

**Rezoning Application from  
“Residential (Group D)” to  
“Residential (Group C)2” Zone at Lot  
No. 4822 in D.D. 104 and  
Adjoining Government Land,  
East of Kam Pok Road,  
Mai Po, Yuen Long,  
New Territories  
【Volume 2 of 2】**

Applicant	:	Glory Queen Limited
Planning Consultants	:	Vision Planning Consultants Limited
Project Architects	:	P&T Group
Environmental Consultants	:	Meinhardt Infrastructure & Environment Ltd. Ramboll Hong Kong Limited Westwood Hong & Associates Limited
Landscape Architects	:	Scenic Landscape Studio Limited
Traffic Consultants	:	MVA Hong Kong Limited
Ecological Consultants	:	Ecosystems Limited
Date of Submission	:	8 August 2025

## **Appendix 9**

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### *Ecological Impact Assessment*

# **REZONING APPLICATION FROM "RESIDENTIAL (GROUP D)" TO "RESIDENTIAL (GROUP C)2" ZONE AT LOT 4822 IN D.D. 104 AND ADJOINING GOVERNMENT LAND, EAST OF KAM POK ROAD, MAI PO, YUEN LONG, NEW TERRITORIES**

## **Ecology Impact Assessment**

### **1. Summary**

- 1.1.1 This report presents the Ecological Impact Assessment on any direct and indirect potential impacts to ecology arising from the construction and operation of the proposed rezoning layout. Ecological baseline conditions of the Subject Site and its surroundings were described, potential ecological impacts including losses or damages of habitats and other potential impacts to the inhabiting flora and fauna were assessed, and the need of mitigation measures such as avoidance, minimization and compensation were investigated. The potential ecological impacts on the identified species and habitats were found acceptable with implementation of mitigation measures.

### **2. Relevant Legislation, Standards, Guidelines and Criteria**

- 2.1.1 The HKSAR ordinances and regulations relevant to ecological assessment of this Project include the following:
- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations (Cap. 96A);
  - Town Planning Ordinance (Cap. 131);
  - Wild Animals Protection Ordinance (WAPO, Cap. 170);
  - Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
  - Environmental Impact Assessment Ordinance ("the EIAO", Cap. 499) and the associated TM (EIAO-TM), in particular Annexes 8 and 16; and
  - Town Planning Board Guidelines for Application for Development within the Deep Bay Area under Section 16 of the Town Planning Ordinance.
- 2.1.2 Ecological assessment also made reference to the following guidelines and standards as well as international conventions:
- Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10, "Conservation";
  - PELB Technical Circular 1/97 / Works Branch Technical Circular 4/97, "Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures";
  - ETWB Technical Circular (Works) No. 5/2005, "Protection of natural streams/rivers from adverse impacts arising from construction works";
  - Relevant wildlife protection laws of the PRC;

- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the "Ramsar Convention"), which requires parties to conserve and make wise use of wetland areas, particularly those supporting waterfowl populations;
- United Nations Convention on Biological Diversity, which requires parties to regulate or manage biological resources important for the conservation of biological diversity, to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. Signatories of the convention are required to make active efforts to protect and manage their biodiversity resources. The Government of the Hong Kong SAR has stated that it will be "committed to meeting the environmental objectives" of the Convention;
- International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species;
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

### 3. Establishment of Ecological Baseline

- 3.1.1 Ecological baseline condition of the Subject Site and 500m Assessment Area was established by literature review and updating survey of habitat mapping in May 2025.

#### *Literature Review*

- 3.1.2 The following literatures were reviewed. Ecological surveys carried out in these projects have gathered a large amount of ecological information of the Subject Site and the surrounding areas.

- "Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long, N.T.";
- "Proposed Residential cum Passive Recreational Development within "Recreation" ("REC") Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (hereafter REC Site EIA);
- "Comprehensive Development and Wetland Protection near Yau Mei San Tsuen" (hereafter YMST EIA);
- On-going construction phase ecological monitoring data of Light Public Housing at Yau Pok Road, Yuen Long (DIR-296/2023);
- "Residential Development within R(D) Zone at Various Lots in DD104, Yuen Long, N.T." (hereafter R(D) Site EcolA);
- "Light Public Housing at Yau Pok Road, Yuen Long Project Profile";
- "S12A Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 – Rezoning from "Residential (Group D)" to "Residential (Group C) 1" Zone For a Proposed Residential Development at Various Lots in D.D. 104 and the Adjoining Government Land in Yuen Long" (Y/YL-MP/10);
- Ecological survey to provide back-up data for the application of variation of environmental permit A/YL-MP/287. Ecological surveys including habitat mapping, mammal, bird, herpetofauna, dragonfly and butterfly between February

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and July 2023. Surveys covered the Subject Site and 500m Assessment Area;  
and

- Hong Kong Bird Report published by the Hong Kong Bird Watching Society.

### *Habitat Mapping*

- 3.1.3 A habitat mapping survey was conducted in May 2025. Habitats in the Subject Site and 500m Assessment Area were mapped based on aerial photos and ground truthing. Walk-over surveys were conducted at representative areas of each habitat type.

## **4. Results of Literature Review**

### **4.1 Recognized Sites of Conservation Importance**

- 4.1.1 There is no Recognized Site of Conservation Importance within the Subject Site of this application.

### *Wetland Buffer Area (WBA)*

- 4.1.2 The planning intention of WBA is to protect the ecological integrity of the fishponds and wetlands within the Wetland Conservation Area (WCA) and to prevent development that would have a negative off-site impact on the ecological value of those fishponds.
- 4.1.3 The Subject Site is located immediately outside the boundary of Wetland Buffer Area (WBA), and part of the Assessment Area covered the WBA.

### *Wetland Conservation Area*

- 4.1.4 The Subject Site is about 520m away from the boundary of WCA. WCA comprises of the existing and contiguous, active or abandoned fishponds in the Deep Bay Area. The planning intention of WCA is to conserve the ecological value of the fishpond which form an integral part of the wetland ecosystem in the Deep Bay Area. New development within the WCA will not be allowed unless it is required to support the conservation of the ecological value of the area or the development is essential infrastructural project with overriding public interest.

### *Site of Special Scientific Interest (SSSI) and Egrettries*

- 4.1.5 There is no SSSI or egrettry within the Subject Site or 500m Assessment Area.
- 4.1.6 There are three SSSIs between 1.2km and 2.1km from the Subject Site, namely the Mai Po Marshes SSSI, the Inner Deep Bay SSSI and the Mai Po Village SSSI (Anon. 2022).
- 4.1.7 Two active egrettries lie within the potential foraging distance of breeding egrets (Young 1993), including Mai Po Village egrettry (1.8km from the Assessment Area) and Mai Po Lung egrettry (2.3km from the 500m Assessment Area). Foraging ecology of Little Egret and Chinese Pond Heron nesting in Mai Po Village SSSI Egrettry was studied previously (Wong 1992, Young 1998, City University of Hong Kong. 2001). Fishpond was the most frequently used habitat by both species. Drained fishponds are particularly attractive to Little Egret (Young 1998). The average distances flown

by Little Egret and Chinese Pond Heron were 2.1km and 1.6km respectively (Wong 1992, Young 1998). Foraging ecology of Little Egret and Chinese Pond Heron in Mai Po Village SSSI Egretty was also studied in 2011 during the EIA study of "Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (ENVIRON Hong Kong Limited. 2013). Most breeding birds of these two species took off from the Mai Po Village egretty flew towards Mai Po, Tam Kon Chau or other nearby wetlands to forage. Foraging ecology of Little Egret and Chinese Pond Heron nesting in Mai Po Lung Egretty was not studied previously, but the uses of foraging habitat and average flight distance of might be similar to the observations in the Mai Po Village SSSI Egretty.

#### *Mai Po Inner Deep Bay Ramsar Site*

- 4.1.8 About 1500 ha of wetland in the Mai Po and Inner Deep Bay region was designated as a Ramsar Site on 4 September 1995. The wetland habitats in the Ramsar Site included intertidal mudflats, mangroves, tidal shrimp ponds (*gei wais*), fishponds and reedbeds. The site serves as an important over-wintering and refuelling station site for the migratory waterbirds.

#### *Proposed Sam Po Shue Wetland Conservation Park*

- 4.1.9 The Proposed Sam Po Shue Wetland Conservation Park (WCP) is about 400m from the Subject Site and part of this WCP falls within the northern fringe of 500m Assessment Area. Sam Po Shue WCP is one of the five parks to be developed under the multi-functional WCPs System under the Northern Metropolis Development Strategy. The total area will be about 338 ha, covering the wetland in Lok Ma Chau, San Tin and area adjacent to Fairview Park. The WCP will provide four major functions, including: 1) enhance the ecological quality and biodiversity of the Northern Metropolis; 2) compensate for ecological and fisheries impacts arising from development of San Tin Technopole, to achieve no-net-loss in ecological function; 3) provide quality outdoor eco-education and recreation facilities for public enjoyment; and 4) introduce ecologically friendly and modernised aquaculture in the park. The commencement of development of the Sam Po Shue WCP is tentatively scheduled in 2026/2027. Construction works will be completed in phase works and finish in 2039.

#### *Vegetation*

- 4.1.10 No plant species considered of conservation importance / concern was reported in the Subject Site or 500m Assessment Area in reviewed literatures.

#### *Birds*

- 4.1.11 Only four bird species of conservation importance were recorded in the Subject Site during the EIA stage (AEIAR-205/2017). These waterbird species were only present in low abundance. No bird species of conservation importance was reported in the Subject Site in other reviewed literatures.
- 4.1.12 Twenty bird species recorded in the Assessment Area during the EIA Stage were considered of conservation importance. These bird species were mainly recorded both in pond habitats and the Ngau Tam Mei Drainage Channel (hereafter NTMDC).

