survey is provided in **Annex 2**. The following sections elaborate on the ecological conditions, flora and fauna recorded at each habitat during the ecological baseline survey.

TABLE 5.1: AREA OF EACH HABITAT IDENTIFIED IN THE ASSESSMENT AREA

Habitat	Area within Project Site, including works area (m <sup>2</sup> )	% of Project Site	Area within Assessment Area (ha)	% of Assessment Area
Woodland (Young)	--	--	1.1	3.1%
Plantation	--	--	5.4	14.9%
Shrubland	--	--	7.0	19.3%
Seasonally Wet Grassland	--	--	0.8	2.1%
Developed Area	440	100%	11.6	32.3%
Fishpond	--	--	0.8	2.1%
Semi-natural Watercourses	--	--	< 0.1 (length: 210 m)	0.1%
Mangrove	--	--	2.2	6.1%
Mudflat/ Coastal Water Body	--	--	7.2	20.0%
<b>TOTAL</b>	<b>440</b>	<b>100%</b>	<b>36.1</b>	<b>100%</b>

#### 5.1.1 WOODLAND (YOUNG)

Woodland (Young) is present as an isolated patch within the Assessment Area. It is located close to developed area and mangrove habitat along the existing Deep Bay Road. This habitat occupies approximately 1.1 ha which is equivalent to 3.1% of the Assessment Area. A total of 77 plant species were recorded in woodland (young) habitat. Common native tree species such as *Celtis sinensis*, *Mallotus paniculatus* and *Sterculia lanceolata* are commonly found in this habitat, where they form a semi-enclosed canopy. The mid-storey is primarily composed of native tree and shrub species, including *Aporosa dioica*, *Litsea rotundifolia* var. *oblongifolia*, *Macaranga tanarius* var. *tomentosa* and *Schefflera heptaphylla*. The understory is populated by

various shrubs and climbers, such as *Desmos chinensis* and *Psychotria asiatica*, along with common herbs and ferns, including *Dianella ensifolia*, and *Lindsaea ensifolia*. No flora species of conservation importance was identified within the woodland (young) area.

### 5.1.2 PLANTATION

Plantation within the Assessment Area exists as an isolated patch, occupying approximately 5.4 ha which is equivalent to 14.9% of the Assessment Area. It is ecologically linked to shrubland habitat and is located adjacent to woodland (young) and mangrove. A total of 62 plant species were recorded in this habitat. Plant species recorded in this habitat comprises mainly tree species used for landscaping, including exotic species *Acacia confusa*, *Eucalyptus citriodora* and *Lophostemon confertus*. No flora species of conservation importance was recorded.

### 5.1.3 SHRUBLAND

Shrubland mainly exists as fragmented patches in the south of the Assessment Area. It is surrounded by plantation and developed area in its close proximity. This habitat occupies approximately 7.0 ha which is equivalent to 19.3% of the Assessment Area. A total of 65 plant species were recorded in shrubland habitat. This habitat is characterized by a mix of shrubs and small trees, typically under 2 meters in height. Dominant shrub species include native plants such as *Baeckea frutescens* and *Croton crassifolius*. Climbing species like *Cansjera rheedii* are also present in high abundance. Among the trees, *Polyspora axillaris* stands out as the dominant species, while others like *Bridelia tomentosa*, *Rhus succedanea*, and *Sapium discolor* appear sporadically throughout the area. The hillside shrubland is predominantly covered by the fern *Dicranopteris pedata*. No flora species of conservation importance was recorded.

### 5.1.4 SEASONALLY WET GRASSLAND

Seasonally wet grassland is located adjacent to mangrove habitat as an isolated patch in the west of the Assessment Area. This habitat occupies approximately 0.8 ha which is equivalent to 2.1% of the Assessment Area. Seasonally wet grassland is potentially developed from abandoned fishponds or abandoned wet agricultural land through natural succession. It is occupied by invaded exotic weed species including *Bidens alba*, *Brachiaria mutica* and *Mikania micrantha*. A total of 28 plant species were recorded in seasonally wet grassland and none of them are species of conservation importance.

### 5.1.5 DEVELOPED AREA

Developed area is scattered across the Assessment Area, occupying approximately 11.6 ha which is equivalent to 32.3% of the Assessment Area. This habitat is regarded as degraded and associated with intensive human disturbances. It consists mainly of residential village area, as well as brownfields, including storage facilities, scrapyards, livestock farms and waste grounds. A total 55 plant species were recorded in the developed area. This habitat primarily consisted of ornamental species such as *Bougainvillea spectabilis* and *Hibiscus rosa-sinensis*. Additionally, several ruderal species that had self-colonized the area included *Lantana camara*, *Leucaena leucocephala*, *Bidens alba* and *Wedelia trilobata* were also recorded. No flora species of conservation importance was recorded.

### 5.1.6 FISHPOND

Three (3) fishponds are present in the Assessment Area adjacent to mangrove habitat. They occupy approximately 0.8 ha which is equivalent to 2.1% of the Assessment Area. These fishponds are generally inactive, lacking maintenance and management. Therefore, they are overgrown with exotic weeds, for example *Mikania micrantha*. A total of 13 plant species were recorded in fishpond habitat. No flora species of conservation importance was recorded.

### 5.1.7 SEMI-NATURAL WATERCOURSE

A semi-natural watercourse is present in the Assessment Area. It flows through the seasonally wet grassland towards the mangrove. The total length of the watercourse is approximately 210 m and the total area is less than 0.1 ha. A total of 10 plant species were recorded in the semi-natural watercourse. None of them are flora species of conservation importance.

### 5.1.8 MANGROVE

Mangrove is located adjacent to the mudflat/coastal water body along the coastline and in the estuary of Tin Shui Wai River within the Assessment Area. This habitat covers 2.2 ha which is equivalent to 6.1% within the Assessment Area. The vegetation is mainly formed by native true mangroves and mangrove associates, including *Acanthus ilicifolius*, *Hibiscus tiliaceus* and *Kandelia obovata*. A species of exotic mangrove, *Sonneratia caseolaris*, is also scattered within this habitat. A total of 14 plant species were recorded in mangrove habitat and none of them are species of conservation importance.

### 5.1.9 MUDFLAT/ COASTAL WATER BODY

Extensive areas of mudflat/ coastal water body are present along the shoreline within the Assessment Area. This intertidal habitat is ecologically linked to the Inner Deep Bay Ramsar Site. The total area of mudflat/ coastal water body within the Assessment Area is approximately 7.2 ha, accounting for 20.0% of the entire Assessment Area. A total of 6 plant species were recorded in this habitat. No flora species of conservation importance was recorded.

### 5.1.10 HABITAT WITHIN THE PROJECT SITE

The proposed alignment and works area are located along the existing hard-paved Deep Bay Road and in an area near Sha Kiu Tsuen within the developed area only. The area of the Project Site is approximately 440 m<sup>2</sup> (0.044 ha). This area is currently subject to some degree of disturbance from residential and traffic activities. The photographic record of the Project Site is present in **Annex 1**. The vegetation composition within the Project Site is generally similar to that present in the same habitat (i.e. developed area) within the Assessment Area. No flora species of conservation importance was recorded within the Project Site. Tree felling is not required but tree pruning will be needed along the boundary of the Project Site.

## 5.2 TERRESTRIAL WILDLIFE

Wildlife recorded during the ecological surveys are described below in **Section 5.2.1** to **Section 5.2.6**. A full list of fauna species recorded during the baseline survey is included in **Annexes 3 – 8**. The locations of species of conservation importance recorded within the Assessment Area are shown in **Figure 5.1**.

### 5.2.1 MAMMALS

The survey identified four (4) mammal species within the Assessment Area, all of them are of conservation importance, namely Chinese Noctule, Japanese Pipistrelle, Least Pipistrelle and Chinese Pipistrelle. Their conservation and protection status in Hong Kong are presented in **Table 5.2** below. Their locations are shown in **Figure 5.1**.

**TABLE 5.2 MAMMAL SPECIES OF CONSERVATION IMPORTANCE RECORDED WITHIN THE ASSESSMENT AREA**

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Recorded Habitat
Chinese Noctule	<i>Nyctalus plancyi</i>	中華山蝠	Cap.170; Fellowes: PRC (RC)	Woodland (Young)
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap.170	Woodland (Young)
Least Pipistrelle	<i>Pipistrellus tenuis</i>	小伏翼	Cap.170	Plantation
Chinese Pipistrelle	<i>Hypsugo pulveratus</i>	灰伏翼	Cap.170; Fellowes: (LC)	Plantation

Notes:

Conservation Status:

- Cap. 170: Protected under Wild Animals Protection Ordinance
- Fellowes – Fellowes et al. (2002): RC = Regional Concern, PRC = Potential Regional Concern, LC = Local 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.

### 5.2.2 AVIFAUNA

The survey identified twenty-seven (27) avifauna species, in which a total of ten (10) of them are of conservation importance, namely Black-winged Stilt, Whimbrel, Common Greenshank, Chinese Pond Heron, Grey Heron, Great Egret, Little Egret, Black Kite, White-throated Kingfisher and White-shouldered Starling. Many of the avifauna species recorded are waterbirds that forage in the mudflat/ coastal water body. Their conservation and protection status in Hong Kong are presented in **Table 5.3** below.

It should be noted that avifauna species of conservation importance recorded are in high mobility in the Assessment Area, locating these species on map is not representative. Thus, avifauna species of conservation importance recorded are not shown on habitat map but listed under **Table 5.3** and **Annex 4**.

**TABLE 5.3 AVIFAUNA SPECIES OF CONSERVATION IMPORTANCE RECORDED WITHIN THE ASSESSMENT AREA**

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Recorded Habitat
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	Fellowes: RC	Mudflat/ Coastal Water Body
Whimbrel	<i>Numenius phaeopus</i>	中杓鷸	Fellowes: LC	Mudflat/ Coastal Water Body

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Recorded Habitat
Common Greenshank	<i>Tringa nebularia</i>	青腳鶲	Fellowes: RC	Mudflat/ Coastal Water Body
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	Fellowes: PRC (RC)	Mudflat/ Coastal Water Body, In-flight
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	Fellowes: PRC	In-flight
Great Egret	<i>Ardea alba</i>	大白鷺	Fellowes: PRC (RC)	Mudflat/ Coastal Water Body
Little Egret	<i>Egretta garzetta</i>	小白鷺	Fellowes: PRC (RC)	Mudflat/ Coastal Water Body, In-flight
Black Kite	<i>Milvus migrans</i>	黑鳶	Cap.586; Fellowes: (RC); CSMPS(II); CITES(II)	In-flight
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	Fellowes: (LC)	Mudflat/ Coastal Water Body, In-flight
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	Fellowes: (LC)	In-flight

## Notes:

## Conservation Status:

- Cap. 170: Protected under Wild Animals Protection Ordinance. All birds in Hong Kong are protected under Cap. 170
- Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance
- Fellowes – Fellowes et al. (2002): RC = Regional Concern, PRC = Potential Regional Concern, LC = Local 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.
- CSMPS – China State Major Protection Status: Appendix II
- CITES – Under Appendix I, II or III of Convention on International Trade in Endangered Species of Wild Fauna and Flora

### 5.2.3 HERPETOFAUNA

One (1) amphibian species and three (3) reptile species were recorded within the Assessment Area. None of them are of conservation importance. The list of herpetofauna species recorded is provided in **Annexes 5 – 6**.

### 5.2.4 BUTTERFLIES AND ODONATES

A total of sixteen (16) butterfly species and six (6) odonate species were recorded within the Assessment Area. Two (2) butterfly species and none of the odonate species recorded are of conservation importance. Their conservation and protection status in Hong Kong are presented in **Table 5.4** below. The list of butterflies and odonates species recorded is provided in **Annexes 7 – 8**.

**TABLE 5.4 BUTTERFLY SPECIES OF CONSERVATION IMPORTANCE RECORDED WITHIN THE ASSESSMENT AREA**

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Recorded Habitat
Common Awl	<i>Hasora badra</i>	三斑趾弄蝶	Fellowes: LC; AFCD: Very Rare	Plantation
Swallowtail	<i>Papilio xuthus</i>	柑橘鳳蝶	AFCD: Rare	Plantation

Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Recorded Habitat
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Notes:

Conservation Status:

- Fellowes – Fellowes et al. (2002): LC = Local Concern.
- AFCD refers to Chan et. al. 2011. A Review of the Local Restrictedness of Hong Kong Butterflies. *Hong Kong Biodiversity*, 21: 1-12

## 5.2.5 AQUATIC FAUNA

No freshwater vertebrate and invertebrate species were recorded within the Assessment Area.

## 5.2.6 FIREFLIES

No firefly species were recorded within the Assessment Area.

## 6. EVALUATION OF HABITAT AND SPECIES

In this section, the ecological importance of the habitats identified within the Assessment Area are evaluated in accordance with the *EIAO TM Annex 8* criteria. The evaluation is based upon the information of literature review and ecological baseline survey presented in **Sections 3 – 5**.

### 6.1 ASSESSMENT AREA

A total of nine (9) habitats have been identified within the Assessment Area, including Woodland (Young), Plantation, Shrubland, Seasonally Wet Grassland, Developed Area, Fishpond, Semi-natural Watercourse, Mangrove and Mudflat/ Coastal Water Body. The ecological importance evaluation of each habitat type within the Assessment Area is presented in **Table 6.1** to **Table 6.9**.