- 4.1.13 Yau Mei Site is located about 350m to the north of the present Subject Site. The 500m distance of YMST EIA covered the northern half of the present Assessment Area, including the urbanized/disturbed habitat of the Subject Site. Ecological surveys were conducted between September 2007 and August 2008. Thirty-five bird species of conservation importance were recorded in this EIA study (**Table 1**). The bird species of conservation importance were mostly waterbirds (e.g., Northern Shoveler *Anas clypeata*, Yellow Bittern *Ixobrychus sinensis*). These waterbird species were recorded in a variety of habitats, e.g., agricultural land, drainage channel, fishpond habitat, but only moderate numbers of common wetland-dependent species were present in the NTMDC south of the project area.
- 4.1.14 Ecological surveys of the REC Site EIA were conducted between January 2009 and July 2009 and between August 2010 and January 2011. Twenty-seven bird species of conservation importance were recorded in this EIA study. The bird species of conservation importance were mostly waterbirds (e.g., Black-faced Spoonbill *Platalea minor*). The NTMDC, despite of its concreted bottom and regular human disturbance, supported moderate abundance of foraging ardeids, particularly during low tides in winter.
- 4.1.15 During the R(D) Site EcolA, 26 bird species of conservation importance were recorded. The NTMDC was found to provide foraging habitats to ardeids in winter. Food items might be brought in the NTMDC by tides. High counts of ardeids were occasionally recorded during dry season.
- 4.1.16 Ecological surveys of "Light Public Housing at Yau Pok Road, Yuen Long" were carried out in December 2022. Nine bird species were considered of conservation importance were recorded. These bird species were mainly recorded in NTMDC.
- 4.1.17 Fifteen bird species were considered of conservation importance were recorded in habitats outside the Subject Site in 2023 (**Appendix 1**). All were waterbird species, including Northern Shoveler *Anas clypeata*, Eurasian Wigeon *Mareca penelope*, Little Grebe *Tachybaptus ruficollis*, Black-crowned Night Heron *Nycticorax nycticorax*, Chinese Pond Heron *Ardeola bacchus*, Grey Heron *Ardea cinerea*, Great Egret *Ardea alba*, Little Egret *Egretta garzetta*, Great Cormorant *Phalacrocorax carbo*, Black Kite *Milvus migrans*, Pied Avocet *Recurvirostra avosetta*, Common Greenshank *Tringa nebularia*, Common Redshank *Tringa tetanus* and Black-winged Stilt *Himantopus himantopus*. As in the EIA stage, these bird species of conservation importance were mostly recorded in the NTMDC and pond habitats.
- 4.1.18 Ecological surveys of "S12A Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 – Rezoning from "Residential (Group D)" to "Residential (Group C) 1" (Y/YL-MP/10) were carried out between January and May 2024. Twenty-six bird species considered of conservation importance were recorded.
- 4.1.19 Twenty-six bird species were considered of conservation importance were recorded in habitats outside the Subject Site during the ecological monitoring of the Light Public Housing at Yau Pok Road between April 2024 and June 2025. Most of these bird species were waterbird species. Most of these waterbird species were recorded in NTMDC, flood storage pond and temporary pond of YMST. More than half of the waterbirds (51.5%) recorded in NTMDC between April 2024 and June 2025 were ardeids. Ardeids are known to be able to tolerate high levels of disturbance and human activities (Lansdown *et al.* 2000). Abundance of waterbirds recorded in the temporary pond of YMST was low. Apart from the survey in April 2024, number of waterbirds recorded during the monthly monitoring surveys was lower than 10 birds between April 2024 and June 2025.
- 4.1.20 During the EIA stage (AEIAR-205/2017), no major flight line of waterbirds was observed over the Subject Site. Waterbirds mainly flew along the drainage channel

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within the Assessment Area. Very few birds (2.4% of total observed) flew across the Subject Site as it and the surroundings were mainly urbanized/disturbed area, which supported low bird abundance. Area of urbanized/disturbed near the Subject Site increased after the construction of light public house in 2024. This change might further reduce the flight activities across the Subject Site.

- 4.1.21 The flight line surveys of other previous studies (REC Site EIA, YMST EIA, R(D) Site EcolA) also revealed that waterbirds mainly flew along NTMDC. The flight zone above the Subject Site was rarely used by waterbirds. During the most recent study carried out in the S12A Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 (Y/YL-MP/10), same flight pattern was observed. Only two flight lines were identified above the Subject Site. One of those merely passed across the northern fringe of the Site. A north-southwest flight line across the Site was recorded, but this flight line only accounted for 4.36% of total observed birds.

#### *Other Terrestrial Fauna*

- 4.1.22 Significant observations of other terrestrial fauna within the 500m Assessment Area from reviewed literature included Japanese Pipistrelle *Pipistrellus abramus*, Javan Mongoose *Herpestes javanicus*, Many-banded Krait *Bungarus multicinctus*, King Cobra *Ophiophagus hannah*, Chinese Bullfrog *Hoplobatrachus rugulosus*, Pale Palm Dart *Telicota colon*, Plain Hedge Blue *Celastrina lavendularis*, Danaid Eggfly *Hypolimnas misippus*, Scarlet Basker *Urothemis signata* and Coastal Glider *Macrodiplax cora*. Records of these species were only present in very low abundance and irregularly recorded.

#### *Aquatic Fauna*

- 4.1.23 There was no significant observation in the Subject Site or 500m Assessment Area from the reviewed literatures.



**Table 1 Fauna Species of Conservation Importance from Previous Studies**

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
<b>Mammal</b>										
Japanese Pipistrelle <i>Pipistrells abramus</i>		+		+		+			WAPO	Widely distributed throughout Hong Kong
Small Asian Mongoose <i>Herpestes javanicus</i>		+							WAPO	Fairly widely distributed in countryside areas in the New Territories.
<b>Birds</b>										
Common Teal <i>Anas crecca</i>	+	+	+		+				WAPO; RC	Common winter visitor. Found in Deep Bay area, Shuen Wan, Tai Lam Chung Reservoir, Victoria Harbour, Urban Park.
Northern Shoveler <i>Spatula clypeata</i>	+				+	+	+	+	WAPO; RC	Abundant winter visitor. Found in Deep Bay area
Eurasian Wigeon <i>Mareca penelope</i>						+		+	WAPO; RC	Abundant winter visitor. Found in Deep Bay area, Tai Lam Chung.
Mallard <i>Anas platyrhynchos</i>							+		WAPO, RC	Scarce winter visitor. Found in Deep Bay area, Tai Lam Chung, Hok Tau Reservoirs, Tolo Harbour, Nam Chung, Long Valley, Kam Tin.
Eurasian Pintail <i>Anas acuta</i>								+	WAPO, RC	Abundant winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin.
Little Grebe <i>Tachybaptus ruficollis</i>	+	+	+	+		+	+		WAPO; LC	Common resident. Found in Deep Bay area.
Black-faced Spoonbill <i>Platalea minor</i>	+	+	+	+				+	IUCN: endangered; WAPO; PGC	Common winter visitor. Found in Deep Bay area.
Yellow Bittern <i>Ixobrychus sinensis</i>	+							+	WAPO; (LC)	Uncommon summer visitor and passage migrant. Found in Deep Bay area, Chek Keng, Tai Long Wan.
Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	+						+		WAPO; LC	Uncommon passage migrant and scarce summer visitor. Found in Deep

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
										Bay area, Long Valley, Tai Yuen (Sheung Shui), Pui O.
Black-crowned Night Heron <i>Nycticorax nycticorax</i>	+	+	+	+		+	+	+	WAPO; (LC)	Common resident and migrant. Widely distributed in Hong Kong
Striated Heron <i>Butorides striatus</i>	+								WAPO; (LC)	Common summer visitor. Widely distributed in Hong Kong.
Chinese Pond Heron <i>Ardeola bacchus</i>	+	+	+	+	+	+	+	+	WAPO; PRC (RC)	Common resident. Widely distributed in Hong Kong.
Grey Heron <i>Ardea cinerea</i>	+	+	+	+	+	+	+	+	WAPO; PRC	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguiar.
Purple Heron <i>Ardea purpurea</i>	+	+		+					WAPO; RC	Uncommon passage migrant. Found in Deep Bay area.
Great Egret <i>Ardea abla</i>	+	+	+	+	+	+	+	+	WAPO; PRC (RC)	Common resident and winter visitor. Widely distributed in Hong Kong.
Intermediate Egret <i>Ardea intermedia</i>	+	+	+				+	+	WAPO; RC	Resident and passage migrant. Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguiar.
Little Egret <i>Egretta garzetta</i>	+	+	+	+	+	+	+	+	WAPO; PRC (RC)	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.
Eastern Cattle Egret <i>Bubulcus coromandus</i>				+				+	WAPO (Cap 170); (LC)	Resident and common passage migrant. Widely distributed in Hong Kong
Great Cormorant <i>Phalacrocorax carbo</i>	+	+	+	+		+	+	+	WAPO; PRC	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.
Black Kite <i>Milvus migrans</i>	+			+		+	+	+	WAPO; (RC)	Common resident and winter visitor. Widely distributed in Hong Kong.
Besra <i>Accipiter virgatus</i>							+		WAPO (Cap 170); Class 2 Protected Animal of China;	Common resident and migrant. Found in Tai Po Kau, Deep Bay area, Chek Lap Kok, Cheung Chau, Soko Islands

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
									Appendix 2 of CITES	
Common Kestrel <i>Falco tinnunculus</i>				+					WAPO (Cap 170); Class 2 Protected Animal of China; Appendix 2 of CITES	Common autumn migrant and winter visitor. Widely distributed in Hong Kong
Eastern Buzzard <i>Buteo japonicus</i>				+				+	WAPO (Cap 170); Class 2 Protected Animal of China; Appendix 2 of CITES	Common winter visitor. Widely distributed in Hong Kong
Black-winged Stilt <i>Himantopus himantopus</i>	+	+	+			+	+	+	WAPO; RC	Common migrant and winter visitor. Found in Deep Bay area, Long Valley, Kam Tin.
Little Ringed Plover <i>Charadrius dubius</i>	+	+	+	+					WAPO; (LC)	Resident, common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.
Greater Painted-snipe <i>Rostratula benghalensis</i>	+	+	+				+	+	WAPO; LC	Locally common resident. Found in Ha Tsuen, Lok Ma Chau, Kam Tin, Long Valley, Hong Kong Wetland Park.
Pintailed/Swinhoe's Snipe <i>Gallinago stenura/megala</i>	+	+	+						WAPO; LC	-
Black-tailed Godwit <i>Limosa limosa</i>								+	WAPO; RC	Abundant passage migrant and winter visitor. Found in Deep Bay area.
Common Redshank <i>Tringa totanus</i>				+		+	+	+	WAPO (Cap 170); RC	Abundant passage migrant and winter visitor. Found in Deep Bay area.
Marsh Sandpiper <i>Tringa stagnatilis</i>							+		WAPO; RC	Abundant winter visitor and migrant. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Sai Kung.
Common Greenshank <i>Tringa nebularia</i>	+	+	+		+	+	+	+	WAPO; RC	Abundant winter visitor and migrant. Found in Deep Bay area.
Wood Sandpiper <i>Tringa glareola</i>	+	+	+	+			+	+	WAPO; LC	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
Pied Avocet <i>Recurvirostra avosetta</i>						+			WAPO; RC	Abundant winter visitor. Found in Deep Bay area
Black-capped Kingfisher <i>Halcyon pileata</i>								+	WAPO; (LC)	Uncommon passage migrant and winter visitor. Widely distributed in coastal areas throughout Hong Kong.
White-throated Kingfisher <i>Halcyon smyrnensis</i>	+	+	+	+		+	+	+	WAPO; (LC)	Common resident. Widely distributed in coastal areas throughout Hong Kong
Pied Kingfisher <i>Ceryle rudis</i>	+						+		WAPO; (LC)	Common resident. Widely distributed in lakes and ponds throughout Hong Kong.
Grey-chinned Minivet <i>Pericrocotus solaris</i>								+	WAPO, LC	Locally common resident. Found in Tai Po Kau, Shing Mun, Ho Chung, Kadoorie Farm & Botanic Garden, Tung Ping Chau.
Greater Coucal <i>Centropus sinensis</i>		+	+	+	+			+	WAPO; China Red Data Book: Vulnerable	Common resident. Widely distributed in Hong Kong.
Collared Crow <i>Corvus torquatus</i>	+	+	+		+		+	+	IUCN: near- threatened; WAPO; LC	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.
Chinese Penduline Tit <i>Remiz consobrinus</i>	+						+		WAPO; RC	Common passage migrant and winter visitor. Found in Deep Bay area, Tai O, Mui Wo, Long Valley, Luk Keng, Chek Lap Kok
Red-throated Pipit <i>Anthus cervinus</i>		+	+						WAPO; LC	Common passage migrant and winter visitor. Widely distributed in dry agricultural areas throughout Hong Kong
Pallas's Grasshopper Warbler <i>Helopsaltes certhiola</i>	+	+	+						WAPO; LC	Common autumn passage migrant. Found in wetland areas throughout Hong Kong

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
Bright-capped Cisticola <i>Cisticola exilis</i>		+	+				+		WAPO; LC	Locally common winter visitor. Widely distributed in grassland throughout Hong Kong.
Zitting Cisticola <i>Cisticola juncidis</i>	+	+	+	+			+		WAPO; LC	Common passage migrant and winter visitor. Widely distributed in grassland throughout Hong Kong.
Collared Crow <i>Corvus torquatus</i>				+					IUCN: near-threatened; WAPO (Cap 170); LC	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.
Red-billed Starling <i>Spodiopsar sericeus</i>	+	+	+						WAPO; GC	Abundant winter visitor. Widely distributed in Hong Kong
White-cheeked Starling <i>Spodiopsar cineraceus</i>	+								WAPO; PRC	Locally common winter visitor. Found in Deep Bay area, Kam Tin, Long Valley.
Daurian Starling <i>Agropsar sturninus</i>	+								WAPO; LC	Uncommon autumn passage migrant. Found in Mai Po, Long Valley, Kam Tin, Lam Tsuen, Tolo Harbour area, Kowloon Park, Mui Wo, Ho Chung.
White-shouldered Starling <i>Sturnia sinensis</i>	+	+	+				+		WAPO; (LC)	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 Lung, Mui Wo, Lam Tsuen Valley.
Bluethroat <i>Luscinia svecica</i>	+								WAPO; LC	Locally common winter visitor. Widely distributed in wet agricultural areas throughout Hong Kong.
Red-throated Pipit <i>Anthus cervinus</i>	+								WAPO; LC	Common winter visitor. Found in Kam Tin, Nam Chung, Shek Kong, Deep Bay area, Ho Chung, Lam Tsuen, Hok Tau, Island House and Kowloon Park.

Fauna	YMST EIA <sup>1</sup>	REC Site EIA <sup>2</sup>	R(D) Site EcolA <sup>3</sup>	EIA Stage AEIAR- 205/2017 <sup>4</sup>	Yau Pok Light Public House <sup>5</sup>	2023 Ecological survey	R(D) Site S12A Y/YL- MP/10	Yau Pok On-going monitoring survey	Local/ Regional/ International Conservation Status <sup>6</sup>	Commonness & distribution in Hong Kong <sup>6</sup>
Chinese Grosbeak <i>Eophona migratoria</i>	+	+	+						WAPO; LC	Common winter visitor. Found in Kam Tin, Nam Chung, Shek Kong, Deep Bay area, Ho Chung, Lam Tsuen, Hok Tau, Island House and Kowloon Park.
Herpetofauna										
King Cobra <i>Ophiophagus hannah</i>				+					Appendix 2 of CITES; IUCN Red List: Vulnerable China Red Data Book: Critically endangered	Common and widespread in Hong Kong
Many-banded Krait <i>Bungarus multicinctus</i>	+								China Red Data Book: Vulnerable PRC	Common and widely distributed in Hong Kong.
Chinese Bullfrog <i>Hoplobatrachus rugulosus</i>							+		PRC	Widely distributed in Hong Kong
Butterfly										
Pale Palm Dart <i>Telicota colon</i>		+	+						LC	Widely distributed throughout Hong Kong.
Plain Hedge Blue <i>Celastrina lavendularis</i>	+								LC	Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan.
Danaid Egg-fly <i>Hypolimnys misippus</i>	+	+	+						LC	Ngau Ngak Shan, Lung Kwu Tan, Hong Kong Wetland Park, Mount Parker, Cloudy Hill, Lin Ma Hang.
Dragonfly										
Coastal Glider <i>Macrodiploptera cora</i>	+	+	+						LC	Frequents marshes and ponds with dense vegetation, especially adjacent to coastal areas.
Scarlet Basker <i>Urothemis signata</i>	+	+	+						LC	Common in areas with abandoned fish ponds throughout Hong Kong.

1: ENVIRON Hong Kong Limited (2015); 2: ENVIRON Hong Kong Limited (2013); 3: AEC (2014); 4: Glory Queen (2016); 5: Atkins (2023); 6: AFCD (2022)

LC = local concern, PRC = potential regional concern, RC = regional concern, GC = global 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 (Fellowes *et al.*, 2002).

## 5. Results of Habitat Mapping

- 5.1.1 Habitats identified within the Subject Area in 2025 included plantation and urbanised/disturbed area (**Figures 1 & 2, Table 2**). Most area of the Subject Site was concrete paved and operated as public vehicle park. Plantations were mainly found on the engineering slope on the northern fringe of the Subject Site.

**Table 2 Habitats recorded within the Subject Site**

Habitats	Size (ha)	Percentage (%)
Plantation	0.27	7.14
Urbanised/Disturbed	3.51	92.86
<b>Total</b>	<b>3.78</b>	<b>100</b>

- 5.1.2 Habitats recorded within the Assessment Area included plantation, agricultural land, grassland, pond (fishpond and flood storage pond), drainage channel/nullah, reed and urbanised/disturbed (**Figures 1 & 3, Table 3**). Coverage of urbanised/disturbed habitat increased since the EIA stage and made up more than three quarters (77.56%) of the total area of the 500m Assessment Area. Other habitats within the Assessment Area (e.g., plantation, pond) were mostly fragmented and small in sizes. Another major change was that agricultural land at the northern fringe of the Assessment Area was managed as temporary wetland enhancement area prior to the construction of the Wetland Restoration Area (WRA) of the YMST EIA. This temporary pond is about 400m from the Subject Site and separated from the Subject Site by other habitats in between.

**Table 3 Habitats recorded within the 500m Assessment Area (excluding Subject Site)**

Habitats	Size (ha)	Percentage (%)
Plantation	4.52	3.54
Agricultural Land	0.13	0.10
Grassland	9.13	7.14
Urbanised/Disturbed	99.15	77.56
Pond (fishpond & flood storage pond)	8.88	6.95
Reed	0.13	0.10
Drainage Channel / Nullah	5.90	4.61
<b>Total</b>	<b>127.84</b>	<b>100</b>

## 6. Evaluation of Habitats and Species of Conservation Importance

- 6.1.1 The Subject Site is adjacent to the R(D) Site and located at the opposite site of the NTMDC of the REC Site (also the project area of Yau Pok Light Public House). The 500m Assessment Area of the Subject Site in fact largely overlapped with those of ecological studies carried out for development projects in the R(D) and REC Sites. Hence habitats within similar areas were ranked in these studies and the current application (i.e., also in AEIAR-205/12017).

- 6.1.2 The Subject Site fell within the assessment areas of previous studies conducted for the R(D) and REC Sites. Habitats identified within the Subject Site in 2025 included urbanised/disturbed and plantation. The ecological values of urbanised/disturbed and plantation habitats in EIA stage and 2023 were same as to those evaluated in studies performed for the R(D) and REC Sites (**Table 4**).

**Table 4 Comparison of ranking of ecological value of habitats within the Subject Site**

Habitat	REC Site (Survey period: Jan 2009 – July 2011)	R(D) Site EcolA (Survey period: Jan 2009 – July 2011)	AEIAR- 205/2017 (Survey period: Jul 2009 – Jun 2010, Feb – Mar 2011, Jul 2014, Nov – Dec 2015, Jan 2016)	2023 Ecological Surveys (Survey period: Feb – Jul 2023)	Light Public Housing at Yau Pok Road (Survey period: December 2022)	Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 (Y/YL-MP/10) (Survey period: Jan – May 2024)
Urbanised/disturbed	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Plantation	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low

- 6.1.3 Ecological value of habitats within the Assessment Area in 2023 (**Appendix 1**) remained largely similar to that of EIA stage, and ranked in other studies (**Table 5**). The ecological values of habitats were largely similar. Habitats of “moderate” ecological value included NTMDC and temporary pond of YMST project. The other habitats were ranked as value of “low to moderate”, “low” or “very low”.
- 6.1.4 With the increase of coverage of urbanised/disturbed habitats (i.e., also human activities), waterbirds utilising the wetland habitats in 500m Assessment Area are more disturbance tolerant compared to other wetland habitats in Hong Kong. The ecological value of agricultural land at the northern fringe of the 500m Assessment Area is managed as the temporary pond of YMST project, and the ecological value increased from “low to moderate” to “moderate”. However, this pond will only exist temporarily. Once the Wetland Restoration Area of the YMST project operates, the pond will be filled for development.
- 6.1.5 Ecological values of habitats within the Subject Site and 500m Assessment Area remained largely similar over years. It is likely that the ecological values of habitats within the Subject Site and Assessment Area remained similar in 2025.
- 6.1.6 Previous studies consistently revealed that the main issue within this area is waterbird. Sensitive receivers of the current application will include waterbirds utilising the NTMDC and the temporary pond of YMST, and flight line of waterbirds along the NTMDC.