TABLE 6.1: ECOLOGICAL EVALUATION OF WOODLAND (YOUNG)

Criteria	Woodland (Young)
Naturalness	Semi-natural, consisting of a mixture of native tree, exotic and orchard species
Size	Approx. 1.1 ha within the Assessment Area
Diversity	Low to Moderate diversity of plant species and structural complexity Low diversity of fauna species
Rarity	2 species of conservation importance recorded, both are mammal species  Mammal: Chinese Noctule, Japanese Pipistrelle
Re-creatability	Young woodland is re-creatable, but the more mature the woodland, the longer the time required for re-creation
Fragmentation	Existed as a fragmented and isolated patch within the Assessment Area
Ecological Linkage	Ecologically linked to adjacent mangrove in close proximity
Potential Value	Potentially become a more mature woodland if given sufficient time and protection from disturbances
Nursery/ Breeding Ground	No significant nursery or breeding ground observed
Age	15 – 30 years
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low to Moderate</b>

TABLE 6.2: ECOLOGICAL EVALUATION OF PLANTATION

Criteria	Plantation
Naturalness	Semi-natural, consisting of landscaping or introduced afforestation species that were planted in the past, as well as naturally recruited plant species
Size	Approx. 5.4 ha within the Assessment Area
Diversity	Low to Moderate diversity of plant species and structural complexity Low to Moderate diversity of butterfly species; Low diversity of all other fauna groups
Rarity	A total of 4 species of conservation importance recorded, including 2 mammal and 2 butterfly species  Mammal: Chinese Pipistrelle, Least Pipistrelle Butterfly: Common Awl, Swallowtail
Re-creatability	Readily re-creatable through afforestation schemes though would take at least 15 years or more for recruitment of native flora species
Fragmentation	Existed as one isolated patch within the Assessment Area
Ecological Linkage	Ecologically linked to shrubland and mangrove in close proximity
Potential Value	Potentially go through succession and transition towards woodland if given sufficient time and protection from natural and anthropogenic disturbances
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	Ranging from 5 to 15 years
Abundance/ Richness of Wildlife	Low to Moderate abundance and diversity for butterfly species; Low abundance and diversity for all other fauna groups
<b>Overall Ecological Importance</b>	<b>Low to Moderate</b>

TABLE 6.3: ECOLOGICAL EVALUATION OF SHRUBLAND

Criteria	Shrubland
Naturalness	Semi-natural habitat, mainly covered by native shrub and grass species
Size	Approx. 7.0 ha within the Assessment Area
Diversity	Low to Moderate diversity of plant species and structural complexity Low diversity of fauna species

Criteria	Shrubland
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Require around 5 years for shrubland to regenerate
Fragmentation	Existed as fragmented patches within the Assessment Area
Ecological Linkage	Ecologically linked to adjacent plantation in close proximity
Potential Value	Potentially become mature shrubland and then young mixed woodland if given sufficient time and protection from disturbance
Nursery/ Breeding Ground	No significant nursery or breeding ground observed
Age	Ranging from 5 to 15 years
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low to Moderate</b>

TABLE 6.4: ECOLOGICAL EVALUATION OF SEASONALLY WET GRASSLAND

Criteria	Seasonally Wet Grassland
Naturalness	Semi-natural habitat, mainly developed from abandoned fishponds or potentially from abandoned wet agricultural land through natural succession
Size	Approx. 0.8 ha within the Assessment Area
Diversity	Low diversity of plant species and structural complexity Low diversity of fauna species
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Able to be re-created under suitable hydrological conditions
Fragmentation	Existed as an isolated patch
Ecological Linkage	Ecologically linked to mangrove and semi-natural watercourse
Potential Value	Low potential value
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low</b>

TABLE 6.5: ECOLOGICAL EVALUATION OF DEVELOPED AREA

Criteria	Developed Area
Naturalness	Man-made habitat with intensive human disturbances
Size	Approx. 11.6 ha within the Assessment Area
Diversity	Low to Moderate diversity of plant species and Low structural complexity Low diversity of fauna species
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Readily re-creatable
Fragmentation	Present across the Assessment Area
Ecological Linkage	No ecological linkage with adjacent habitats
Potential Value	Low potential value
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low</b>

TABLE 6.6: ECOLOGICAL EVALUATION OF FISHPOND

Criteria	Fishpond
Naturalness	Man-made habitat lacks active management
Size	Approx. 0.8 ha within the Assessment Area
Diversity	Low diversity of plant species and structural complexity Low diversity of fauna species
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Re-creatable when suitable hydrological conditions are available
Fragmentation	Fragmented and scattered within the Assessment Area
Ecological Linkage	Ecologically linked to mangrove
Potential Value	Could potentially be further improved by active management practices such as weed control and management of water levels, ensuring connection with associated wetland habitats (i.e. mangrove and mudflat/ Coastal Water Body) for better recruitment of avifauna, odonate and aquatic fauna species

Criteria	Fishpond
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low</b>

TABLE 6.7: ECOLOGICAL EVALUATION OF SEMI-NATURAL WATERCOURSE

Criteria	Semi-natural Watercourse
Naturalness	Semi-natural with some degrees of human disturbances
Size	Less than 0.1 ha (approx. 210 m in length) within the Assessment Area
Diversity	Low diversity of plant species and structural complexity Low diversity of fauna species
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Difficult to be re-created
Fragmentation	Generally not fragmented between upstream and downstream areas
Ecological Linkage	Ecologically linked to seasonally wet grassland and mangrove
Potential Value	Could be benefited from a minimisation of anthropogenic influences (i.e. pollution, concrete structures) in the downstream areas
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low</b>

TABLE 6.8: ECOLOGICAL EVALUATION OF MANGROVE

Criteria	Mangrove
Naturalness	Natural habitat
Size	Approx. 2.2 ha within the Assessment Area
Diversity	Low diversity of plant species and structural complexity Low diversity of fauna species

Criteria	Mangrove
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Difficult to be re-created
Fragmentation	Slightly fragmented
Ecological Linkage	Ecologically linked to mudflat/ coastal water body, woodland (young), plantation, fishpond, seasonally wet grassland and semi-natural watercourse
Potential Value	Potentially be used by Eurasian Otter and Maipo Bent-winged Firefly
Nursery/ Breeding Ground	Mangroves in Tsim Bei Tsui are potentially nursery and breeding grounds for Maipo Bent-winged Firefly. Mangroves in general are nursery and breeding grounds of other intertidal infauna and epifauna species
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>High</b>

TABLE 6.9: ECOLOGICAL EVALUATION OF MUDFLAT/ COASTAL WATER BODY

Criteria	Mudflat/ Coastal Water Body
Naturalness	Natural habitat
Size	Approx. 7.2 ha within the Assessment Area
Diversity	Low diversity of plant species and structural complexity Moderate diversity of avifauna; Low diversity of other fauna species
Rarity	7 species of conservation importance recorded, all are avifauna species  Avifauna: Black-winged Stilt, Whimbrel, Common Greenshank, Chinese Pond Heron, Great Egret, Little Egret, White-throated Kingfisher
Re-creatability	Difficult to be re-created
Fragmentation	Not fragmented
Ecological Linkage	Ecologically linked to mangrove
Potential Value	High potential value
Nursery/ Breeding Ground	Potential breeding ground for horseshoe crab and other intertidal infauna and epifauna species
Age	N/A

Criteria	Mudflat/ Coastal Water Body
Abundance/ Richness of Wildlife	High abundance and richness of avifauna species, low for other fauna species
<b>Overall Ecological Importance</b>	<b>High</b>

## 6.2 PROJECT SITE

The Project Site, including works area, comprises approximately 440 m<sup>2</sup> of developed area conservatively. The abundance and richness of wildlife were low due to the small size of the Project Site and its location being on an existing regularly used traffic road and near Sha Kiu Tsuen within the developed area. No flora or fauna species was recorded within the Project Site during ecological baseline survey. The evaluation of developed area within the Project Site is presented in **Table 6.10**.

TABLE 6.10: ECOLOGICAL EVALUATION OF PROJECT SITE

Criteria	Developed Area within Project Site
Naturalness	Man-made habitat with high level of anthropogenic disturbances
Size	Approx. 440 m <sup>2</sup> (0.044 ha)
Diversity	Low diversity of plant species and structural complexity Low diversity of fauna species
Rarity	No flora and fauna species of conservation importance recorded during the surveys
Re-creatability	Readily re-creatable
Fragmentation	N/A
Ecological Linkage	No ecological linkage with adjacent habitats
Potential Value	Low
Nursery/ Breeding Ground	No significant nursery or breeding ground recorded
Age	N/A
Abundance/ Richness of Wildlife	Low abundance and richness for fauna species
<b>Overall Ecological Importance</b>	<b>Low</b>

## 6.3 SUMMARY OF SPECIES OF CONSERVATION IMPORTANCE

A list and evaluation of the species of ecological conservation importance recorded during the ecological baseline surveys within the Assessment Area are provided in **Table 6.11**, in accordance with Annex 8 of EIAO-TM. The locations of these species of conservation importance, whenever available, are presented in **Figure 5.1**.

TABLE 6.11: EVALUATION OF SPECIES OF CONSERVATION IMPORTANCE RECORDED WITHIN THE ASSESSMENT AREA

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
<b>Mammal</b>						
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	• Cap.170	Very common, very widely distributed in urban and countryside areas throughout Hong Kong.	✓ <sup>1</sup>	-	-
Chinese Noctule	<i>Nyctalus plancyi</i>	• Cap.170; • Fellowes: PRC (RC)	Common, very widely distributed in urban and countryside areas throughout Hong Kong.	-	✓	-
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	• Cap.170	Very common, widely distributed throughout Hong Kong.	✓ <sup>1</sup>	✓	-
Least Pipistrelle	<i>Pipistrellus tenuis</i>	• Cap.170	Uncommon, ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.	-	✓	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Chinese Pipistrelle	<i>Hypsugo pulveratus</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>Fellowes: (LC)</li> </ul>	Rare, Species of Conservation Concern, only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings.	-	✓	-
Lesser Yellow Bat	<i>Scotophilus kuhlii</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>Fellowes: (LC)</li> </ul>	Uncommon, fairly widely distributed in countryside areas throughout Hong Kong.	✓ <sup>1</sup>	-	-
Eurasian Otter	<i>Lutra lutra</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>Cap.586;</li> <li>Fellowes: RC;</li> <li>RLCV(EN);</li> <li>CSMPS(II);</li> <li>IUCN(NT);</li> <li>GSS(LD);</li> <li>CITES(I)</li> </ul>	Rare, Species of Conservation Concern, Restricted to Mai Po, Lok Ma Chau, Hoo Hok Wai, and nearby areas.	✓ <sup>2</sup>	-	-
Small Indian Civet	<i>Viverricula indica</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>RLCV(VU);</li> <li>CSMPS(II);</li> <li>CITES(III)</li> </ul>	Very common, widely distributed in urban and countryside areas throughout Hong Kong.	✓ <sup>3</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Small Asian Mongoose	<i>Herpestes javanicus</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>RLCV(VU);</li> <li>CITES(III)</li> </ul>	Uncommon, fairly widely distributed in countryside areas throughout Hong Kong.	✓ <sup>3</sup>	-	-
Leopard Cat	<i>Prionailurus bengalensis</i>	<ul style="list-style-type: none"> <li>Cap.170;</li> <li>Cap.586;</li> <li>RLCV(VU);</li> <li>CITES(II)</li> </ul>	Uncommon, widely distributed in countryside areas throughout Hong Kong.	✓ <sup>3</sup>	-	-