**Table 5 Comparison of ranking of ecological value of habitats within the Assessment Area**



Habitat	REC Site (Survey period: Jan 2009 – July 2011)	R(D) Site EcolA (Survey period: Jan 2009 – July 2011)	AEIAR- 205/2017 (Survey period: Jul 2009 – Jun 2010, Feb – Mar 2011, Jul 2014, Nov – Dec 2015, Jan 2016)	2023 Ecological Surveys (Survey period: Feb – Jul 2023)	Light Public Housing at Yau Pok Road (Survey period: December 2022)	Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 (Y/YL-MP/10) (Survey period: Jan – May 2024)
Plantation	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Agricultural Land	Low to moderate	Low	Low to moderate	Those managed as Temporary Pond of YMST Project: Moderate; Others: Low to moderate	Low	East of NTMDC: Low; West of NTMDC: Low to Moderate
Grassland*	Low to moderate	Low	Low to moderate	Low to moderate	Low	Low
Urbanised/Disturbed	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Pond	Low	Low	Low to moderate	Low to moderate	Temporary Pond of YMST EIA: Moderate; Others: Low	Temporary Pond of YMST EIA: Moderate; Others: Low
Nullah	Low	Low	Low	Low	Low	Low
Drainage Channel	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Reed**	Low	Low	Low to moderate	Low to moderate	Low	Low to Moderate

\* mapped as "grassland/shrubland" in REC Site, R(D) Site EcolA and AEIAR 205/2017

\*\* mapped as "grassland/shrubland" and "grassland" in AEIAR205/2017 and 2023 Ecological Surveys respectively

## 7. Impact Identification and Evaluation

### 7.1 Proposed Construction Works

- 7.1.1 The potential impacts to terrestrial and aquatic habitats arising from the construction works, including direct loss of habitats and indirect disturbance to habitats and associated wildlife, were assessed in accordance with Annexes 8 and 16 of the EIAO-TM. The main revisions of the layout plan of the current application from the EIA stage are the construction of medium rise buildings and increase of population.

### 7.2 Construction Phase Impacts

#### Direct Habitat Loss and Direct Impact to Fauna species of Conservation Importance

- 7.2.1 The Subject Site was covered by habitats of very low ecological value. The ecological impact of loss of these habitats is considered **insignificant (Table 6)**. No mitigation for loss of these habitats is required.
- 7.2.2 The reviewed previous studies showed that there is no important habitat for fauna species of conservation importance within the Subject Site. Potential impact to species of conservation importance due to loss of the habitats in the Subject Site is considered **Insignificant**.

**Table 6 Potential direct ecological impacts to existing habitat within the Subject Site**

Criteria	Urbanised/disturbed	Plantation
Habitat Quality*	Very low	Very low
Species*	Low flora and fauna diversity;  No floral species of conservation from previous studies;  Fauna species of conservation importance from previous studies: Japanese Pipistrelle, Little Grebe, Chinese Pond Heron, Little Egret and Grey Heron. All were present in very low abundance.	
Size/ Abundance	Major habitat loss in the Subject Site: 3.51ha;  Low faunal abundance	Very small: 0.27 ha;  Very low faunal abundance
Duration	Permanent loss of existing habitat	Permanent loss of existing habitat
Reversibility	Habitat loss would be permanent and irreversible.	Habitat loss would be permanent and irreversible.
Magnitude	Insignificant	Insignificant
Overall Impact Severity without Mitigation	<b>Insignificant</b>	<b>Insignificant</b>

\* based on 2023 Ecological Surveys and previous studies

### Indirect disturbance Impact due to Construction Disturbance

- 7.2.3 The construction activities, including excavation and piling during foundation works, and materials loading/unloading, and concreting during superstructure works, are likely to produce noise and cause disturbance.
- 7.2.4 The immediate surroundings of the Subject Site are mostly urbanized/disturbed habitat, which is considered of very low ecological value. Other habitat types near the Subject Site included grassland (low to moderate ecological value), flood storage pond (low to moderate ecological value) and NTMDC. Grassland and flood storage pond are of low to moderate ecological value. The NTMDC and temporary pond of YMST project are ranked of moderate ecological value. The latter is away from (about 400m) the Subject Site. The major concern would be the potential disturbance to waterbirds utilising the NTMDC, which is near the Subject Site, during the wintering season.
- 7.2.5 Traditional percussive piling method, which will cause significant noise and vibration, will be avoided. Alternative piling method (non-percussive piling methods) that are quieter than the percussive piling method causing less shocks or vibrations, will be adopted as mitigation. With the adoption of non-percussive piling method, it is expected that the disturbance impact to fauna utilizing the habitats near the Subject Site, particularly NTMDC, will be reduced from **Moderate** to **Minor**.

- 7.2.6 There will be a setback area of 50m between the buildings and NTMDC. The setback area will increase the distance between buildings and NTMDC, and hence will reduce the potential disturbance to NTMDC and associated fauna during both construction and operation phases. Potential disturbance to flight line along the NTMDC will also be minimised by the setback area during both construction and operation phases.
- 7.2.7 Hoarding with colour blending with the environment has already been erected during site preparation works of previous approved layout. These hoardings will delineate the works site boundary can screen disturbance to the nearby habitats during construction phase. The workers will be instructed not to disturb any nearby habitats. Furthermore, the site boundary will be clearly defined and any works beyond the boundary would be strictly prohibited.
- 7.2.8 Potential impacts due to indirect disturbance including noise, dust and runoff will be mitigated by measures recommended in relevant chapters of this application.

### Potential Impact to Recognized Sites of Conservation Importance

- 7.2.9 The Subject Site is located outside WBA and is 520m away from the WCA. Construction works will not affect the ecological integrity of the fishponds and wetlands within WCA, or cause directly habitat loss in WBA or WCA.
- 7.2.10 Other recognized sites of conservation importance in Northwest New Territories, including the Mai Po Inner Deep Bay Ramsar Site, Mai Po Nature Reserve, Mai Po Village SSSI, Mai Po Marshes SSSI, are further away from the Subject Site, and also sheltered from the Subject Site by other developed areas in between. Construction disturbance from the proposed project will be localized, reversible and short-term. The potential impact to these recognized sites of conservation importance is considered **Insignificant**.

### Indirect Impact to Species of Conservation Importance

- 7.2.11 Construction works will affect the habitats adjacent to the Subject Site, including grassland, flood storage pond and NTMDC. Utilisation of these habitats by these fauna species might be affected by the construction works (e.g., noise, dust, runoff). Potential disturbance due to construction works to these species will be mitigated by measures described in **Section 8** of this chapter.

## 7.3 Operational Phase Impacts

- 7.3.1 Potential impacts during operational phase will include human activities and noise, traffic, artificial lightings and noise barriers.

### Human activities and Noise

- 7.3.2 Although the current application will result in higher population, human activities will mainly be indoors and noise from residential houses will be screened by walls of houses and fence wall of the Subject Site. Adverse impact to fauna of surrounding habitats due to human activities is not expected.
- 7.3.3 High counts of waterbirds were occasionally recorded in the NTMDC near the Subject Site at low tides in dry season. However, due to the long distance of setback area, indoors human activities in the buildings are not likely to affect the waterbirds utilising

- the NTMDC. In addition, mudflat in the NTMDC is lower in elevation and birds foraging in these habitats might not be able to see the human activities in the Subject Site. Furthermore, as revealed by ecological monitoring of the Light Public Housing at Yau Pok Road between April 2024 and June 2025. More than half of the waterbird species recorded in NTMDC were ardeids. Ardeids are known to be able to tolerate high levels of disturbance and human activities (Lansdown *et al.* 2000). Severe impact to waterbirds utilising the NTMDC due to human activities in the Subject Site is not expected.
- 7.3.4 The Tin Shui Wai channel is near high-rise buildings of more than 28 storeys of housing areas (e.g., Tin Yan, Tin Chak). Utilisation of this channel by Black-faced Spoonbills is reported in social media, e.g., 83 birds on 9 February 2025, 107 birds on 10 February 2025, 63 birds on 15 February 2025. These observations showed that even waterbird species of conservation importance do not avoid wetland habitats near high-rise buildings and high level of human activities. Uses of foraging habitats by waterbirds (including Black-faced Spoonbill) within the sight of Castle Peak Road was reported in "EcolA for Proposed Residential Development within R(D) zone at Various Lots in DD 104 and Adjoining G.L. Yuen Long, N.T. (Y/YL-MP/6 and Y/YL-MP/10)". This example showed that waterbird species of conservation importance do not avoid wetland habitats subjected to high level of traffic activities.
- 7.3.5 The Subject Site and the surrounding area are mainly composed of urbanized/disturbed, which is subjected to the high level of disturbance (e.g., noise of existing traffic). Fauna in the surrounding habitats have been habituated to disturbance from noise. Waterbirds in NTMDC and other wetlands in Assessment Area are already habituated to the relatively high levels of existing human activity compared to other wetlands in Hong Kong. In fact, the two sides of the NTMDC are adjacent to roads (i.e., Yau Pok Road and Kam Pok Road). Due to the existing traffic on these roads, significant increase in human activities near the NTMDC is not expected during operational phase. Also, it is not expected that all residents would go out or stay in open areas at the same time. Waterbirds in NTMDC is not expected to be adversely affected by increase human activities.
- 7.3.6 The Temporary Pond of YMST is about 400m from the Subject Site. Fauna utilising habitats in this pond is not likely to be affected by noise and human activities from the Subject Site due to the long distance. In addition, the interface of between the pond and Yau Pok Road is fenced and screened by tall vegetation. This will further reduce disturbance to fauna in this pond by human activities.
- 7.3.7 Potential impact to fauna of surrounding habitats due to human activities and noise is ranked as **Insignificant**.

### Traffic Noise and Disturbance

- 7.3.8 Traffic flow will increase during operational phase. Traffic in-and-out of the Subject Site will mainly make use of Kam Pok Road. Traffic activities on Kam Rok Road will be separated from the temporary pond of YMST by the NTMDC and hence will not adversely affect the fauna utilising this area. Traffic will potentially cause disturbance to habitats along the Kam Pok Road, including urbanized/disturbed, grassland, flood storage pond, upstream section of NTMDC and agricultural land. These habitats are already subjected to the existing disturbance from traffic of Kam Pok Road and Yau Pok Road. Hence, the increase of traffic flow will only be quantitative change, rather than a qualitative change. In addition, traffic peak hours will only occasionally coincide with peak bird activities in NTMDC (which is related to tidal cycle). The potential impact to surrounding habitats and associated fauna due to traffic noise during operation phase will be **Insignificant**. No mitigation measure is necessary.

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**Runoff and drainage/effluent discharge**

- 7.3.9 The potential impacts of surface runoff and drainage/effluent discharge have been addressed in relevant chapters of this application.

**Habitat Fragmentation**

- 7.3.10 The east and west parts of the Assessment Area are already fragmented by the drainage channel in existing condition. The Subject Site is mainly surrounded by urbanized/disturbed, which support low abundance of fauna. Frequent movement of wildlife through the Subject Site in existing condition is not expected. The proposed development project will only convert urbanized/disturbed habitat to residential landscape area during operational phase and hence will not cause additional habitat discontinuities. The potential impact due to habitat fragmentation is anticipated to be **Insignificant**.

**Artificial Lightings**

- 7.3.11 The Assessment Area is mostly developed and the building is 50m away from the nullah. Residential buildings and other lighting sources are already present in localities near the Subject Site for long and fauna inhabiting in nearby habitats have probably habituated to lighting or avoided these areas. Light public houses to the west of the NTMDC built recently resulted in further increase of developed area and amount of artificial lightings in the Assessment Area. Lights from the residential buildings in the Subject Site are not expected to be very strong and cause significant additional lighting impact. Other lightings in the Subject Site will only be directed to target areas and lighting will be kept to minimum lux level for safety. Potential impacts to fauna from this source are ranked as **Insignificant**.

**Barrier Effect to Bird Flight**

- 7.3.12 As revealed from reviewed literature, the flight zone above the Subject Site was rarely used by waterbirds. Large waterbirds mainly flew along the NTMDC within the Assessment Area. There will be setback area of 50m between the buildings in the Subject Site and the NTMDC. Flights of waterbirds will not be impeded by buildings in the Subject Site. The potential impact due to barrier to the flight of birds is considered **Insignificant**.
- 7.3.13 Ecological surveys of the S12A Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 (Y/YL-MP/10) identified two minor flight lines were above the Subject Site. The flight line passed near the northern fringe of the Subject Site will not be impeded by buildings. There will be a north to southwest wind corridor in the Subject Site during operation phase, and could be used by waterbirds as flight line across the Subject Site.

**Noise Barrier and Bird Collision**

- 7.3.14 No major flight line was observed over the Subject Site during the field surveys. Due to the disturbed nature of the Subject Site and surrounding areas, the Subject Site is not considered as important ecological corridor. Building materials such as are opaque, non-reflective panels with color will be used for construction of noise barriers (if needed) to reduce the risk of bird collision. The potential risk of bird collision is anticipated to be **Insignificant**.

**Landscape Planting**

- 7.3.15 The Subject Site was mostly devoid of vegetation cover and only surrounded by narrow strips of plantation of an exotic species *Leucaena leucocephala*. These vegetation cover made up of exotic plant species generally support low diversity of fauna. Some trees of existing plantation will be preserved in the current application.

- 7.3.16 Vegetation cover in the Subject Site will increase from about 7% of existing condition to not be less than 30% during operational phase. Plant species providing berry (e.g., *Ficus microcarpa*, *Cinnamomum camphora*) and nectar (e.g., *Bauhinia variegata*, *Hibiscus rosa*) can be included in the planting list. Plants producing berry will enhance the food resources of birds. Nectar plants will also provide food resources for butterflies. Both fauna groups will benefit from landscape planting. The planting of trees will also provide roosting habitats for birds. The potential impact of replacement of existing plantation by landscape planting to birds and butterflies will be **positive**.

#### **Potential Impact to Recognized Sites of Conservation Importance**

- 7.3.17 Regarding the potential disturbance impacts during operational phase to recognised sites of conservation importance in Northwest New Territories, including the Mai Po Inner Deep Bay Ramsar Site, Mai Po Nature Reserve, Mai Po Village SSSI Egrettry, Mai Po Lung Egrettry, Mai Po Marshes SSSI, Wetland Conservation Area and Wetland Buffer Area, it is considered unlikely as the Subject Site is separated from these sites by long distances. Disturbance of noise and artificial lighting from the residential buildings will be confined to areas adjacent to the Subject Site. The potential impact to these sites from the development project during operational phase is considered **Insignificant**.

#### **Potential Impact to Species of Conservation Importance**

- 7.3.18 The Project will provide residential areas during operational phase. The building layout with 50m buffer area will design out any intense disturbance is not anticipated. The club house is located far further away with more 100m from the nullah so human activities inside the Subject Site will be screened by the wall of buildings, fence wall and landscape buffer. Traffic peak hours will only occasionally coincide with peak bird activity, which changes with tidal levels. Potential impact affecting the utilization of habitats surrounding the Subject Site by the fauna species of conservation importance listed in **Table** is considered **Insignificant**.
- 7.3.19 Potential impacts during both construction and operational phases are summarised in **Table 7**.

**Table 7 Summary of Potential Impact During Construction and Operational Phases**

Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
Construction phase										
Terrestrial habitat loss	Construction works	Urbanised/di sturbed	Very low	Low diversity of flora and fauna  One species of conservation importance recorded from previous studies	3.51 ha	Permanent	Irreversible	Insignificant	Insignificant	No
		Plantation	Very low	Low diversity of flora and fauna	0.27ha	Permanent	Irreversible	Insignificant	Insignificant	No

Construction disturbance	Construction works	Surrounding habitats and associated fauna, including urbanised/disturbed, flood storage pond, grassland, NTMDC	Very low for urbanised/disturbed; Low to moderate for grassland and flood storage pond; Moderate for NTMDC	Mostly common species, but some are of conservation importance	Moderate bird abundance in NTMDC, low/very low fauna abundance in other habitats	Temporary	Transient and reversible	Moderate	Minor for waterbirds occasionally utilising the NTMDC if traditional percussive piling method is used	Yes  Use of non-percussive piling method;  Use of quiet/silenced equipment (QPMEs);  Provision of mobile noise barriers in adjacent to construction plants or provision of acoustic screens by the Contractor(s);  Implementation of good site practice
Light glare	Construction works	Surrounding habitats and associated fauna, including urbanised/disturbed, flood	Very low for urbanised/disturbed; Low to moderate for grassland and	Mostly common species, but some are of conservation importance	Low abundance	Temporary	Transient and reversible	Low	Insignificant	No



Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
		storage pond, grassland, NTMDC	flood storage pond;  Moderate for NTMDC							
Site runoff	Construction works	Ngau Tam Mei Drainage Channel	Moderate	Mostly common species, but some are of conservation importance	Low abundance	Temporary	Reversible	minor to moderate	minor to moderate	Yes, by implementation of Good Site Practice
Operation phase										

Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
Traffic noise, human activities	Proposed development	Urbanised/disturbed habitat, grassland, agricultural land, flood storage pond, NTMDC and temporary pond of YMST	Very low for urbanised/disturbed;  Low to moderate for grassland, agricultural land and flood storage pond;  Moderate for NTMDC and temporary pond of YMST	Mostly common species, but some are of conservation importance	Low abundance	Permanent	Irreversible	Low	Insignificant	No

Runoff, drainage /effluent discharge	Proposed development	Ngau Tam Mei Drainage Channel	Moderate	Mostly common species, but some are of conservation importance	Low abundance	Permanent	Irreversible	Low	Insignificant	Discharge will pass through screening facilities such as standard gully grating and trash grille, Discharge of the sewage will be eventually pumped to YLEPP, and will follow the requirement of no net increase of pollution loading  There will be no adverse impact on water quality.
Habitat fragmentation	Proposed development	Fauna inhabiting the habitats within the	Vary with habitat types, mostly are of low ecological value	Mostly common species	Low	Permanent	Irreversible	Low	Insignificant	No.  The Project will convert disturbed habitats to residential areas, and will not cause

Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
		Assessment Area								fragmentation of continouous habitats.
Artificial light	Lightings in the Subject Site	Nocturnal fauna	Low	Common species	Low	Permanent	Irreversible	Low	Insignificant	No.  Areas surrounding the Subject Site are subjected to existing lightings for long time.  Fauna sensitive to lightings probably have avoided these areas.

Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
Barrier effect to bird flight	Buildings in the Subject Site	Large waterbirds of low flight manoeuvrability	Vary with habitat types, mostly are of low ecological value	Mostly common species	Low	Permanent	Irreversible	Low	Insignificant	No  These birds mostly flew along the Ngau Tam Mei Drainage Channel;  Potential impact minimised by the 50m setback area between buildings and the NTMDC

Impact	Source	Receiver	Nature of Impacts						Significance of an ecological impact	Mitigation Required
			Habitat quality	Species affected	Size- abundance	Duration	Reversibility	Magnitude		
Bird collision	Noise barriers	Birds	Low	Mostly common species	Low	Permanent	Irreversible	Low	Insignificant	Minimise by using materials which are opaque, non-reflective panels with colour for construction of noise barriers (if needed)

## 8. Mitigation Measures

- 8.1.1 Literature review and ecological surveys showed that high counts of waterbirds occasionally foraged in the NTMDC during low tides in winter. Piling method (non-percussive piling methods) that are quieter than the percussive piling method causing less shocks or vibrations, will be adopted as mitigation). With the adoption of non-percussive piling method, it is expected that the disturbance impact to fauna utilizing the habitats near the Subject Site, particularly NTMDC, could be reduced to **Minor**.
- 8.1.2 Hoarding with colour blending with the environment has already been erected to delineate the works site boundary. These hoardings will screen disturbance to the nearby habitats during construction phase. The workers will be instructed not to disturb any nearby habitats. Furthermore, the site boundary will be clearly defined (i.e. fenced with the screening materials mentioned above) and any works beyond the boundary would be strictly prohibited.
- 8.1.3 Construction noise will be further minimised by the use of quiet/silenced equipment (QPMEs), provision of mobile noise barriers in adjacent to construction plants, or provision of acoustic screens by the Contractor(s). Other measures proposed in compliance with the Noise Control Ordinance will also be enforced and monitored as a mitigation measure under the Noise Impact Assessment.
- 8.1.4 Other indirect construction disturbance (e.g., dust, surface runoff) will be mitigated by measures discussed in relevant chapters of this report.
- 8.1.5 Provision of 50m building setback on the western side measured between the residential towers and the edge of the nullah in NTMDC for planting/landscaping treatment and internal circulation purposes. This layout design will minimize the potential impact to wildlife in the surrounding areas, particularly waterbirds in the NTMDC, during construction and operational phases.
- 8.1.6 Most birds were observed flying along the NTMDC, located on the western side of the Subject Site. The 50m building setback area will minimise the potential impact to bird flight along the NTMDC. The flight zone above the Subject Site is rarely used by birds. However, there will be a north to southwest wind corridor in the Subject Site during operational phase. This corridor could be used by waterbirds as flight line across the Subject Site during operational phase.
- 8.1.7 Minimization of bird collision will also be taken into account in the design of noise barrier (if needed). Building materials such as opaque, non-reflective panels with colour blend in with the environment will be used for construction of noise barriers to reduce the risk of bird collision, particularly under dim condition (e.g., dusk and dawn) to reduce bird collision.

## 9. Cumulative Impacts

- 9.1.1 Potential cumulative impact of habitat loss, construction disturbance, increased human activities and noise, and traffic noise of the Project with other projects in nearby locations are evaluated in the following sections.

- 9.1.2 There are a few works projects near the Subject Site. These included two planned private development sites as following:
- “S12A Planning Application Mai Po & Fairview Park OZP No. S/YL-MP/8 – Rezoning from “Residential (Group D)” to “Residential (Group C) 1” Zone For Various Lots in D.D. 104 and the Adjoining Government Land in Yuen Long” (Y/YL-MP/10);
  - “Light Public Housing at Yau Pok Road, Yuen Long Project Profile”; and
  - EIA 227/2015 Comprehensive Development and Wetland Protection near Yau Mei San Tsuen, Yuen Long.
- 9.1.3 The current Subject Site is located outside the boundary of WBA. The planning intention of WBA is to protect the ecological integrity of the fishponds and wetlands within WCA and to prevent development that would have a negative off-site impact on the ecological value of those fishponds. This planning intention is therefore not applicable to the Subject Site.
- 9.1.4 The construction of light public houses at the REC Site mainly affected non-wetland habitats (e.g., grassland, urbanised/disturbed). Only very small area and highly fragmented wetland habitats (including 0.22ha reed, 0.5ha pond and 0.1ha seasonal wet grassland) of low or very low ecological value were lost.
- 9.1.5 The proposed development at the YMST Site will affect 4.9ha agricultural land, 1.2ha pond area, 0.9ha marsh, 0.2ha reed bed, 0.2ha grassland/ shrubland, and 0.7ha seasonally wet grassland. All significant impacts would be mitigated by appropriate measures during both the construction and operational phases of the project. A wetland restoration area with long-term management plan will be created.
- 9.1.6 The proposed development at the R(D) Site (Y/YL-MP/10) will be regulated by relevant guidelines, and requirements in the respective zoning intention of Outline Zoning Plan. Therefore, the loss of important habitats due to development in the R(D) Site is not expected.
- 9.1.7 The current application will only cause loss of urbanised/disturbed and plantation, which are of very low ecological value. Cumulative impact of loss of wetland habitat in the Deep Bay area due to the current application and other nearby projects is considered **Insignificant**.
- 9.1.8 The construction disturbance caused by the development projects nearby (i.e., the YMST Site and R(D) Site) will be resolved by the mitigation measures recommended during the EIA studies. Impacts during the construction phase of the current application will also be mitigated by measures recommended in **Section 8**. Hence, the cumulative impact due to construction disturbance from the Project will be **Insignificant**.
- 9.1.9 Human activities in the Subject Site and the other nearby planned developments will be mainly indoors and screened by walls of houses during operation phase. It is not expected that all residents would go out or stay in



open areas at the same time. The proposed development is planned to be a self-contained manner. It will not result in a significant increase in human activities in the surrounding areas during the operational phase. Most areas within the Assessment Area are developed areas and fauna utilizing these habitats are mainly disturbance tolerant. Hence, the potential cumulative increase in disturbance to wildlife due to human activities and noise from the current Project and other nearby projects is considered **Insignificant**.

- 9.1.10 There is existing traffic in the Assessment Area. The increased traffic flow due to the proposed residential development is not anticipated to impose significant additional impact on waterbirds utilizing NTMDC. NTMDC is located at lower elevation than Kam Pok Road, screened by dense tall existing trees on both sides. Traffic peak hours will only occasionally coincide with peak bird activities in NTMDC. Hence, the cumulative impact due to traffic from the Project will be **Insignificant**.

#### **Cumulative Impact to Sites of Recognized Conservation Importance**

- 9.1.11 The Subject Site is located 1km from the sites of recognized conservation importance (e.g., Mai Po Nature Reserve) in Deep Bay area described in **Section 4**. Therefore, these sites are not likely to be significantly affected during both construction and operation phases of the Project. With the implementation of mitigation measures recommended in **Section 8**, the cumulative impact of disturbance to sites of recognized conservation importance during construction and operational phases will be **Insignificant**.

#### **Cumulative Impact due to effluent/ sewage discharge during Operation Phase**

- 9.1.12 Cumulative impact due to effluent/ sewage discharge from the current Project and other nearby projects to NTMDC has been assessed in relevant chapter of the report. The sewage generated from the current and nearby planned/ approved development projects will be discharged into future public sewerage system, thus no adverse impact is expected.

### **10. Residual Ecological Impacts**

- 10.1.1 The residual environmental impacts refer to the net environmental impacts after the implementation of mitigation measures. The residual impact will be the loss of 3.51ha of urbanised/disturbed area and 0.27ha of plantation of limited ecological value. The loss of these habitats was considered as **Insignificant** and no corresponding mitigation is required. Potential indirect impacts during both construction and operation phases will be mitigated by the recommended measures. With implementation of landscape planting which will be beneficial to birds and butterflies, the residual ecological impacts of the project are considered acceptable.

### **11. Impact Summary and Conclusion**

- 11.1.1 The Subject Site is located outside WBA and thus of distance with WCA so there is no critical concern regarding wetland conservation. Habitats map reflects the existing plantation, agricultural land, grassland, fishpond, flood storage pond, drainage channel/nullah, and urbanised/disturbed areas. Ecological baseline established by the literature review and updating habitat survey revealed that no habitat of ecological importance in the Subject Site or

in the vicinity. Potential construction impacts will only involve 3.51ha of urbanised/disturbed area and 0.27ha of plantation. The potential impact of habitat loss was ranked as **Insignificant**. Potential impact to surrounding habitats and associated fauna due to construction disturbance was considered **Moderate**. Mitigation measures including utilization of quieter construction method and machinery will be implemented. Effectiveness of the recommended measures will be evaluated by ecological monitoring surveys.

- 11.1.2 With the implementation of the recommended mitigation measures, there will be no significant adverse residual impact during construction and operation phases.

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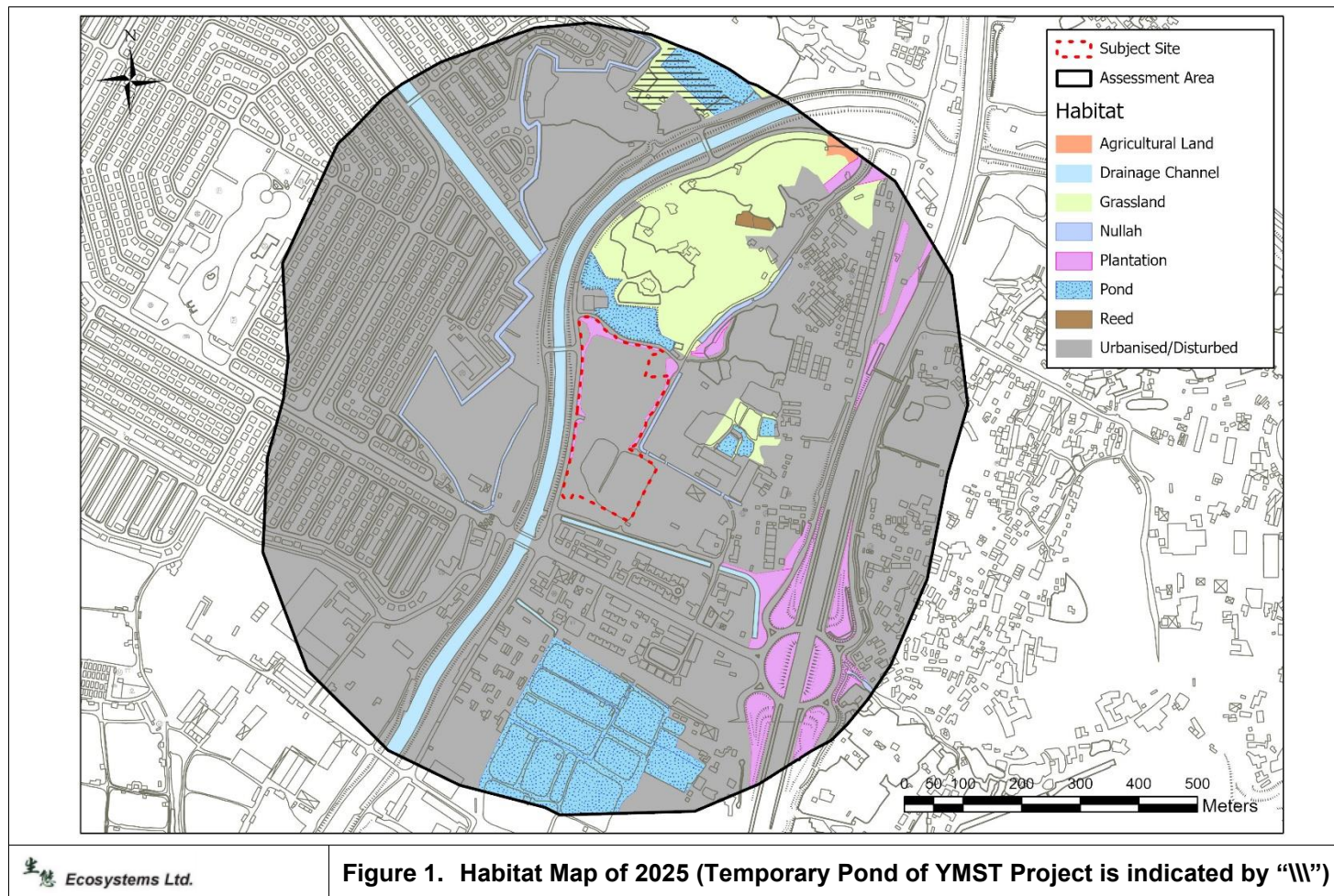
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### 13. Figures