**Avifauna**

Baikal Teal	<i>Sibirionetta formosa</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>CITES(II)</li> </ul>	Scarce winter visitor. Found in Deep Bay area, Kowloon Park, Kam Tin.	✓ <sup>5</sup>	-	-
Northern Shoveler	<i>Spatula clypeata</i>	<ul style="list-style-type: none"> <li>Fellowes: RC</li> </ul>	Abundant winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Falcated Duck	<i>Mareca falcata</i>	<ul style="list-style-type: none"> <li>Fellowes: RC</li> </ul>	Uncommon winter visitor. Found in Mai Po, Shuen Wan, Long Valley.	✓ <sup>5</sup>	-	-
Eurasian Wigeon	<i>Mareca penelope</i>	<ul style="list-style-type: none"> <li>Fellowes: RC</li> </ul>	Winter visitor. Found in Deep Bay area, Tai Lam Chung.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Mallard	<i>Anas platyrhynchos</i>	• Fellowes: RC	Scarce winter visitor. Found in Deep Bay area, Tai Lam Chung, Hok Tau Reservoirs, Tolo Harbour, Nam Chung, Long Valley, Kam Tin.	✓ <sup>5</sup>	-	-
Northern Pintail	<i>Anas acuta</i>	• Fellowes: RC	Abundant winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin.	✓ <sup>5</sup>	-	-
Eurasian Teal	<i>Anas crecca</i>	• Fellowes: RC	Common winter visitor. Found in Deep Bay area, Shuen Wan, Tai Lam Chung Reservoir, Victoria Harbour, urban parks.	✓ <sup>5</sup>	-	-
Tufted Duck	<i>Aythya fuligula</i>	• Fellowes: LC	Rare winter visitor. Found in Mai Po.	✓ <sup>5</sup>	-	-
Chinese Francolin	<i>Francolinus pintadeanus</i>	• RLCV(VU)	Common resident. Widely distributed in grassland throughout Hong Kong.	✓ <sup>4</sup>	-	-
Little Grebe	<i>Tachybaptus ruficollis</i>	• Fellowes: LC	Common resident. Found in Deep Bay area.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Great Crested Grebe	<i>Podiceps cristatus</i>	• Fellowes: RC	Common winter visitor. Found in Tsim Bei Tsui, Starling Inlet.	✓ <sup>5</sup>	-	-
Black-winged Stilt	<i>Himantopus himantopus</i>	• Fellowes: RC	Common migrant and winter visitor. Found in Deep Bay area, Long Valley, Kam Tin.	✓ <sup>5</sup>	✓	-
Pied Avocet	<i>Recurvirostra avosetta</i>	• Fellowes: RC	Abundant winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Northern Lapwing	<i>Vanellus vanellus</i>	• Fellowes: LC	Scarce winter visitor. Found in Mai Po, Long Valley, Chek Lap Kok, Ho Chung, Tai Long Wan, Tai Po, Castle Peak coast.	✓ <sup>5</sup>	-	-
Pacific Golden Plover	<i>Pluvialis fulva</i>	• Fellowes: LC	Common migrant and winter visitor. Found in Deep Bay area, Chek Lap Kok, Long Valley.	✓ <sup>5</sup>	-	-
Grey Plover	<i>Pluvialis squatarola</i>	• Fellowes: RC	Abundant winter visitor and scarce migrant. Found in Deep Bay area.	✓ <sup>4,5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Little Ringed Plover	<i>Charadrius dubius</i>	• Fellowes: (LC)	Resident, common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.	✓ <sup>5</sup>	-	-
Kentish Plover	<i>Charadrius alexandrinus</i>	• Fellowes: RC	Abundant winter visitor and scarce migrant. Found in Deep Bay area, Chek Lap Kok, Shuen Wan, Sai Kung, Lantau Island.	✓ <sup>5</sup>	-	-
Lesser Sand Plover	<i>Charadrius mongolus</i>	• Fellowes: LC	Uncommon passage migrant and scarce winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Greater Sand Plover	<i>Charadrius leschenaultii</i>	• Fellowes: RC	Abundant passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Oriental Plover	<i>Charadrius veredus</i>	• Fellowes: LC	Scarce passage migrant. Found in Deep Bay area, Kai Tak, Chek Lap Kok.	✓ <sup>5</sup>	-	-
Whimbrel	<i>Numenius phaeopus</i>	• Fellowes: LC	Common passage migrant and scarce winter visitor. Found in Deep Bay area, Sai Kung, Tung Ping Chau,	✓ <sup>5</sup>	✓	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
			Ninepins, Cape D'Aguilar, Pok Fu Lam.			
Far Eastern Curlew	<i>Numenius madagascariensis</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>RLCV(VU);</li> <li>IUCN(EN)</li> </ul>	Uncommon passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Ruddy Turnstone	<i>Arenaria interpres</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Passage migrant. Found in Deep Bay area, Starling Inlet, Sai Kung, Tai Long Wan.	✓ <sup>5</sup>	-	-
Great Knot	<i>Calidris tenuirostris</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>RLCV(EN);</li> <li>IUCN(EN)</li> </ul>	Common passage migrant and scarce winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Red Knot	<i>Calidris canutus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>RLCV(VU)</li> </ul>	Common passage migrant and scarce winter visitor. Found in Deep Bay area, Shuen Wan.	✓ <sup>5</sup>	-	-
Broad-billed Sandpiper	<i>Calidris falcinellus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Uncommon passage migrant. Found in Deep Bay area, Ho Chung, Shuen Wan.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>IUCN(VU)</li> </ul>	Common passage migrant. Found in Deep Bay area, Shuen Wan, Sai Kung, Long Valley, Tai Po, Lam Tsuen.	✓ <sup>5</sup>	-	-
Curlew Sandpiper	<i>Calidris ferruginea</i>	<ul style="list-style-type: none"> <li>Fellowes: RC</li> </ul>	Abundant spring passage migrant. Found in Deep Bay area, Cape D'Aguilar.	✓ <sup>5</sup>	-	-
Temminck's Stint	<i>Calidris temminckii</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Uncommon winter visitor and migrant. Widely distributed in Deep Bay area fishponds.	✓ <sup>5</sup>	-	-
Long-toed Stint	<i>Calidris subminuta</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Common passage migrant and scarce winter visitor. Found in Long Valley, Ma Tso Lung, Tsim Bei Tsui, Kam Tin, Pui O, Shuen Wan.	✓ <sup>5</sup>	-	-
Spoon-billed Sandpiper	<i>Calidris pygmaea</i>	<ul style="list-style-type: none"> <li>Fellowes: GC;</li> <li>RLCV(CR);</li> <li>IUCN(CR)</li> </ul>	Scarce spring migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Red-necked Stint	<i>Calidris ruficollis</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Abundant spring passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Sanderling	<i>Calidris alba</i>	• Fellowes: LC	Uncommon passage migrant. Found in Deep Bay area, Tai Long Wan, Sai Kung.	✓ <sup>5</sup>	-	-
Dunlin	<i>Calidris alpina</i>	• Fellowes: RC	Abundant winter visitor and scarce passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Little Stint	<i>Calidris minuta</i>	• Fellowes: LC	Uncommon spring passage migrant. Found in Mai Po, Tsim Bei Tsui.	✓ <sup>5</sup>	-	-
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	• Fellowes: RC	Common passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Swinhoe's Snipe	<i>Gallinago megala</i>	• Fellowes: LC	Uncommon passage migrant. Found in Long Valley.	✓ <sup>5</sup>	-	-
Terek sandpiper	<i>Xenus cinereus</i>	• Fellowes: RC	Common passage migrant. Found in Deep Bay area, Sai Kung, Tung Ping Chau, Cape D'Aguilar.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Grey-tailed Tattler	<i>Tringa brevipes</i>	• Fellowes: LC	Common passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Common Redshank	<i>Tringa totanus</i>	• Fellowes: RC	Abundant passage migrant and winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Marsh Sandpiper	<i>Tringa stagnatilis</i>	• Fellowes: RC	Abundant winter visitor and migrant. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Sai Kung.	✓ <sup>5</sup>	-	-
Wood Sandpiper	<i>Tringa glareola</i>	• Fellowes: LC	Common migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.	✓ <sup>5</sup>	-	-
Spotted Redshank	<i>Tringa erythropus</i>	• Fellowes: RC	Common migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.	✓ <sup>5</sup>	-	-
Common Greenshank	<i>Tringa nebularia</i>	• Fellowes: RC	Abundant winter visitor and migrant. Found in Deep Bay area.	✓ <sup>5</sup>	✓	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Nordmann's Greenshank	<i>Tringa guttifer</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: GC;</li> <li>RLCV(EN);</li> <li>CSMPS(II);</li> <li>IUCN(EN);</li> <li>CITES(I)</li> </ul>	Uncommon passage migrant and scarce winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Oriental Pratincole	<i>Glareola maldivarum</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Passage migrant. Found in Mai Po, Tsim Bei Tsui.	✓ <sup>5</sup>	-	-
Pallas's Gull	<i>Ichthyaetus ichthyaetus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Scarce winter visitor and passage migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Black-tailed Gull	<i>Larus crassirostris</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Common winter visitor and spring passage migrant. Found in Deep Bay area, Tolo Harbour, Starling Inlet, Lamma Island, Mirs Bay.	✓ <sup>5</sup>	-	-
Mew Gull	<i>Larus canus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Scarce winter visitor and spring migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Lesser Black-backed Gull	<i>Larus fuscus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC</li> </ul>	Common winter visitor and passage migrant. Found in Deep Bay area, Cape D'Aguilar.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Caspian Tern	<i>Hydroprogne caspia</i>	• Fellowes: RC	Common spring migrant. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Little Tern	<i>Sternula albifrons</i>	• Fellowes: LC	Uncommon spring passage migrant. Found in Mai Po, Ting Kau, Tsuen Wan Ferry Pier.	✓ <sup>5</sup>	-	-
Oriental Stork	<i>Ciconia boyciana</i>	• Fellowes: GC; • RLCV(EN); • IUCN(EN); • CITES(I)	Rare winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Great Cormorant	<i>Phalacrocorax carbo</i>	• Fellowes: PRC	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	✓ <sup>5</sup>	-	-
Eurasian Spoonbill	<i>Platalea leucorodia</i>	• Cap.586; • Fellowes: LC; • CSMPS(II); • CITES(II)	Uncommon winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Black-faced Spoonbill	<i>Platalea minor</i>	• Fellowes: PGC; • RLCV(EN); • CSMPS(II); • IUCN(EN)	Common winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Yellow Bittern	<i>Ixobrychus sinensis</i>	• Fellowes: (LC)	Uncommon summer visitor and common passage	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
			migrant. Found in Deep Bay area, Chek Keng, Tai Long Wan.			
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	• Fellowes: (LC)	Common resident and migrant. Widely distributed in Hong Kong.	✓ <sup>5</sup>	-	-
Striated Heron	<i>Butorides striata</i>	• Fellowes: (LC)	Common summer visitor. Widely distributed in Hong Kong.	✓ <sup>5</sup>	-	-
Chinese Pond Heron	<i>Ardeola bacchus</i>	• Fellowes: PRC (RC)	Common resident. Widely distributed in Hong Kong.	✓ <sup>5</sup>	✓	-
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	• Fellowes: (LC)	Resident and common passage migrant. Widely distributed in Hong Kong.	✓ <sup>5</sup>	-	-
Grey Heron	<i>Ardea cinerea</i>	• Fellowes: PRC	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	✓ <sup>5</sup>	✓	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Great Egret	<i>Ardea alba</i>	• Fellowes: PRC (RC)	Common resident, migrant and winter visitor. Widely distributed in Hong Kong	✓ <sup>5</sup>	✓	-
Intermediate Egret	<i>Ardea intermedia</i>	• Fellowes: RC	Resident and passage migrant. Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguilar.	✓ <sup>5</sup>	-	-
Little Egret	<i>Egretta garzetta</i>	• Fellowes: PRC (RC)	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	✓ <sup>5</sup>	✓	-
Chinese Egret	<i>Egretta eulophotes</i>	• Fellowes: GC; • RLCV(EN); • CSMPS(II); • IUCN(VU)	Scarce spring passage migrant. Found in Mai Po, Lok Ma Chau, Nam Chung.	✓ <sup>5</sup>	-	-
Western Osprey	<i>Pandion haliaetus</i>	• Cap.586; • Fellowes: RC; • CSMPS(II); • CITES(II)	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	✓ <sup>5</sup>	-	-
Crested Serpent Eagle	<i>Spilornis cheela</i>	• Cap.586; • Fellowes: (LC); • CSMPS(II); • CITES(II)	Common resident. Widely distributed in shrublands on	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
			hillsides throughout Hong Kong.			
Greater Spotted Eagle	<i>Clanga clanga</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: GC;</li> <li>RLCV(EN);</li> <li>CSMPS(II);</li> <li>IUCN(VU);</li> <li>CITES(II)</li> </ul>	Common winter visitor. Found in Deep Bay area.	✓ <sup>5</sup>	-	-
Eastern Imperial Eagle	<i>Aquila heliaca</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: GC;</li> <li>RLCV(EN);</li> <li>CSMPS(I);</li> <li>IUCN(VU);</li> <li>CITES(I)</li> </ul>	Common winter visitor. Found in Deep Bay area, Ma Tso Lung.	✓ <sup>5</sup>	-	-
Besra	<i>Accipiter virgatus</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>CSMPS(II);</li> <li>CITES(II)</li> </ul>	Common resident and migrant. Found in Tai Po Kau, Deep Bay area, Chek Lap Kok, Cheung Chau, Soko Islands.	✓ <sup>5</sup>	-	-
Eastern Marsh Harrier	<i>Circus spilonotus</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: LC;</li> <li>CSMPS(II);</li> <li>CITES(II)</li> </ul>	Common winter visitor and passage migrant. Found in Deep Bay area, Starling Inlet area, Kadoorie Farm & Botanic Garden, Mount Austin.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Black Kite	<i>Milvus migrans</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: (RC);</li> <li>CSMPS(II);</li> <li>CITES(II)</li> </ul>	Common resident and winter visitor. Widely distributed in Hong Kong.	✓ <sup>5</sup>	✓	-
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: (RC);</li> <li>RLCV(VU);</li> <li>CSMPS(I);</li> <li>CITES(II)</li> </ul>	Locally common resident. Widely distributed in coastal areas throughout Hong Kong.	✓ <sup>5</sup>	-	-
Eastern Buzzard	<i>Buteo japonicus</i>	<ul style="list-style-type: none"> <li>Cap.586,</li> <li>CSMPS(II);</li> <li>CITES(II)</li> </ul>	Common winter visitor. Widely distributed in Hong Kong.	✓ <sup>5</sup>	-	-
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	<ul style="list-style-type: none"> <li>Fellowes: (LC)</li> </ul>	Common resident. Widely distributed in coastal areas throughout Hong Kong.	✓ <sup>5</sup>	✓	-
Black-capped Kingfisher	<i>Halcyon pileata</i>	<ul style="list-style-type: none"> <li>Fellowes: (LC);</li> <li>IUCN(VU)</li> </ul>	Uncommon passage migrant and winter visitor. Widely distributed in coastal areas throughout Hong Kong.	✓ <sup>5</sup>	-	-
Pied Kingfisher	<i>Ceryle rudis</i>	<ul style="list-style-type: none"> <li>Fellowes: (LC)</li> </ul>	Common resident. Widely distributed in lakes and ponds throughout Hong Kong.	✓ <sup>5</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Peregrine Falcon	<i>Falco peregrinus</i>	<ul style="list-style-type: none"> <li>Cap.586;</li> <li>Fellowes: (LC);</li> <li>CSMPS(II);</li> <li>CITES(I)</li> </ul>	Locally common resident and winter visitor. Widely distributed in Hong Kong.	✓ <sup>5</sup>	-	-
Collared Crow	<i>Corvus torquatus</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>IUCN(VU)</li> </ul>	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek Iap Kok, Shuen Wan, Lam Tsuen.	✓ <sup>5</sup>	-	-
Red-billed Starling	<i>Spodiopsar sericeus</i>	<ul style="list-style-type: none"> <li>Fellowes: GC</li> </ul>	Abundant winter visitor. Widely distributed in Hong Kong	✓ <sup>4,5</sup>	-	-
White-cheeked Starling	<i>Spodiopsar cineraceus</i>	<ul style="list-style-type: none"> <li>Fellowes: PRC</li> </ul>	Locally common winter visitor. Found in Deep Bay area, Kam Tin, Long Valley	✓ <sup>4</sup>	-	-
White-shouldered Starling	<i>Sturnia sinensis</i>	<ul style="list-style-type: none"> <li>Fellowes: (LC)</li> </ul>	Locally common passage migrant and uncommon winter visitor. Found in Kam Tin, Deep Bay area, Po Toi Island, Long Valley, Victoria Park, Ho Chung, Ma Tso	-	✓	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
			Lung, Mui Wo, Lam Tsuen Valley			
<b>Butterfly</b>						
Common Awl	<i>Hasora badra</i>	<ul style="list-style-type: none"> <li>Fellowes: LC;</li> <li>AFCD (2011): Very Rare</li> </ul>	Wu Kau Tan, Lai Chi Wo, Hong Kong Wetland Park.	-	✓	-
Swallowtail	<i>Papilio xuthus</i>	<ul style="list-style-type: none"> <li>AFCD (2011): Rare</li> </ul>	Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau.	-	✓	-
<b>Firefly</b>						
Maipo Bent-winged Firefly	<i>Pteroptyx maipo</i>	<ul style="list-style-type: none"> <li>IUCN(EN)</li> </ul>	Endemic to South China, Mangrove-dependent, Distribution restricted to Deep Bay area locally <sup>23, 24, 25</sup>	✓ <sup>6, 7, 8</sup>	-	-
<b>Horseshoe crab</b>						
Horseshoe crab	<i>Carcinoscorpius rotundicauda</i>	<ul style="list-style-type: none"> <li>Grade II National Key Protected Species</li> </ul>	Identified in mudflats at Sheung Pak Nai, Pak Nai and Ha Pak Nai <sup>26</sup>	✓ <sup>9</sup>	-	-