**Figure 2 Habitats within the Subject Site**

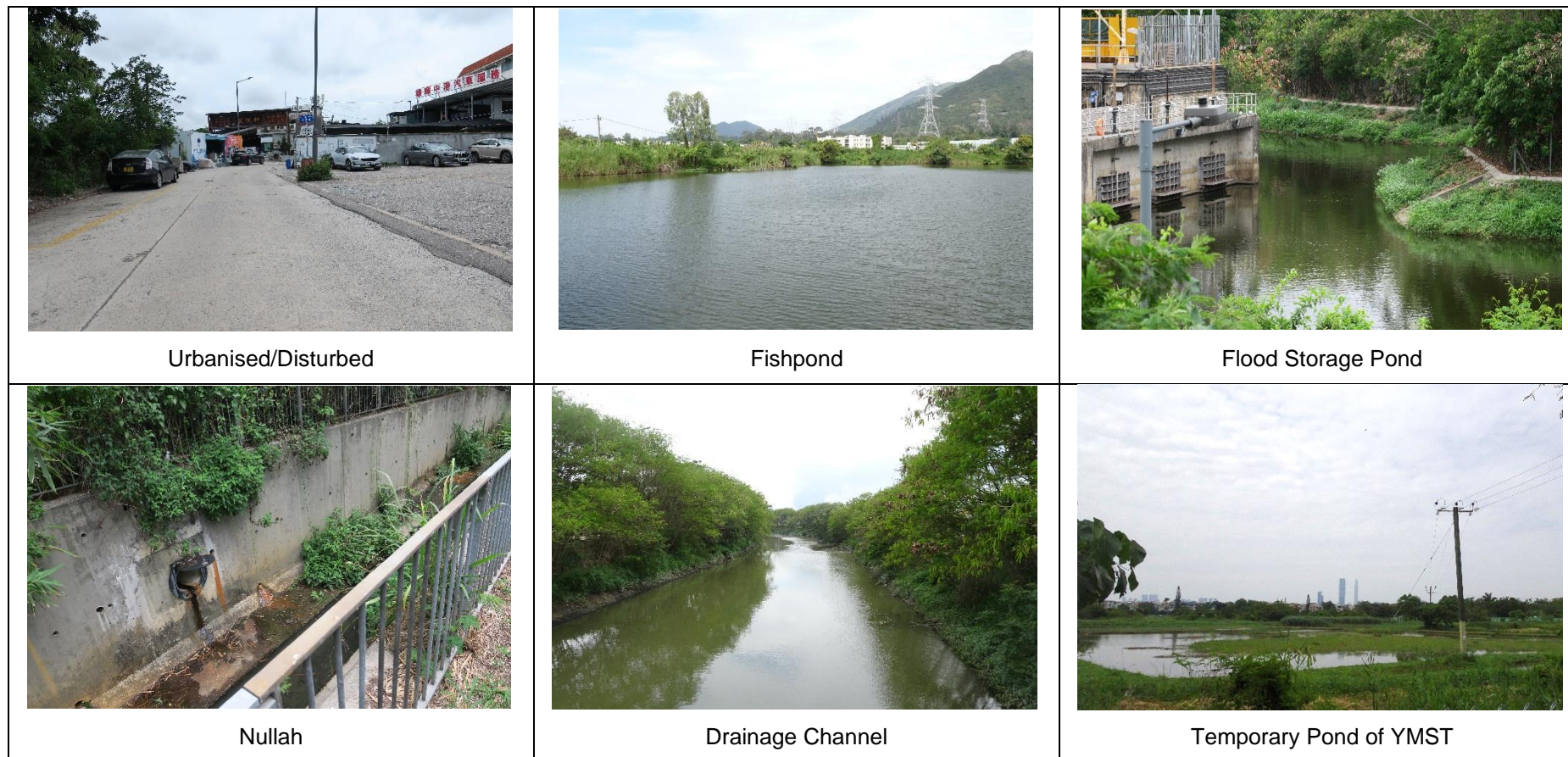


**Figure 3 Habitats within the 500m Assessment Area**





**Figure 3 Habitats within the 500m Assessment Area (cont'd)**



**14. Appendices**

**Appendix 1 Ecological Survey Report 2023**

Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long, N.T.

Ecological Survey Report 2023

1. Basic Project Information
- 1.1.1

The EIA report of the development project “Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long, N.T.” was approved with conditions in January 2017. The Environmental Permit No. EP-515/2017 was awarded in January 2017.
- 1.1.2

The approved Master Layout Plan (hereafter as “the EIA Approved Scheme”) was revised in 2023 (hereafter as “the Proposed Scheme”), which mainly involved an increase in number of houses. The Project Area boundary, footprint of the development and height of buildings will remain the same. Both the scale and scope of the Proposed Scheme will be the same as that in the EIA Approved Scheme. The construction methodology, construction activities, and powered mechanical equipment inventory proposed in the EIA Report will also remain valid.
- 1.1.3

This report summarized the findings of the verification survey conducted between February and July 2023, to provide update data for the planning application A/YL-MP/287. Changes of habitat coverage within the Project Area and Assessment Area were reported. Implication of the changes of habitat coverage, if any, on the validity of the impact evaluated in AEIAR-205/2017 was discussed.
2. Ecological Surveys
- 2.1.1

Verification surveys for establishment of updated ecological information of the Project Area and 500m Assessment Area of the Project Area were conducted between February and July 2023.
- 2.1.2

Surveys of Habitat Mapping, Vegetation, Mammal, Bird, Herpetofauna, Dragonfly & Butterfly and Aquatic Fauna were conducted (**Table 1**). Survey methodology in Section 8.4 of AEIAR-205/2017 were used. Waterbird was identified as the main ecological issue during the EIA stage. The surveys covered dry season, when both abundance and species richness of waterbirds are generally higher in Hong Kong.

Table 1 Verification Survey Programme between February and July 2023

	Feb	Mar	Apr	May	Jun	Jul
Habitat and Vegetation	10 <sup>th</sup> , 14 <sup>th</sup>	9 <sup>th</sup> , 22 <sup>nd</sup>	6 <sup>th</sup>		9 <sup>th</sup>	20 <sup>th</sup>
Bird	10 <sup>th</sup> , 14 <sup>th</sup> , 17 <sup>th</sup>	9 <sup>th</sup>	6 <sup>th</sup> , 13 <sup>th</sup>	4 <sup>th</sup> , 11 <sup>th</sup>	9 <sup>th</sup> , 23 <sup>rd</sup>	14 <sup>th</sup>
Mammal	17 <sup>th</sup>	22 <sup>nd</sup>	6 <sup>th</sup>		23 <sup>rd</sup>	14 <sup>th</sup>
Herpetofauna	10 <sup>th</sup>	22 <sup>nd</sup>	6 <sup>th</sup>	11 <sup>th</sup>	23 <sup>rd</sup>	14 <sup>th</sup>
Night Survey		9 <sup>th</sup>	6 <sup>th</sup>	11 <sup>th</sup>	23 <sup>rd</sup>	6 <sup>th</sup>
Butterfly & Dragonfly	10 <sup>th</sup>	22 <sup>nd</sup>	6 <sup>th</sup> , 13 <sup>th</sup>	11 <sup>th</sup>	9 <sup>th</sup>	14 <sup>th</sup>
Aquatic Fauna	17 <sup>th</sup>				9 <sup>th</sup>	

Habitat Mapping

- 2.1.3
- Habitats in the Subject Site and Assessment Area were mapped based on aerial photos and ground truthing. Walk-over surveys were conducted at representative areas of each habitat type. Plant species in each habitat type were identified (with the aid of binoculars when necessary) and their relative



abundance were recorded, with special attention to rare and protected species. Colour photographs were taken of all habitats encountered on site and of ecological features of special importance.

*Bird*

- 2.1.4 Bird surveys were conducted monthly during the survey period. The surveys covered both breeding season and overwintering season of birds. Birds within the Subject Site and Assessment Area were surveyed quantitatively using transect count method. All birds seen or heard were identified and their abundance recorded. As some birds (e.g., owls, nightjars) are nocturnal, night surveys were conducted.

*Other Terrestrial Fauna*

- 2.1.5 Mammals within the Subject Site and Assessment Area were surveyed qualitatively. All sightings, tracks, and signs of mammals found were recorded. As some mammal species (e.g. bats) are nocturnal, night surveys were conducted.
- 2.1.6 Herpetofauna within Subject Site and the Assessment Area were surveyed qualitatively. All reptiles and amphibians sighted were recorded. As herpetofauna are mostly nocturnal and more active during wet season, night surveys were carried out in wet seasons of 2023. Potential microhabitats of herpetofauna such as wall, fallen logs, litter, channel/nullah, fishpond margins, underneath of stones or other materials, artificial container (e.g. pots) were searched during surveys to locate cryptic or secretive herpetofauna species. Amphibians were also identified by their calls during night surveys.
- 2.1.7 Dragonflies and butterflies within Subject Site and the Assessment Area were surveyed quantitatively using the transect count method. Dragonflies and butterflies observed were identified and recorded.

*Aquatic Fauna*

- 2.1.8 Aquatic fauna (such as freshwater fish and invertebrates) within the Subject Site and Assessment Area were studied by active searching and direct observation. Baited fish cages were deployed inside the pond within the Subject Site, while direct observations were made at the pond as well as other aquatic habitats (nullah and drainage channel) in the Assessment Area.