Common Name	Scientific Name	Protection Status	Distribution, Rarity and other Notes	Literature	Surveys	Presence within Project Site
Horseshoe crab	<i>Tachylepus tridentatus</i>	<ul style="list-style-type: none"> <li>Grade II National Key Protected Species;</li> <li>IUCN(EN)</li> </ul>	Identified in mudflats at Sheung Pak Nai, Pak Nai and Tsim Bei Tsui <sup>26</sup>	✓ <sup>9</sup>	-	-
<b>Seagrass</b>						
Beccari's Halophila	<i>Halophila beccarii</i>	<ul style="list-style-type: none"> <li>IUCN (VU);</li> <li>RLCHP: VU</li> </ul>	Identified in mudflats at Tsim Bei Tsui, Sheung Pak Nai and Ha Pak Nai	✓ <sup>10</sup>	-	-

Notes:

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- (1) Shek, C. T., and Chan, C. S. M. (2006). Mist Net Survey of Bats with Three New Bat Species Records for Hong Kong. *Hong Kong Biodiversity*, 11, 1-7.
- (2) McMillan, S. E., Wong, A. T. C., Tang, S. S. Y., Yau, E. Y. H., Gomersall, T., Wong, P. Y. H., Vu, A. K. H., Sin, S. Y. W., Hau, B. C. H., and Bonebrake, T. C. (2022). Spraints Demonstrate Small Population Size and Reliance on Fishponds for Eurasian Otter (*Lutra lutra*) in Hong Kong. *Conservation Science and Practice*, 5(1).
- (3) Shek, C. T., Chan, C. S. M., and Wan, Y. F. (2007). Camera Trap Survey of Hong Kong Terrestrial Mammals in 2002-06. *Hong Kong Biodiversity*, 15, 1-11.
- (4) HKBWS (2024a). Hong Kong Bird Report 2018.
- (5) HKBWS (2024b). Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2018-2023.
- (6) Yiu, V. (2011). A new species of firefly from Hong Kong – *Pteroptyx maipo* Ballantyne, 2011. *Insect News (Hong Kong Entomological Society Newsletter)*, 3, 2-7.
- (7) Yiu, V. (2017). A study of Rhagophthalmidae and Lampyridae in Hong Kong with descriptions of new species (Coleoptera): Part 2. *Lampyrid*, 4, 59-111.
- (8) Ballantyne, L. A., Fu, X. H., Shih, C.-H., Cheng, C.-Y., and Yiu, V. (2011). *Pteroptyx maipo* Ballantyne, a new species of bent-winged firefly (Coleoptera: Lampyridae) from Hong Kong, and its relevance to firefly biology and conservation. *Zootaxa*, 2931, 8-34.
- (9) Kwan, V. (2016). *Op. cit.*
- (10) Yip, K. L., and Lai, C. C. (2006). Halophila minor (Hydrocharitaceae), a new record with taxonomic notes of the Halophila from the Hong Kong Special Administrative Region, China. *Journal of Systematics and Evolution*, 44(4), 457.

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- (11) AFCD (2003) *Rare and Precious Plants of Hong Kong (Online Version)*. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong. Available at: <https://www.herbarium.gov.hk/en/publications/books/book2/index.html>. Accessed on April 2024.
- Status in China: VU = Vulnerable.
- Categories: 1 = Species endemic to Hong Kong; 2 = Species that are native to Hong Kong and of national importance; 3 = Species that are native to Hong Kong and of importance in Guangdong; 4 = Native species that have important scientific interests or potential value in various uses, or those having small populations or sparse distribution in Hong Kong.
- (12) Cap. 96: Forestry Regulations, the subsidiary legislation of Forests and Countryside Ordinance (Cap. 96A)
- (13) Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance

(14)RLCHP – Red List of China's Higher Plants (2020). VU = Vulnerable, EN = Endangered, CR = Critically Endangered.

(15)IUCN – International Union for Conservation of Nature Red List of Threatened Species (2025). VU = Vulnerable, EN = Endangered, CR = Critically Endangered.

(16)CITES – Under Appendix (I), Appendix (II) or Appendix (III) of Convention on International Trade in Endangered Species of Wild Flora and Fauna

(17)Cap. 170: Protected under Wild Animals Protection Ordinance, all birds in Hong Kong are protected under Cap. 170

(18)Fellowes – Fellowes et al. (2002): PGC = Potential Global Concern, GC = Global Concern, PRC = Potential Regional Concern, RC = Regional Concern, LC = Local 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.

(19)RLCV – Red List of China's Vertebrate (2020): VU = Vulnerable, EN = Endangered, CR = Critically Endangered.

(20)CSMPS – China State Major Protection Status: Appendix II

(21)AFCD refers to Chan et. al. (2011). A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity 21: 1-12

(22)Reels – Reels. G. (2019): CI = Species of Conservation Importance

(23)Ballantyne et. Al. (2011). *Pteroptyx maipo* Ballantyne, a new species of bent-winged firefly (Coleoptera: Lampyridae) from Hong Kong, and its relevance to firefly biology and conservation. Zootaxa, 2931, 8-34.

(24)Yiu, V. (2011). *Op. cit.*

(25)Yiu, V. (2017). *Op. cit.*

(26)Kwan, V. (2016). *Op. cit.*

## 7. IMPACT IDENTIFICATION AND EVALUATION

### 7.1 IDENTIFICATION OF POTENTIAL ECOLOGICAL IMPACTS

Considering the existing habitat conditions and ecological value of the Project Site and its surrounding areas, the potential ecological impacts associated with the installation of LV cable at Deep Bay Road (including but not limited to land excavation, concrete breaking, removal of top soil, minimal vegetation clearance, temporary shoring, cable and ducts laying, pole and stay erection and backfilling works) during construction phase are evaluated below. These potential impacts would cease immediately upon completion of the installation works, with no ecological impacts expected during the operation phase.

- Impacts on recognised sites of conservation importance;
- Temporary habitat loss;
- Indirect disturbances to the surrounding habitats and associated wildlife due to the construction works (e.g. increased human activities, generation of dust, waste and noise, glare impact and inappropriate disposal of construction materials); and
- Indirect impacts (pollution) on adjacent waterbodies due to construction run-off.

### 7.2 ASSESSMENT OF ECOLOGICAL IMPACTS

#### 7.2.1 IMPACTS ON RECOGNISED SITES OF CONSERVATION IMPORTANCE

Several sites of conservation importance are located in close proximity to the Project Site, including WCA, WBA, CPA, Mai Po Inner Deep Bay Ramsar Site, Priority Sites for Enhanced Conservation, Inner Deep Bay SSSI and IBA. The Project Site falls within WBA and CPA and is therefore subject to the “no-net-loss in wetland” principle as stipulated in the Town Planning Board Guideline (TPB PG-No. 12C). This principle requires that there be no reduction in both the “area” and “function” of wetlands.

As the Project Site is limited to developed area habitat and will not result in the direct loss of wetlands (e.g. mangrove, fishpond), the Project complies with the “no-net-loss in wetland” principle in terms of “area”. Also, due to the developed nature of the Project Site, it does not serve the purposes of WBA and CPA, therefore the direct loss in the Project Site will not affect the original functions of WBA and CPA. The direct impact significance on recognised sites of conservation importance is considered to be **Negligible**.

Indirect impacts on wildlife inhabiting in the sites of conservation importance are anticipated, which include water pollution, noise, dust, waste generation, glare (particularly during nighttime) and visual disturbance. The impact significance is **Low to Moderate** in the absence of mitigation measures. Details of these impacts are further assessed in **Section 7.2.3** for indirect disturbances and in **Section 7.2.4** for water pollution.

#### 7.2.2 TEMPORARY HABITAT LOSS

Direct habitat loss arising from the Project would be limited to the cable trenches directly along the hard-paved Deep Bay Road and the excavation for pole stay within developed area. All trenches and excavations will be reinstated after construction. The dimension of the cable trenches is approximately 159 m in length, 0.3 m in width and 1.8 m in depth, while the

dimension of excavation for each pole stay is 1.5 m for all length, width and depth. The Project's work area will be restricted to 1 m on either side of the proposed cable route, which will generally involve concrete breaking, removal of top soil layer, minimal vegetation clearance and temporary shoring if applicable. The size of the Project Site is conservatively estimated to be 440 m<sup>2</sup>. Primarily exotic, cultivated and weedy species are present along the existing paved surface and adjacent village area, which supports low diversity and low abundance of fauna. No tree felling will be involved but tree pruning will be required.

In the absence of mitigation measures, the direct habitat loss caused by the Project is considered to be of **Very Low**. As all works areas will be reinstated upon completion of the cable laying, and the impact to floor surface of the pole stay is insignificant, no permanent habitat loss is expected during the operation of the Project. The assessment of potential direct impact on habitats within the Project Site in the absence of mitigation measures is detailed in **Table 7.1**.

TABLE 7.1: TEMPORARY LOSS OF EXISTING HABITATS WITHIN THE PROJECT SITE

Criteria	Developed Area
Habitat Quality	Low
Species	No flora and fauna species of conservation importance recorded during the surveys.
Size/Abundance	Small with a total area of 440 m <sup>2</sup> (including works area). No tree removal will be involved but tree pruning will be required.
Duration	Temporary
Reversibility	The trenches will be reinstated upon completion of construction
Regional Significance	Low
Magnitude	Very small
<b>Overall Impact Significance</b>	<b>Very Low</b>

### 7.2.3 INDIRECT DISTURBANCES TO SURROUNDING HABITATS AND ASSOCIATED WILDLIFE

The surrounding habitats adjacent to the Project Site could be indirectly impacted by the Project, due to construction-induced disturbances arising from the Project. Increased human activities during the construction phase and construction activities would be the main source of disturbance accrued from the proposed works. Noise, dust, waste generation, glare (particularly during night-time) and visual disturbance, which may arise from the construction activities at the Project Site. Habitats that are of particular concern include mangrove and mudflat/coastal water body.

Mangroves within the Assessment Area are considered to be of High ecological value. Based on previous studies, mangroves at Tsim Bei Tsui are breeding/ nursery grounds for Maipo Bent-

winged Firefly, which is a species of conservation importance. As such the presence of artificial lighting at the construction site may result in a reduction in the density of its population in the area through disorientation from, and attraction to artificial light, and disruptive effects on their light-sensitive cycles thus affecting their breeding success. Nevertheless, due to the relative distance between the Project Site and mangrove habitat, as well as the presence of existing lighting (i.e. lampposts along the border fence of Deep Bay Road) in close vicinity to the mangrove habitat, suggesting a degree of tolerance of Maipo Bent-winged Firefly to artificial lighting, and no night-time work is expected from the Project, the overall impact of indirect disturbances on mangrove is anticipated to be of **Low** significance in the absence of mitigation measure.

Mudflat/Coastal Water Body within the Assessment Area are considered to be of high ecological value. Based on previous studies, a high abundance and diversity of avifauna species of conservation importance were recorded within the mudflats of Inner Deep Bay. Disturbances can result in a reduction of faunal population in the area through disorientation from artificial light, and disruptive effects on the light-sensitive cycles of light sensitive/nocturnal species. This can affect migration, foraging/predation and breeding success of species. Potential disturbance by construction noise and increased human activities may also cause wildlife to avoid using areas adjacent to the Project Site and thereby reduce the wildlife density in the area. Though considering the relative distance between the Project Site and mudflat/coastal water body, and that the fauna recorded in the Assessment Area were of some degree of tolerance to nuisance from existing nearby human activities due to close vicinity to developed area, as well as the small project scale, the indirect disturbances induced by the construction works would not have significant impact to mudflat/coastal water body and associated wildlife. These potential impacts are thus expected to be **Low to Moderate** in the absence of mitigation measures.

As for other habitats and wildlife, according to the baseline ecological survey and literature review, fauna (i.e. avifauna, bats and terrestrial mammals) inhabiting the nearby area are highly mobile and able to move to other similar habitats, which are larger in area and with higher habitat quality. Furthermore, the fauna recorded in the Assessment Area exhibited some degree of tolerance to nuisances from existing nearby human activities due to close vicinity to developed area. Additionally, no night-time works will be conducted under the Project and hence impacts related to noise, dust, waste generation, glare and visual disturbance towards nocturnal fauna are not anticipated. However, the excavation could pose risk to smaller fauna species such as small mammals and amphibians, where they could be trapped in open trenches.

In the absence of mitigation measures, the above-mentioned disturbance impact on surrounding habitats and associated wildlife due to noise, dust, waste generation, glare and visual disturbance caused by increased human activities is considered to be **Low to Moderate** significance.

#### 7.2.4 INDIRECT IMPACT (POLLUTION) ON ADJACENT WATERBODIES DUE TO CONSTRUCTION RUN-OFF

During the construction phase, site runoff from the construction works may contain suspended solids and contaminants if uncontrolled. Potential sources of uncontrolled site runoff may include runoff and erosion of exposed bare soil, earth and stockpiles, fuel, oil, and lubricant

from maintenance of construction mechanical equipment. Water pollution could be substantial if construction runoff is allowed to discharge without mitigation, in particular, if the runoff is discharged to the nearby mangrove and mudflat/coastal water body in downslope areas or through connected watercourses, which support diverse ranges of avifauna of conservation importance as well as intertidal species communities which serves as an important food source for many wetland-dependent avifauna species, and horseshoe crabs and seagrasses, which are of conservation importance. These polluted runoffs could result in physical and biological disruption of the area's ecosystem. Taking into account the small scale of the construction works, and the Project Site are relatively far from the existing ecologically sensitive habitats (e.g. mangrove, mudflat/ coastal water body), in the absence of mitigation measures, the impact of potential water pollution caused by the Project is considered to be of **Low to Moderate** significance. The impacts discussed above would cease immediately upon completion of construction works.

## 8. CUMULATIVE IMPACTS

No concurrent project, of which the construction programme would overlap with this Project, is identified within the Assessment Area to date, therefore, cumulative impact is not anticipated for this Project.

## 9. MITIGATION AND PRECAUTIONARY MEASURES

Based on the ecological impacts predicted in **Section 7**, mitigation measures to avoid, minimise or compensate (if necessary) for the potential significant impacts are detailed below. In line with the EIAO-TM, ways to avoid impacts were identified and followed wherever possible during the planning and design stage (i.e. avoiding encroaching ecologically sensitive habitats within sites of conservation importance). If, despite taking all appropriate design measures of avoidance and minimisation, potential ecological impacts of greater than “**Low**” significance are still anticipated, further mitigation measures are considered necessary to reduce these impacts to an acceptable level. Moreover, to achieve a better ecological performance, precautionary measures are proposed under this project for certain potential ecological impacts that are not considered to be significant.

In order to minimise the potential disturbances arising from the project, good site/construction practice and housekeeping measures will be adopted. Mitigation measures and good construction practices are recommended below.

### 9.1 AVOIDANCE AND MINIMISATION

- Although the Project Site lies within the WBA and CPA, its footprint has been carefully positioned within a developed area to avoid direct encroachment on any ecologically sensitive habitats of these sites of conservation importance, including Fishponds, Mangroves and Mudflat/Coastal Water Body.
- During the planning stage, the Project Proponent has conducted site visits with contractors to minimise footprint/ impact on vegetation, tree and habitat loss at any stage of the Project. The Project will not involve any tree felling, but only necessary tree pruning.
- The cable laying work will be constructed section by section, with the length of the construction works being limited to 15 m at once. The trench will be backfilled with soil stocking before moving to the next section.

### 9.2 PRECAUTIONARY MEASURES FOR INDIRECT DISTURBANCES TO SURROUNDING HABITATS AND ASSOCIATED WILDLIFE

The following construction phase mitigation measures are proposed to reduce predicted disturbance impacts and impact of water pollution to an acceptable level:

- The boundary of the Project Site will be clearly marked by temporary fences. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding habitats;
- Contractors will check the trench each day, prior to commencing work, to ensure that no mammals, reptiles or amphibians are trapped in the trench;
- All construction activities will be carried out in daytime hours only;

- Night-time works will be avoided under the Project;
- Avoid the use of direct lighting on adjacent habitats (i.e. woodland (young), plantation, fishponds, mangrove and mudflat/ coastal water body), and only minimal lightings will be used toward the Project Site for safety reasons;
- The construction works will be carried out using QPME (Quality Powered Mechanical Equipment) excavators and hand tools to minimise the potential impacts;
- Regular watering to minimise dust emissions from exposed site surfaces and construction activities will be provided. The dusty materials and the open stockpiles shall be avoided or fully covered by the tarpaulin or by other means to avoid being washed into adjacent waterbodies (e.g. fishponds and semi-natural watercourses);
- Adopt appropriate measures including control wastewater discharge to the nearby water bodies, in accordance with the guidelines stipulated in Environmental Protection Department (EPD)'s *Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN2/24)* during the construction works to properly control site run-off and drainage and to minimise potential water quality impacts;
- Avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats;
- Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas;
- Accumulation of construction waste and general refuse will not be allowed; and
- Good site practice will be enforced, and effective mitigation measures are required. Works area will be kept tidy at all times.

## 10. RESIDUAL ECOLOGICAL IMPACTS

**Table 10.1** summarises the potential ecological impacts of the Project, the impacts that require mitigation, the mitigation measures to be carried out and the residual impacts after mitigation. With the implementation of the proposed mitigation measures described in **Section 9**, residual impacts of the Project would be reduced to **Low/ Negligible**.

TABLE 10.1: EVALUATION OF RESIDUAL IMPACTS AFTER IMPLEMENTATION OF MITIGATION MEASURES

Potential Impact	Predicted Significance of Impact in Absence of Mitigation Measures	Proposed Mitigation/Precautionary Measures	Residual Impact
Direct impacts on recognised sites of conservation importance	<b>Negligible</b>	<ul style="list-style-type: none"> <li>Not required</li> </ul>	<b>Negligible</b>
Indirect impacts on recognised sites of conservation importance	<b>Low to Moderate</b>	<ul style="list-style-type: none"> <li>Adoption of mitigation measures for indirect disturbance to surrounding habitat and associated wildlife recommended in <b>Section 9.2</b>.</li> </ul>	<b>Low</b>
Temporary habitat loss	<b>Very Low</b>	<ul style="list-style-type: none"> <li>Not required</li> </ul>	<b>Very Low</b>
Indirect disturbances to surrounding habitats and associated wildlife	<b>Low to Moderate</b>	<ul style="list-style-type: none"> <li>The construction of the Project will be conducted section by section, with each section being limited to 15 m of length;</li> <li>The boundary of the Project Site will be clearly marked by temporary fences. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding habitats, particularly the ecologically sensitive habitats including mangrove and mudflat/ coastal water body;</li> <li>Contractors will check the trench each day, prior to commencing work, to ensure that no mammals, reptiles or amphibians are trapped in the trench;</li> <li>All construction activities will be carried out in daytime hours only;</li> <li>Night-time works will be avoided under the Project;</li> <li>Avoid the use of direct lighting on adjacent habitats (i.e. woodland (young), plantation, fishponds, mangrove and</li> </ul>	<b>Low</b>

Potential Impact	Predicted Significance of Impact in Absence of Mitigation Measures	Proposed Mitigation/Precautionary Measures	Residual Impact
		<p>mudflat/ coastal water body), and only minimal lightings will be used toward the Project Site for safety reasons;</p> <ul style="list-style-type: none"> <li>• The construction works will be carried out using QPME (Quality Powered Mechanical Equipment) excavators and hand tools to minimise the potential impacts;</li> <li>• Regular watering to minimise dust emissions from exposed site surfaces and construction activities will be provided. The dusty materials and the open stockpiles shall be avoided or fully covered by the tarpaulin or by other means to avoid being washed into adjacent waterbodies (e.g. fishponds and semi-natural watercourses);</li> <li>• Avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats;</li> <li>• Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas;</li> <li>• Accumulation of construction waste and general refuse will not be allowed; and</li> <li>• Good site practice will be enforced, and effective mitigation measures are required. Works area will be kept tidy at all times.</li> </ul>	
Indirect impact (pollution) on adjacent waterbodies due to construction run-off	<b>Low to Moderate</b>	<ul style="list-style-type: none"> <li>• Adopt appropriate measures including control wastewater discharge to the nearby water bodies, in accordance with the guidelines stipulated in Environmental Protection Department (EPD)'s Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN2/24) during the construction works to properly control site run-off and drainage and to minimise potential water quality impacts; and</li> </ul>	<b>Low</b>
Cumulative Impact	<b>Not anticipated</b>	<ul style="list-style-type: none"> <li>• Not required.</li> </ul>	<b>Not anticipated</b>

## 11. CONCLUSION

The key terrestrial ecological resources recorded within the Assessment Area comprised Woodland (Young), Plantation, Shrubland, Seasonally Wet Grassland, Developed Area, Fishpond, Semi-natural Watercourse, Mangrove, and Mudflat/coastal Water Body, where the Project Site will be restricted to Developed Area habitat which is subject to existing anthropogenic activities within WBA and CPA. Based on the conservative assumption, the Project would result in a temporary loss of ~440 m<sup>2</sup> (0.044 ha) of Developed Area of Low ecological value. No tree felling will be required, but tree pruning will be needed. The Project will be reinstated upon the completion of construction.

Given that the habitat nature within the Project Site is anthropogenic, the impact significance of temporary habitat loss is considered to be Very Low. Since the Project will not encroach onto any wetlands and coastal habitats, no direct impact is anticipated on WBA and CPA, while the indirect impact significance of impacts on recognised sites of conservation importance is considered Low to Moderate. The impact significances of indirect impact to surrounding habitats and associated wildlife, as well as the indirect impact on adjacent waterbodies due to construction run-off are both considered to be Low to Moderate. Due consideration has been made to avoid and minimise impacts to ecologically sensitive habitats such as fishponds, mangrove and mudflat/coastal water body. No operational impacts and cumulative impacts are anticipated.

With the implementation of the proposed mitigation and precautionary measures, residual ecological impacts of the Project would be acceptable, no decline in both "area" and "function" of the wetland would occur during both construction and operation phase, thus the Project would comply with the "no-net-loss in wetland principle".



## FIGURES



Figure 1.1

Project Site and 300m Assessment Area

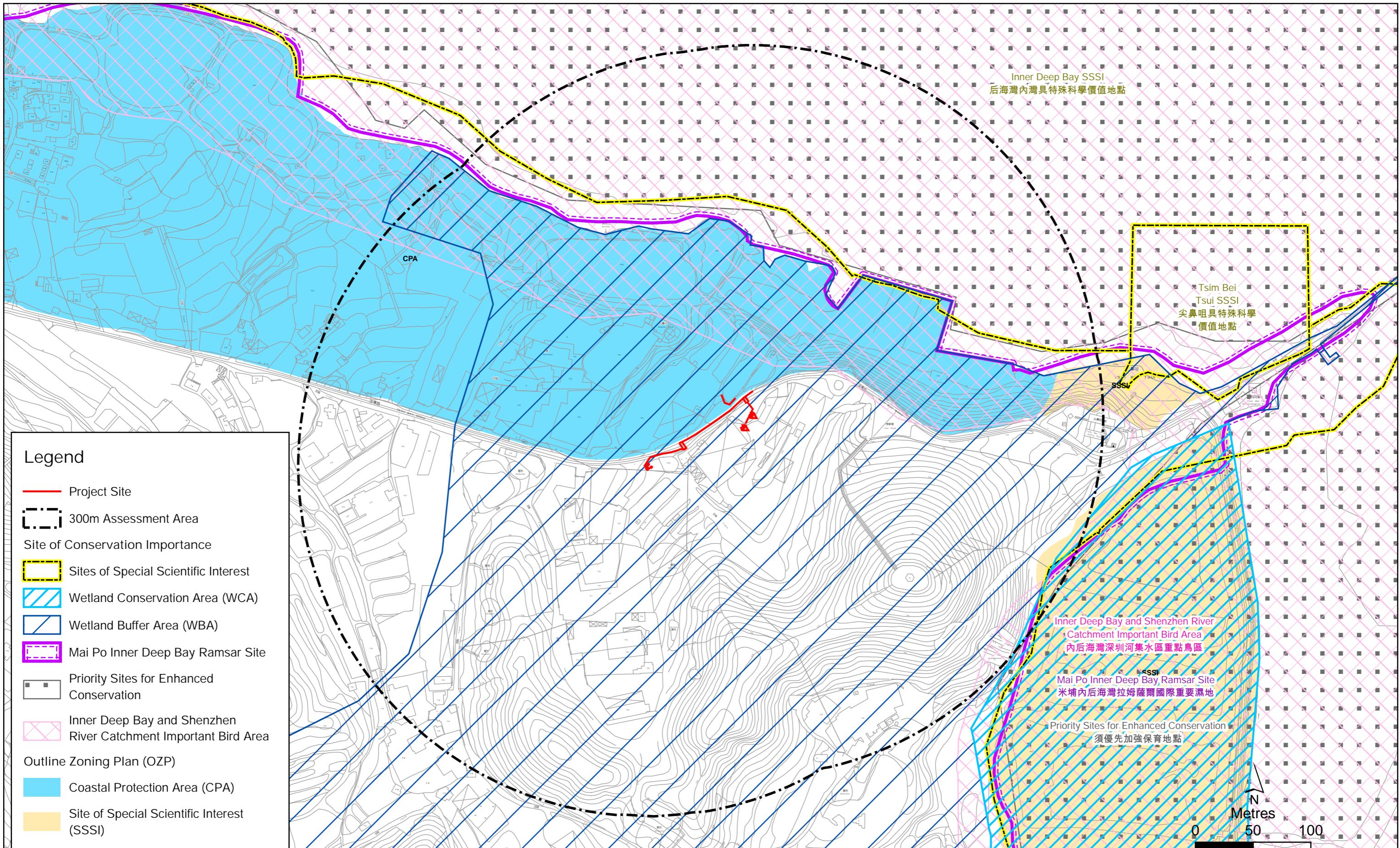


Figure 3.1

Sites of Conservation Importance



Figure 3.2

Species of Conservation Importance from Literature Review within the Assessment Area



Figure 4.1

### Survey Transects

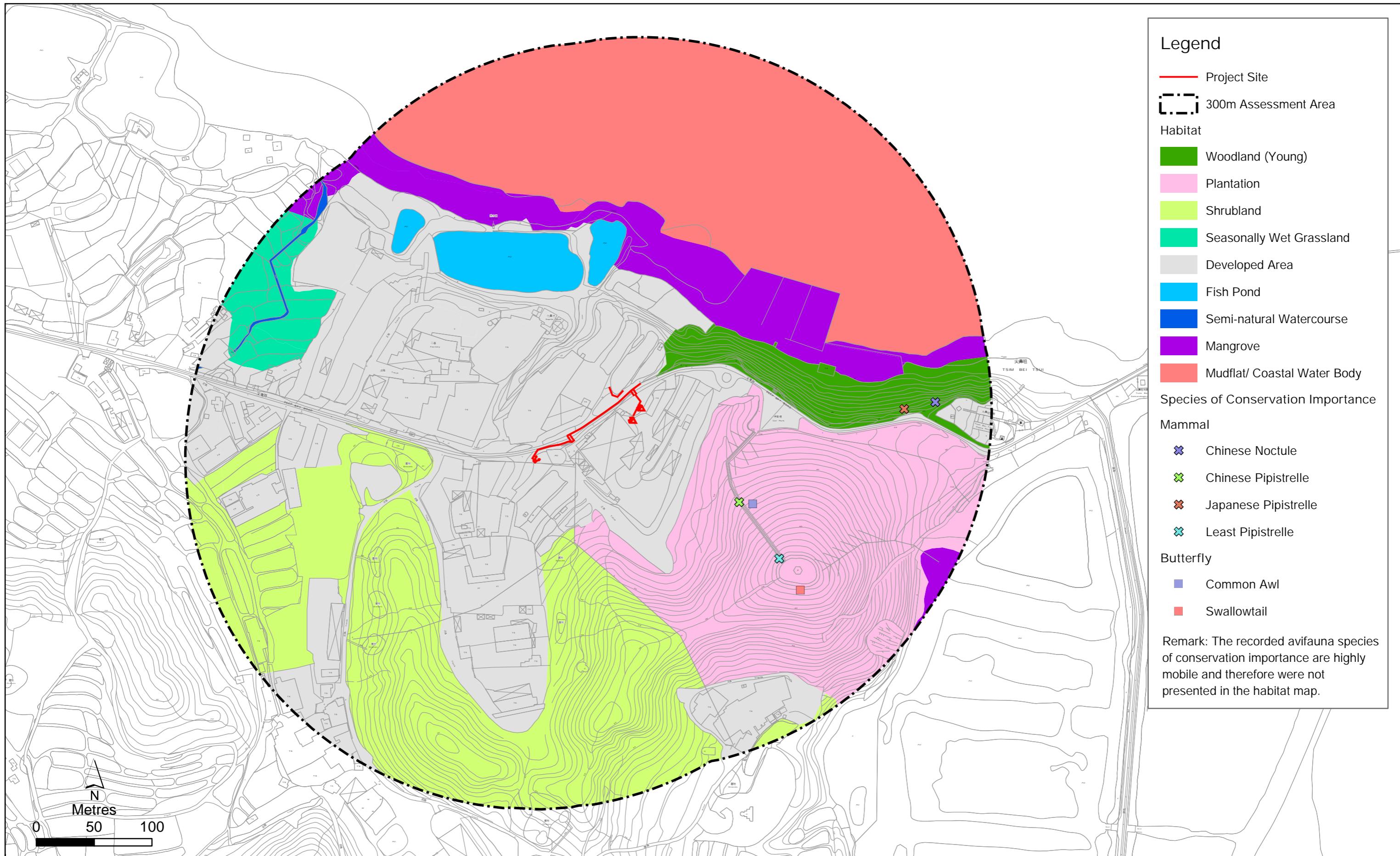
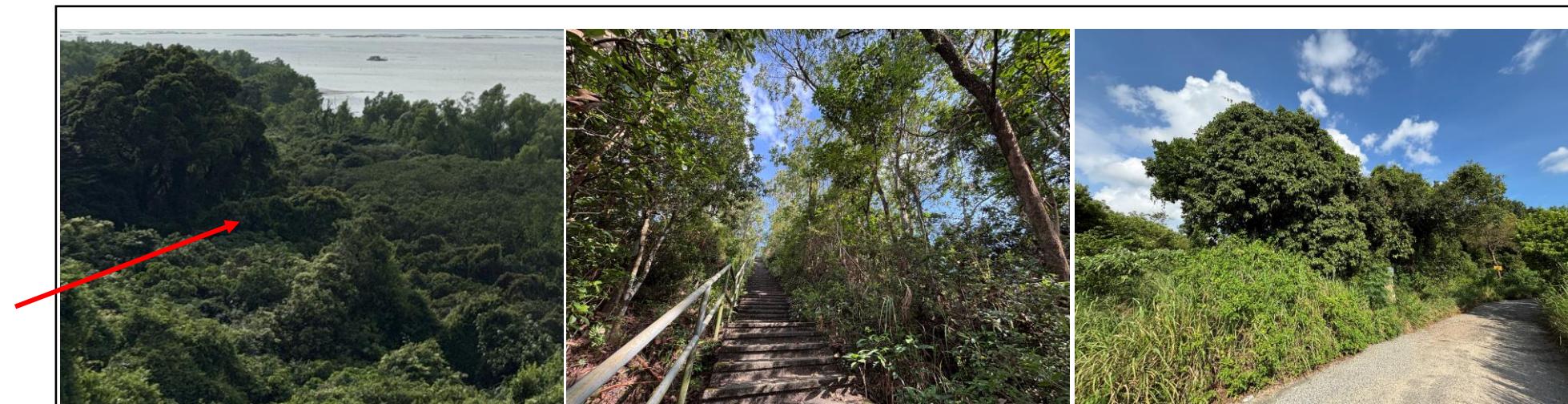


Figure 5.1

### Habitat Map



## ANNEXES



Woodland (Young)

Plantation

Shrubland



Seasonally Wet Grassland



Developed Area



Fishpond

Annex 1

Representative Photos of Habitats within the Assessment Area

DATE: 1/9/2025



Semi-natural Watercourse



Mangrove



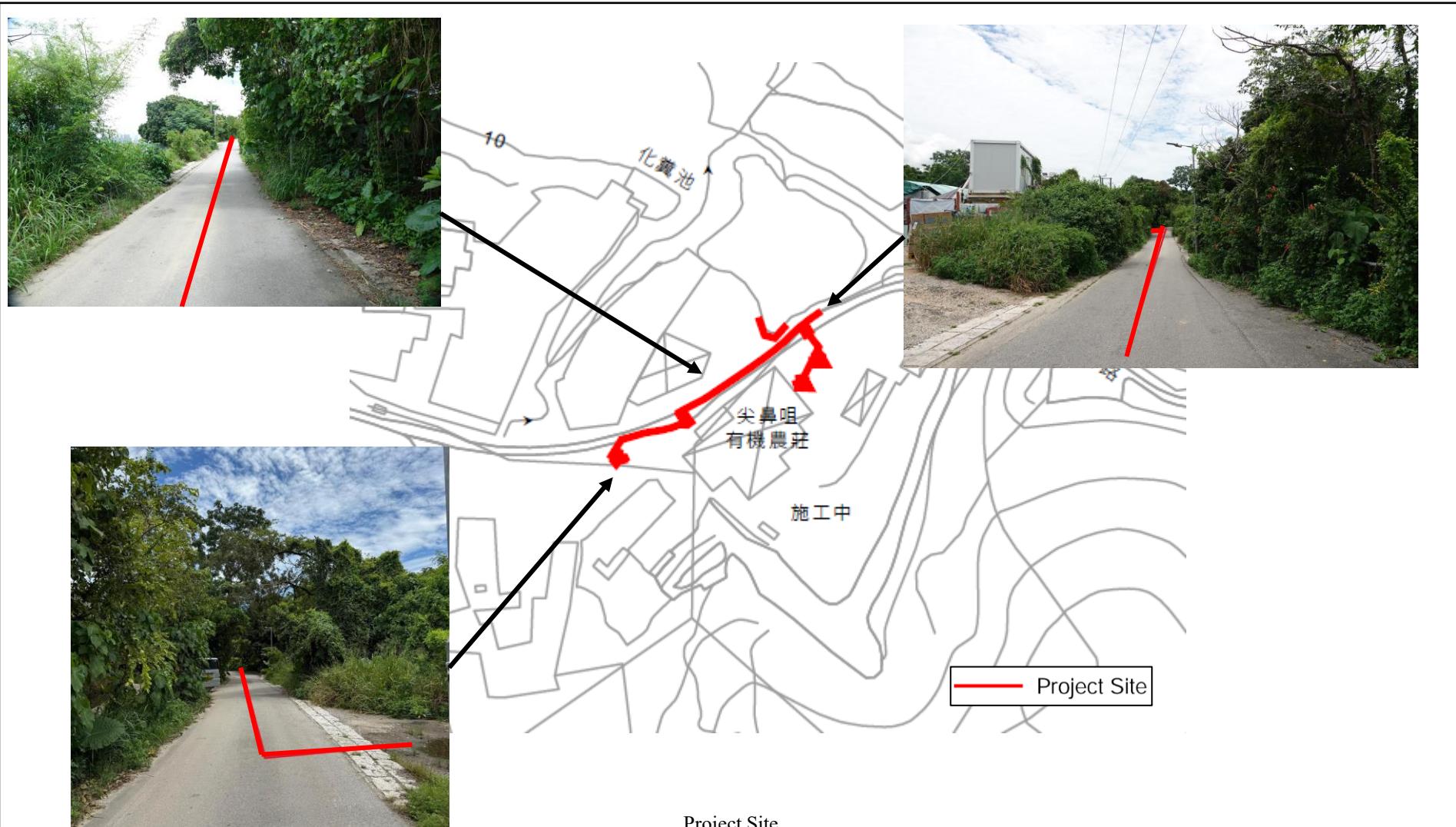
Mudflat/ Coastal Water Body

Annex 1

Representative Photos of Habitats within the Assessment Area

DATE: 1/9/2025





Annex 1

Representative Photos of Habitats within the Assessment Area

DATE: 1/9/2025

Annex 2 Relative Abundance of Plant Species Recorded Within the Assessment Area

Item No.	Species Name	Chinese Name	Origin <sup>1</sup>	Growth Form	Distribution in Hong Kong <sup>2</sup>	Protection/Conservation Status <sup>2</sup>	300 m Assessment Area										Habitat <sup>3</sup>
							WL	PL	SL	SWG	DA	SWC	PO	MG	MF		
1	<i>Acacia confusa</i>	台灣相思	E	Tree	very common	-		++++	++								
2	<i>Acacia mangium</i>	大葉相思	E	Tree	very common	-		+++									
3	<i>Acanthus ilicifolius</i>	老鼠簕	N	Shrub	common	-										+++ +	
4	<i>Acanthus ilicifolius</i> var. <i>xiamenensis</i>	廈門老鼠簕	N	Herb	common	-										++	
5	<i>Adenosma glutinosum</i>	毛麝香	N	Herb	very common	-				++							
6	<i>Adinandra millettii</i>	黃瑞木	N	Tree/Shrub	common	-		+	+								
7	<i>Ageratum houstonianum</i>	熊耳草	E	Herb	common	-				+							
8	<i>Aglaia odorata</i> var. <i>microphyllina</i>	小葉米仔蘭	E	Tree/Shrub	very common	-										++	
9	<i>Albizia lebbeck</i>	大葉合歡	E	Tree	very common	-										++	
10	<i>Aleurites moluccana</i>	石栗	E	Tree	common	-										++	
11	<i>Alocasia macrorrhiza</i>	海芋	N	Herb	very common	-		++		++	+	+++	++				
12	<i>Alternanthera paronychioides</i>	星星蝦鉗菜	E	Herb	common	-				++							
13	<i>Alysicarpus vaginalis</i>	鏈莢豆	N	Herb	very common	-										++	
14	<i>Antidesma ghaesembilla</i>	方葉五月茶	N	Tree	common	-											
15	<i>Aporosa dioica</i>	銀柴	N	Tree	very common	-		+++	++++								
16	<i>Ardisia lindleyana</i>	山血丹	N	Shrub	common	-		+									
17	<i>Artocarpus heterophyllus</i>	菠蘿蜜	E	Tree	common	-										++	
18	<i>Asystasia micrantha</i>	小花十萬錯	E	Herb	cultivated or naturalised	-										+++	
19	<i>Atriplex maximowicziana</i>	海濱藜	N	Herb	-	-										++ +++	
20	<i>Baeckea frutescens</i>	崗松	N	Tree/Shrub	very common	-						++++					
21	<i>Bambusa beecheyana</i>	吊絲球竹	E	Bamboo	-	-		++									
22	<i>Bauhinia championii</i>	缺葉藤	N	Climber	common	-		+									
23	<i>Berchemia floribunda</i>	多花勾兒茶	N	Climber	common	-				+++							
24	<i>Bidens alba</i>	白花鬼針草	E	Herb	very common	-			+++	++++	++++	++++	++++			+	
25	<i>Bischofia javanica</i>	秋楓	N	Tree	common	-		++									
26	<i>Blechnum orientale</i>	烏毛蕨	N	Herb	very common	-			+++	++							
27	<i>Bombax ceiba</i>	木棉	E	Tree	very common	-		++									
28	<i>Bougainvillea spectabilis</i>	簕杜鵑	E	Climber/Shrub	cultivated	-										++	
29	<i>Brachiaria mutica</i>	巴拉草	E	Herb	common	-						++++				++	
30	<i>Bridelia tomentosa</i>	土蜜樹	N	Tree/Shrub	very common	-		++	++	+++						+++	
31	<i>Brucea javanica</i>	鴉膽子	N	Tree/Shrub	common	-		++	++	+							
32	<i>Calliandra haematocephala</i>	朱纓花	E	Shrub	common	-										+	
33	<i>Callicarpa nudiflora</i>	裸花紫珠	N	Tree/Shrub	common	-			++								
34	<i>Canarium album</i>	白欖	E	Tree	restricted; in Fung Shui Woods; may have been introduced to Hong Kong but in some places appears truly wild	restricted; in Fung Shui Woods; may have been introduced to Hong Kong but in some places appears truly wild			+								
35	<i>Cansjera rheedii</i>	山柑藤	N	Climber/Shrub								+++					
36	<i>Carica papaya</i>	番木瓜	E	Tree	common	-						++				+	
37	<i>Cassytha filiformis</i>	無根藤	N	Climber	very common	-		++	+								
38	<i>Cayratia corniculata</i>	角花烏蔹莓	N	Climber	very common	-										++	
39	<i>Celtis sinensis</i>	朴樹	N	Tree	common	-		+++	++			+				+	
40	<i>Celtis timorensis</i>	假肉桂	N	Tree	restricted	-		+									
41	<i>Chenopodium acuminatum</i> subsp. <i>virgatum</i>	狹葉尖頭葉藜	N	Herb	common	-										++ +	
42	<i>Chenopodium album</i>	藜	N	Herb	restricted	-						++					
43	<i>Cinnamomum burmannii</i>	陰香	N	Tree	very common	-		++									
44	<i>Cinnamomum camphora</i>	樟	N	Tree	common	-		++	++								
45	<i>Colocasia esculenta</i>	芋	N	Herb	common	-										+	
46	<i>Commelinia benghalensis</i>	飯包草	N	Herb	restricted	-		+									
47	<i>Cratoxylum cochinchinense</i>	黃牛木	N	Tree/Shrub	very common	-						++					
48	<i>Croton crassifolius</i>	雞骨香	N	Shrub	very common	-						+++					
49	<i>Cuscuta campestris</i>	田野菟絲子	N	Herb	common	-						+++	+			+	
50	<i>Cyclosorus interruptus</i>	間斷毛蕨	N	Herb	very common	-							++				
51	<i>Cyclosorus parasiticus</i>	華南毛蕨	N	Herb	very common	-		++	++								
52	<i>Cyperus involucratus</i>	風車草	E	Herb	common	-						++				++	
53	<i>Dalbergia benthamii</i>	兩廣黃檀	N	Climber	common	-		+									
54	<i>Dalbergia hancei</i>	藤黃檀	N	Climber	common	-		+				++					
55	<i>Derris trifoliata</i>	魚藤	N	Climber/Shrub	common	-										++	
56	<i>Desmodium heterocarpon</i>	假地豆	N	Shrub	very common	-		++	++								
57	<i>Desmodium reticulatum</i>	顯脈山綠豆	N	Shrub	restricted	-		++	+								
58	<i>Desmos chinensis</i>	假鷹爪	N	Climber/Shrub	common	-		+++	+++								
59	<i>Dianella ensifolia</i>	山菅蘭	N	Herb	very common	-		+++	+++	+++							
60	<i>Dicranopteris pedata</i>	芒萁	N	Herb	very common	-		+++	++	+++							
61	<i>Digitaria sanguinalis</i>	馬唐	N	Herb	common	-										+	
62	<i>Dimocarpus longan</i>	龍眼	E	Tree	restricted	RLCHP: VU; Wild plant under State protection (category II) <sup>4</sup>	RLCHP: VU; Wild plant under State protection (category II) <sup>4</sup>										
63	<i>Dioscorea bulbifera</i>	黃獨	N	Climber	common			++									
64	<i>Diplocyclos glaucescens</i>	蒼白秤鈎風	N	Climber	common	-		+++									
65	<i>Diplosora dubia</i>	狗骨柴	N	Tree/Shrub	common	-		++									
66	<i>Drymaria cordata</i>	荷蓮豆	N	Herb	common	-						++	++				
67	<i>Duranta erecta</i>	假連翹	E	Climber/Shrub	common	-										+	
68	<i>Elephantopus scaber</i>	地															

Annex 2 Relative Abundance of Plant Species Recorded Within the Assessment Area

Item No.	Species Name	Chinese Name	Origin <sup>1</sup>	Growth Form	Distribution in Hong Kong <sup>2</sup>	Protection/Conservation Status <sup>2</sup>	300 m Assessment Area								Habitat <sup>3</sup>	
							WL	PL	SL	SWG	DA	SWC	PO	MG	MF	
70	<i>Embelia laeta</i>	酸藤子	N	Climber/Shrub	very common	-	++									
71	<i>Emilia sonchifolia</i>	一點紅	N	Herb	very common	-						+++	++			
72	<i>Eragrostis tenella</i>	鯽魚草	N	Herb	very common	-		++	++							
73	<i>Eriosema chinense</i>	雞頭薯	N	Herb	common	-			++	+						
74	<i>Eucalyptus citriodora</i>	檸檬桉	E	Tree	common	-			+++							
75	<i>Euphorbia hirta</i>	飛揚草	E	Herb	very common	-							+++			
76	<i>Euphorbia thymifolia</i>	千根草	N	Herb	common	-							+++			
77	<i>Eurya chinensis</i>	米碎花	N	Shrub	very common	-				+++						
78	<i>Excoecaria agallocha</i>	海漆	N	Tree	common	-									+++	
79	<i>Ficus hirta</i>	粗葉榕	N	Tree/Shrub	common	-		++	++							
80	<i>Ficus hispida</i>	對葉榕	N	Tree/Shrub	very common	-						++	+			
81	<i>Ficus microcarpa</i>	細葉榕	N	Tree	common	-		++				++				
82	<i>Ficus pumila</i>	薜荔	N	Climber	very common	-						++	++			
83	<i>Ficus variegata</i>	青果榕	N	Tree	common	-						+				
84	<i>Gahnia tristis</i>	黑莎草	N	Herb	very common	-		++								
85	<i>Glochidion eriocarpum</i>	毛果算盤子	N	Tree/Shrub	very common	-			++							
86	<i>Gnetum parvifolium</i>	小葉賈麻藤	N	Climber	common	-		++	++							
87	<i>Gymnanthera oblonga</i>	海島藤	N	Climber	common	-									++	
88	<i>Hedyotis corymbosa</i>	傘房花耳草	N	Herb	very common	-				++						
89	<i>Hedyotis hedyotidea</i>	牛白藤	N	Climber/Shrub	very common	-		++								
90	<i>Hibiscus rosa-sinensis</i>	大紅花	E	Shrub	very common	-						++				
91	<i>Hibiscus tiliaceus</i>	黃槿	N	Tree	very common	-									+++	
92	<i>Homalium cochinchinense</i>	天料木	N	Tree/Shrub	common	-			++							
93	<i>Hypserpa nitida</i>	夜花藤	N	Climber	very common	-	++									
94	<i>Ilex asprella</i>	梅葉冬青	N	Shrub	very common	-	+++	+++								
95	<i>Imperata cylindrica var. major</i>	大白茅	N	Herb	common	-						++				
96	<i>Indocalamus sinicus</i>	水銀竹	N	Bamboo	very common	-		++								
97	<i>Ipomoea carica</i>	五爪金龍	E	Herb	very common	-				+++	++				++	
98	<i>Ipomoea triloba</i>	三裂葉薯	E	Herb	very common	-					++					
99	<i>Kandelia obovata</i>	秋茄樹	N	Tree	common	-									++++	+++
100	<i>Kyllinga nemoralis</i>	單穗水蜈蚣	N	Herb	very common	-					+					
101	<i>Lantana camara</i>	馬纓丹	E	Shrub	very common	-	++	+			++					
102	<i>Lemmaphyllum microphyllum</i>	伏石蕨	N	Herb	common	-		++								
103	<i>Leucaena leucocephala</i>	銀合歡	E	Tree/Shrub	very common	-	++	+++		+++	+++	++++			++	
104	<i>Ligustrum sinense</i>	山指甲	E	Tree/Shrub	common	-	++					+++				
105	<i>Lindernia anagallis</i>	長蒴母草	N	Herb	very common	-					++					
106	<i>Lindernia antipoda</i>	泥花草	N	Herb	common	-				++						
107	<i>Lindernia crustacea</i>	母草	N	Herb	common	-					++					
108	<i>Lindsaea ensifolia</i>	劍葉鱗始蕨	N	Herb	common	-		+++								
109	<i>Lindsaea heterophylla</i>	異葉鱗始蕨	N	Herb	common	-		++								
110	<i>Lindsaea orbiculata</i>	團葉鱗始蕨	N	Herb	very common	-		+++								
111	<i>Liquidambar formosana</i>	楓香	N	Tree	common	-		++								
112	<i>Liriopspicata</i>	山麥冬	N	Herb	very common	-	+++	+++								
113	<i>Litchi chinensis</i>	荔枝	E	Tree	restricted but widely planted	RLCHP: EN <sup>4</sup>	+					+				
114	<i>Litsea cubeba</i>	木薑子	N	Tree/Shrub	common	-			++	+						
115	<i>Litsea glutinosa</i>	潺槁	N	Tree	very common	-				++						
116	<i>Litsea rotundifolia var. oblongifolia</i>	豺皮樟	N	Tree/Shrub	very common	-	++	++	++							
117	<i>Lophostemon confertus</i>	紅膠木	E	Tree	very common	-		++++	+++							
118	<i>Ludwigia hyssopifolia</i>	草龍	N	Herb	very common	-					+				++	
119	<i>Ludwigia octovalvis</i>	毛草龍	N	Herb	very common	-					++					
120	<i>Lygodium japonicum</i>	海金沙	N	Climber/Herb	very common	-		+++	++	++						
121	<i>Macaranga tanarius var. tomentosa</i>	血桐	N	Tree	common	-	+++	++	++	+		+			++	
122	<i>Macroptilium lathyroides</i>	大翼豆	E	Herb	common	-				++						
123	<i>Mallotus paniculatus</i>	白楸	N	Tree/Shrub	very common	-			+++							
124	<i>Mallotus repandus</i>	石岩楓	N	Climber/Shrub	common	-		++			+					
125	<i>Melastoma dodecandrum</i>	地菍	N	Herb/Shrub	common	-		++	++	++						
126	<i>Melastoma malabathricum</i>	野牡丹	N	Shrub	common	-		++	++							
127	<i>Melia azedarach</i>	苦棟	E	Tree	common	-		+++								
128	<i>Melicope pteleifolia</i>	三櫟苦	N	Tree/Shrub	common	-		+	++							
129	<i>Melinis repens</i>	紅毛草	E	Herb	very common	-						+++				
130	<i>Microcos nervosa</i>	破布葉	N	Tree/Shrub	very common	-		++	++							
131	<i>Microstegium ciliatum</i>	剛莠竹	N	Herb	very common	-		+++							++	
132	<i>Mikania micrantha</i>	薇甘菊	E	Climber/Herb	very common	-				++	+++	++++	++		++	++++
133	<i>Mimosa pudica</i>	含羞草	E	Herb	common	-				++						
134	<i>Misanthus sinensis</i>	芒	N	Herb	very common	-				+++						
135	<i>Morinda parvifolia</i>	雞眼藤	N	Climber/Shrub	very common	-			++	++						
136	<i>Murraya paniculata</i>	九里香	E	Tree	common	-							++			
137	<i>Mussaenda pubescens</i>	玉葉金花	N	Climber/Shrub	very common	-	+++	++	++							
138	<i>Oxalis corniculata</i>	酢漿草</td														

Annex 2 Relative Abundance of Plant Species Recorded Within the Assessment Area

Item No.	Species Name	Chinese Name	Origin <sup>1</sup>	Growth Form	Distribution in Hong Kong <sup>2</sup>	Protection/Conservation Status <sup>2</sup>	300 m Assessment Area										Habitat <sup>3</sup>
							WL	PL	SL	SWG	DA	SWC	PO	MG	MF		
143	<i>Passiflora foetida</i>	龍珠果	E	Climber	very common	-			++								
144	<i>Pennisetum purpureum</i>	象草	E	Herb	common	-									++		
145	<i>Persicaria chinensis</i>	火炭母	N	Herb	very common	-											
146	<i>Phyllanthus cochinchinensis</i>	越南葉下珠	N	Shrub	very common	-			++								
147	<i>Phyllanthus emblica</i>	餘甘子	N	Tree/Shrub	very common	-		++	+++								
148	<i>Phyllanthus reticulatus</i>	小果葉下珠	N	Shrub	common	-		+++	+						+++		
149	<i>Phyllanthus urinaria</i>	葉下珠	N	Herb	common	-			+								
150	<i>Phyllodium pulchellum</i>	排錢草	N	Shrub	very common	-				++							
151	<i>Pilea microphylla</i>	小葉冷水花	E	Herb	very common	-									++		
152	<i>Pinus elliottii</i>	濕地松	E	Tree	very common	-			+++	++							
153	<i>Piper hancei</i>	山蒟	N	Climber	common	-			+++								
154	<i>Plantago major</i>	車前草	N	Herb	common	-				+							
155	<i>Pluchea indica</i>	闊苞菊	N	Shrub	common	-									++		
156	<i>Plumeria rubra</i>	雞蛋花	E	Tree	very common	-									+		
157	<i>Polyspora axillaris</i>	大頭茶	N	Tree/Shrub	very common	-			+	+++							
158	<i>Portulaca oleracea</i>	馬齒莧	N	Herb	very common	-								+			
159	<i>Pouzolzia zeylanica</i>	霧水葛	N	Herb	common	-								+			
160	<i>Premna serratifolia</i>	傘序臭黃荊	N	Tree/Shrub	common	-									+++		
161	<i>Psychotria asiatica</i>	山大刀	N	Tree/Shrub	very common	-			+++	+++							
162	<i>Psychotria serpens</i>	蔓九節	N	Climber/Shrub	very common	-			++	+++							
163	<i>Pteridium aquilinum var. latiusculum</i>	蕨	N	Herb	fairly common	-				++							
164	<i>Pteris semipinnata</i>	半邊旗	N	Herb	very common	-			++								
165	<i>Pueraria lobata var. montana</i>	葛麻姆	N	Climber	common	-			++					+++	++		
166	<i>Rhaphiolepis indica</i>	石斑木	N	Tree/Shrub	very common	-		++	++	++							
167	<i>Rhapis excelsa</i>	棕竹	N	Shrub	common; principally on the outlying islands; also cultivated										++		
168	<i>Rhodomyrtus tomentosa</i>	桃金娘	N	Shrub	very common	-			++		++						
169	<i>Rhus hypoleuca</i>	白背鹽膚木	N	Tree/Shrub	common	-				++							
170	<i>Rhus succedanea</i>	野漆樹	N	Tree/Shrub	common	-			+	++	+++						
171	<i>Rhynchosia volubilis</i>	鹿藿	N	Climber	restricted	-					++						
172	<i>Rhynchospora rubra</i>	刺子莞	N	Herb	very common	-					++						
173	<i>Richardia scabra</i>	墨苜蓿	E	Herb	common	-					+						
174	<i>Rosa kwangtungensis</i>	廣東薔薇	N	Shrub	common	-					++						
175	<i>Roystonea regia</i>	大王椰子	E	Tree	very common	-									++		
176	<i>Rubus reflexus</i>	鱗毛莓	N	Climber/Shrub	very common	-			++	+	++						
177	<i>Sageretia thea</i>	雀梅藤	N	Climber/Shrub	very common	-				++							
178	<i>Salomonia cantoniensis</i>	齒果草	N	Herb	common	-					+						
179	<i>Sansevieria trifasciata</i>	虎尾蘭	E	Herb	very common	-									+		
180	<i>Sapium discolor</i>	山烏桕	N	Tree	very common	-					+	++					
181	<i>Schefflera heptaphylla</i>	鵝掌柴	N	Tree/Shrub	very common	-			+++	++							
182	<i>Sesbania cannabina</i>	田菁	E	Herb	common	-					++	++					
183	<i>Setaria palmifolia</i>	棕葉狗尾草	N	Herb	common	-					+						
184	<i>Sida rhombifolia</i>	白背黃花稔	N	Shrub	common	-									++		
185	<i>Sinobambusa tootsik</i>	唐竹	E	Bamboo	common	-					+++						
186	<i>Smilax china</i>	菝葜	N	Climber	very common	-				++	++	++					
187	<i>Smilax glabra</i>	土茯苓	N	Climber	very common	-				++							
188	<i>Solanum americanum</i>	少花龍葵	E	Herb	very common	-						+					
189	<i>Soliva anthemifolia</i>	裸柱菊	E	Herb	common	-								++			
190	<i>Sonneratia caseolaris</i>	海桑	E	Tree	very common	-									++		
191	<i>Sporobolus virginicus</i>	鹽地鼠尾粟	N	Herb	very common	-									+++	++	
192	<i>Stachytarpheta jamaicensis</i>	假馬鞭	E	Herb/Shrub	common	-						++					
193	<i>Stellaria alsine</i>	雀舌草	N	Herb	common	-								++			
194	<i>Sterculia lanceolata</i>	假蘋婆	N	Tree	very common	-			+++						+		
195	<i>Strophanthus divaricatus</i>	羊角拗	N	Climber/Shrub	common	-			++	+++							
196	<i>Suaeda australis</i>	南方鹹蓬	N	Herb/Shrub	common	-									++	+++	
197	<i>Syzygium jambos</i>	蒲桃	E	Tree	very common	-					++						
198	<i>Tadehagi triquetrum</i>	葫蘆茶	N	Shrub	very common	-						+					
199	<i>Tetradium glabratum</i>	棟葉吳茱萸	N	Tree	common	-			++	++							
200	<i>Tinospora sinensis</i>	中華青牛膽	N	Climber	common	-			+++								
201	<i>Tridax procumbens</i>	羽芒菊	E	Herb	very common	-							++	+++			
202	<i>Urena procumbens</i>	梵天花	N	Shrub	common	-					+						
203	<i>Uvaria macrophylla</i>	紫玉盤	N	Climber/Shrub	common	-					++						
204	<i>Vitis balanseana</i>	小果葡萄	N	Climber	restricted	-						+					
205	<i>Vitis rotundifolia</i>	綿毛葡萄	N	Climber	common	-						++					
206	<i>Wedelia trilobata</i>	三裂葉蟛蜞菊	E	Herb	common; also widely cultivated							+++	+++				
207	<i>Wikstroemia indica</i>	了哥王	N	Shrub	very common	-						++					
208	<i>Youngia japonica</i>	黃鵪菜	N	Herb	very common	-						++	++	+			
209	<i>Zanthoxylum avicinnae</i>	簕欖花椒	N	Tree	common	-					+	++					

TOTAL

77 62 65 28 55 10

## Annex 2 Relative Abundance of Plant Species Recorded Within the Assessment Area

Annex 3 Presence of Mammal Species Recorded Within the Assessment Area														
Item No.	Common Name	Scientific Name	Chinese Name	Conservation Status <sup>1</sup>	Commonness <sup>2</sup>	Habitat <sup>3</sup>								
						300m Assessment Area								
						WL	PL	SL	SWG	DA	SWC	PO	MG	MF
1	Chinese Noctule	<i>Nyctalus plancyi</i>	中華山蝠	Cap.170; Fellowes: PRC (RC)	Fairly widely distributed in countryside areas throughout Hong Kong.	✓								
2	Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap.170	Widely distributed throughout Hong Kong.	✓								
3	Least Pipistrelle	<i>Pipistrellus tenuis</i>	小伏翼	Cap.170	Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung		✓							
4	Chinese Pipistrelle	<i>Hypsugo pulveratus</i>	灰伏翼	Cap.170; Fellowes: (LC)	Only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings		✓							
						TOTAL	2	2	0	0	0	0	0	

**Notes:**

1. Conservation and Protection Status:

a. Cap. 170 – Protected under Wild Animals Protection Ordinance

b. Fellowes – Fellowes *et al.* (2002): PRC = Potential Regional Concern, RC = Regional Concern, LC = Local 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.

2. Commonness as per AFCD database: Available at <https://bih.gov.hk/en/home/index.html>

3. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body

4. References:

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.

Fellowes *et al.* 2002. Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159.

#### Annex 4 Maximum Count of Avifauna Species Recorded Within the Assessment Area

25	Oriental Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	-	Abundant resident. Widely distributed in Hong Kong			1					1			
26	Fork-tailed Sunbird	<i>Aethopyga christinae</i>	叉尾太陽鳥	-	Common resident and winter visitor. Widely distributed in Hong Kong			1								
27	Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	-	Abundant resident. Widely distributed in Hong Kong				2				0	0	4	
				TOTAL			2	2	6	0	8	0	0	4	8	9

**Notes:**

1. Conservation and Protection Status:
  - a. Cap. 170: Protected under Wild Animals Protection Ordinance, all birds in Hong Kong are protected under Cap. 170
  - b. Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance
  - c. Fellowes – Fellowes et al. (2002): PRC = Potential Regional Concern, RC = Regional Concern, LC = Local 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.
  - d. CSMPS – China State Major Protection Status: Appendix II
  - e. CITES – Under Appendix (II) of Convention on International Trade in Endangered Species of Wild Flora and Fauna
2. Distribution as per AFCD database. Available at <https://bih.gov.hk/en/home/index.html>:
3. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body, IF = In-flight
4. References:
 

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.

Fellowes et al. 2002. Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159.

*Annex 5 Relative Abundance of Amphibian Species Recorded Within Assessment Area*

Item No.	Common Name	Scientific Name	Chinese Name	Conservation and Protection Status	Rarity in Hong Kong <sup>1</sup>	Distribution in Hong Kong <sup>2</sup>	Habitat <sup>3/4</sup>												
							300m Assessment Area				WL	PL	SL	SWG	DA	SWC	PO	MG	MF
1	Asian Common Toad	<i>Duttaphrynus melanostictus</i>	黑眶蟾蜍	-	Least Concern	Widely distributed in HK	TOTAL	0	1	0	0	0	0	0	0	0	0	0	0

**Notes:**

1. Rarity as per AFCD. 2009. The Proposed Action Plan for the Conservation of Amphibians in Hong Kong (NCSC 4/09). Annex 1.

2. Distribution as per AFCD database. Available at <https://bih.gov.hk/en/home/index.html>

3. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body

4. Relative abundance: +: Scarce (1-5), ++: Uncommon (6-20), +++, Common (20 - 50), +++++: Abundant (>50)

5. References:

AFCD. 2009. The Proposed Action Plan for the Conservation of Amphibians in Hong Kong (NCSC 4/09). Annex 1. Accessed from <[https://www.epd.gov.hk/epd/sites/default/files/epd/english/boards/advisory\\_council/files/ncsc\\_paper04\\_2009.pdf](https://www.epd.gov.hk/epd/sites/default/files/epd/english/boards/advisory_council/files/ncsc_paper04_2009.pdf)> in Aug 2025.

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.

**Annex 6 Maximum Count of Reptile Species Recorded Within Assessment Area**

Item No.	Common Name	Scientific Name	Chinese Name	Conservation and Protection Status	Distribution in Hong Kong <sup>1</sup>	Habitat <sup>2</sup>								
						300m Assessment Area								
						WL	PL	SL	SWG	DA	SWC	PO	MG	MF
1	Bowring's Gecko	<i>Hemidactylus bowringii</i>	原尾蜥虎	-	Distributed throughout Hong Kong					7				
2	Garnot's Gecko	<i>Hemidactylus garnotii</i>	鋸尾蜥虎	-	Distributed in Lantau Island, Hong Kong Island and Eastern New					1				
3	Taiwan Kukri Snake	<i>Oligodon formosanus</i>	台灣小頭蛇	-	Widely distributed throughout Hong Kong					1				
						TOTAL	0	0	0	0	3	0	0	0

**Notes:**

1. Distribution as per AFCD database. Available at <https://bih.gov.hk/en/home/index.html>

2. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body

3. References:

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.

Annex 7 Maximum Count of Butterfly Species Recorded within the Assessment Area

Item No.	Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status <sup>1</sup>	Rarety in Hong Kong <sup>2</sup>	Distribution in Hong Kong <sup>3</sup>	Habitat <sup>4</sup> 300m Assessment Area								
							WL	PL	SL	SWG	DA	SWC	PO	MG	MF
1	Common Awl	<i>Hasora badra</i>	三斑趾弄蝶	Fellowes: LC	Very Rare	Wu Kau Tan, Lai Chi Wo, Hong Kong Wetland Park.		1							
2	Water Snow Flat	<i>Tagiades litigiosus</i>	沾邊裙弄蝶	-	Common	Widely distributed throughout Hong Kong.		1							
3	Dark Cerulean	<i>Jamides bochus</i>	雅灰蝶	-	Common	Widely distributed throughout Hong Kong.		1							
4	Pale Grass Blue	<i>Zizeeria maha</i>	酢漿灰蝶	-	Very Common	Widely distributed throughout Hong Kong.					1				
5	Fluffy Tit	<i>Zeltus amasa</i>	珍灰蝶	-	-	-								1	
6	Blue-spotted Crow	<i>Euploea midamus</i>	藍點紫斑蝶	-	Very Common	Widely distributed throughout Hong Kong.		3			4				
7	Great Egg-fly	<i>Hypolimnas bolina</i>	幻紫斑蛺蝶	-	Common	Widely distributed throughout Hong Kong.		1		1	1				
8	Common Lascar	<i>Pantoporia hordonia</i>	金蟠蛺蝶	-	Uncommon	Widely distributed throughout Hong Kong.		1							
9	Common Palmfly	<i>Elymnias hypermnestra</i>	翠袖鋸眼蝶	-	Common	Widely distributed throughout Hong Kong.			1						
10	Dark-brand Bush Brown	<i>Mycalesis mineus</i>	小眉眼蝶	-	Very Common	Widely distributed throughout Hong Kong.	1								
11	Tailed Jay	<i>Graphium agamemnon</i>	統帥青鳳蝶	-	Common	Widely distributed throughout Hong Kong.		1							
12	Common Bluebottle	<i>Graphium sarpedon</i>	青鳳蝶	-	Very Common	Widely distributed throughout Hong Kong.	1								
13	Red Helen	<i>Papilio helenus</i>	玉斑鳳蝶	-	Very Common	Widely distributed throughout Hong Kong.		1							
14	Common Mormon	<i>Papilio polytes</i>	玉帶鳳蝶	-	Very Common	Widely distributed throughout Hong Kong.	1				2				
15	Swallowtail	<i>Papilio xuthus</i>	柑橘鳳蝶	-	Rare	Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau.		1							
16	Common Grass Yellow	<i>Eurema hecabe</i>	寬邊黃粉蝶	-	Very Common	Widely distributed throughout Hong Kong.	2								
TOTAL							4	9	1	1	4	0	0	1	0

## Notes:

1. Conservation and Protection Status:  
a. Fellowes - Fellowes et al. (2002): LC = Local Concern.

2. Rarity in Hong Kong refers to AFCD database:

Chan, A., Cheung, J., Sze, P., Wong, A., Wong, E. and Yau, E. 2011. A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity 21: 1-12

3. Distribution as per AFCD database. Available at <https://bih.gov.hk/en/home/index.html>

4. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body

5. References:

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.

Chan, A., Cheung, J., Sze, P., Wong, A., Wong, E. and Yau, E. 2011. A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity 21: 1-12

Fellowes et al. 2002. Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159.

Annex 8 Maximum Count of Odonate Species Recorded within the Assessment Area															
Item No.	Common Name	Scientific Name	Chinese Name	Conservation/ Protection Status	Rarity in Hong Kong <sup>1</sup>	Distribution in Hong Kong <sup>2</sup>	Habitat <sup>3</sup>								
							300m Assessment Area								
							WL	PL	SL	SWG	DA	SWC	PO	MG	MF
1	Common Flangetail	<i>Ictinogomphus pertinax</i>	霸王葉春蜓	-	Common	Widely distributed in ponds and still water throughout Hong Kong		1							
2	Russet Percher	<i>Neurothemis fulvia</i>	網脈蜻	-	Common	Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong		1							
3	Common Blue Skimmer	<i>Orthetrum glaucum</i>	黑尾灰蜻	-	Abundant	Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong		1							
4	Wandering Glider	<i>Pantala flavescens</i>	黃蜻	-	Abundant	Widely distributed all over Hong Kong	8	1	5		20				
5	Variegated Flutterer	<i>Rhyothemis variegata arria</i>	斑麗翅膀	-	Common	Widely distributed in marshes, ponds and tanks throughout Hong Kong	3	1			1			2	
6	Saddlebag Glider	<i>Tramea virginia</i>	華斜痣蜻	-	Abundant	Widely distributed in trees adjacent to ponds and lakes throughout Hong Kong			2				2		
TOTAL							2	5	2	0	2	0	0	2	0

Notes:

1. Rarity as per AFCD. 2014. Available at <http://www.afcd.gov.hk/english/conservation/hkbiodiversity/database/search.asp?lang=en>.

2. Distribution as per AFCD database. Available at <https://bih.gov.hk/en/home/index.html>

3. Habitats: WL = Woodland (Young), PL = Plantation, SL = Shrubland, SWG = Seasonally Wet Grassland, DA = Developed Area, SWC = Semi-natural Watercourse, PO = Fishpond, MG = Mangrove, MF = Mudflat/Coastal Water Body

4. References:

AFCD. 2024. Hong Kong Biodiversity Information Hub. Accessed from <<https://bih.gov.hk/en/home/index.html>> in Aug 2025.



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