3. Survey results

*Habitat & Vegetation*

- 3.1.1 Habitats recorded within the Project Area in 2023 included plantation, fishpond (abandoned), and urbanised/disturbed area (**Figures 1 & 2, Table 2**). Coverage of these habitats was similar to that in EIA stage. Most of the Subject Site was concrete-paved. Plantations mainly made up of exotic species (e.g., *Leucaena leucocephala*) were found on the engineering slope on the northern fringe of the Subject Site. The pond in the Subject Site was already isolated from the continuous and contiguous Deep Bay wetland system in 1990. There was no sign of operation for fish farming in this pond during the EIA stage. Hence, trash shrimps and fishes, which are abundant in active fishponds during drain-down for harvesting of commercial fishes and attracting many waterbirds, were not available in this fishpond. This pond was still abandoned in 2023. The habitats in the Subject Site supported limited biodiversity (**Appendices 1 – 6**). A total of 29 plant species were recorded in the Subject Site, 14 of which are exotic species (**Appendix 1**). None of the recorded plant species was considered of conservation importance / concern.

**Table 2      Habitats recorded within the Project Area**

Habitat	Size (ha)	
	EIA stage	2023
Plantation	0.3	0.3
Urbanised/Disturbed	3.17	3.17
Fishpond	0.33	0.33
Total	3.8	3.8

3.1.2 Habitats recorded within the Assessment Area included plantation, agricultural land, grassland/shrubland, fishpond, drainage channel/nullah, and urbanised/disturbed, (**Figures 1 & 3, Table 3**). Coverage of these habitats was similar to that in EIA stage. Most of the Assessment Area was still covered by urbanised/disturbed in 2023. Other habitats within the Assessment Area (e.g., plantation, fishpond) were mostly fragmented and small in sizes. A total of 211 plant species were recorded within the Assessment Area, 126 of which are exotic species (**Annex 1**). No plant species considered of conservation importance / concern was recorded during the verification survey within the Assessment Area.

**Table 3                      Habitats recorded within the Assessment Area**

Habitat	Size (ha)	
	EIA stage	2023
Plantation	4.03	3.74
Agricultural Land	3.34	3.34
Grassland/Shrubland	13.85	15.88
Urbanised/Disturbed	91.28	91.59
Fishpond	8.96	6.91
Flood Storage Pond	0.82	0.82
Nullah	1.61	1.61
Drainage Channel	3.95	3.95
Total	127.84	127.84

- 3.1.3 Plantation was mainly found on engineered slopes along the Ngau Tam Mei Drainage Channel, roadsides and the surrounding of the Subject Site. Major trees recorded were *Leucaena leucocephala*, *Melaleuca quinquenervia*, *Albizia lebbeck*, *Lagerstroemia speciosa*, and *Macaranga tanarius*. The understorey was planted with amenity shrubs including *Hibiscus rosa-sinensis*, *Schefflera arboricola*, and *Calliandra hematocephala*.
- 3.1.4 A small area of agricultural land was found near the northern boundary of the Assessment Area. Major crops were lettuce (*Lactuca sativa*) while fruit trees such as longan (*Dimocarpus longan*) and papaya (*Cairica papaya*) were also seen. Part of the agricultural land adjacent to the REC Site was managed to provide habitats (temporary pond of YMST) for wetland fauna before the construction of the Wetland Restoration Area under the Yau Mei Site EIA AEIAR-189/2015 during the verification survey.
- 3.1.5 The urbanised/disturbed area was composed of the existing residential area, open storage area, villages, highways and roads and was the dominant habitat in the Assessment Area. Ornamental or landscaping species recorded in this habitat included *Acacia confusa*, *Melaleuca quinquenervia*, *Albizia lebbeck* and *Syzygium jambos*.
- 3.1.6 Most drainage channel and nullah were concreted with little vegetation grown on banks or bottom, and hence provide very little habitat for floral or faunal utilisation. Most recorded species are ruderal herbs or weeds such as *Panicum maximum* and *Conyza canadensis*. A few individuals of mangrove species, i.e. *Acanthus ilicifolius*, colonised on channel banks. The Ngau Tam Mei Drainage Channel passing through the Assessment Area had grasscreted banks and in some sections the channel bed was covered by muddy sediment. Waterbirds were observed roosting and foraging in this drainage channel

during low tides in winter.

- 3.1.7 Grassland was formed apparently from abandonment of agricultural land followed by earthwork and possibly also hydroseeding. This habitat was dominated by weeds and ruderals while a few isolated trees were also seen.
- 3.1.8 Two kinds of ponds were recorded in the Assessment Area: fish ponds and flood storage pond. The fish ponds recorded in both the Subject Site and Assessment Area were found abandoned when the field survey commenced in 2009 during the EIA stage. Some were overgrown with reeds while others had disturbed bunds and little vegetation cover. During the verification surveys in 2023, all fishponds in the Assessment Area still found remained abandoned. The flood storage pond is an engineering pond which was part of the drainage channel element where surplus water during wet season was stored. The bunds were planted with some ornamental and native vegetation.

Terrestrial & Aquatic Fauna

- 3.1.9 Fauna recorded in the Project Area and Assessment Area were mostly disturbance tolerant species (**Annexes 2 - 6**). This is similar to that reported in AEIAR-205/2017. Apart from Japanese Pipistrelle *Pipistrellus abramus* and 15 species of bird species of conservation importance, there was no significant observation for fauna during the verification survey (**Annexes 2 - 6**). As in the EIA stage, fauna of conservation importance were mainly bird species.
- 3.1.10 Japanese Pipistrelles were observed in the Project Area, urbanised/disturbed, agricultural land, grassland/shrubland, drainage channel and fishpond habitats within the Assessment Area (**Figure 3**). This species is widely distributed throughout Hong Kong. Japanese Pipistrelle was recorded in EIA stage. The potential impact to this species was evaluated in AEIAR-205/2017.
- 3.1.11 A total of 10 species of bird were recorded in the Project Area (**Annex 2**). Both abundance and species richness of birds in the Subject Site were considered very low. No bird species of conservation importance was recorded within the Subject Site.
- 3.1.12 Fifteen bird species were considered of conservation importance (**Table 4**). These included Northern Shoveler *Anas clypeata*, Eurasian Wigeon *Mareca penelope*, Little Grebe *Tachybaptus ruficollis*, Black-crowned Night Heron *Nycticorax nycticorax*, Chinese Pond Heron *Ardeola bacchus*, Grey Heron *Ardea cinerea*, Great Egret *Ardea alba*, Little Egret *Egretta garzetta*, Great Cormorant *Phalacrocorax carbo*, Black Kite *Milvus migrans*, Pied Avocet *Recurvirostra avosetta*, Common Greenshank *Tringa nebularia*, Common Redshank *Tringa tetanus* and Black-winged Stilt *Himantopus himantopus*. As in the EIA stage, these bird species of conservation importance were mostly recorded in the Ngau Tam Mei Drainage Channel and ponds (**Figure 3**). Potential impact to waterbirds in the Ngau Tam Mei drainage Channel was evaluated in AEIAR-205/2017 and mitigation measures were recommended.

Table 4      Mean number per survey of bird species of conservation importance recorded in Project Area and Assessment Area. Number in parenthesis is maximum count recorded during surveys.

Common Name	Scientific Names	Subject Site	Assessment Area	Conservation Status
Northern Shoveler	<i>Spatula clypeata</i>	0.0	0.5 (5)	WAPO (Cap 170); Regional Concern
Eurasian Wigeon	<i>Mareca penelope</i>	0.0	0.1 (1)	WAPO (Cap 170); Regional Concern
Little Grebe	<i>Tachybaptus ruficollis</i>	0.0	0.1 (1)	WAPO (Cap 170); Local Concern

Common Name	Scientific Names	Subject Site	Assessment Area	Conservation Status
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	0.0	0.3 (3)	WAPO (Cap 170); Local Concern
Chinese Pond Heron	<i>Ardeola bacchus</i>	0.0	0.4 (2)	WAPO (Cap 170); Potential Regional Concern
Grey Heron	<i>Ardea cinerea</i>	0.0	0.9 (5)	WAPO (Cap 170); Potential Regional Concern
Great Egret	<i>Ardea alba</i>	0.0	0.5 (1)	WAPO (Cap 170); Potential Regional Concern
Little Egret	<i>Egretta garzetta</i>	0.0	1.8 (6)	WAPO (Cap 170); Potential Regional Concern
Great Cormorant	<i>Phalacrocorax carbo</i>	0.0	0.2 (1)	WAPO (Cap 170); Potential Regional Concern
Black Kite	<i>Milvus migrans</i>	0.0	0.3 (1)	WAPO (Cap 170); Appendix 2 of CITES
Pied Avocet	<i>Recurvirostra avosetta</i>	0.0	0.2 (2)	WAPO (Cap 170); Regional Concern
Common Greenshank	<i>Tringa nebularia</i>	0.0	0.2 (1)	WAPO (Cap 170); Regional Concern
Common Redshank	<i>Tringa totanus</i>	0.0	0.2 (2)	WAPO (Cap 170); Local Concern
Black-winged Stilt	<i>Himantopus himantopus</i>	0.0	0.4 (3)	WAPO (Cap 170); Regional Concern
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	0.0	0.1 (1)	WAPO (Cap 170); Local Concern

4. Evaluation of Habitats and Species of Conservation Importance

- 4.1.1 The ecological importance of the habitats within the Project Area and 500m Assessment Area was evaluated based on the observations of the verification surveys in accordance with the criteria stipulated in Annex 8 of EIAO-TM (**Tables 5 - 11**).
- 4.1.2 In accordance with Table 6, Annex 8 of the EIAO(TM), the ecological value of species was assessed in terms of protection status (e.g. fauna protected under WAPO (except birds), and flora and fauna protected under regional/global legislation/conventions), species distribution (e.g. endemic), and rarity (e.g. rare or restricted). No plant species of conservation importance were identified within the Assessment Area. Fauna of conservation importance recorded within the Assessment Area are evaluated according to the EIAO(TM) in Annex 8 (**Table 12**).

Table 5 Evaluation of Habitats within the Project Area

Criterion	Description		
	Urbanised/disturbed	Plantation	Abandoned Fishpond
Naturalness	Man-made habitat	Man-made (planted).	Man-made habitat
Size	3.17 ha	0.3 ha	0.33 ha
Diversity	Low flora diversity. Low diversity of butterfly, low diversity of bird, and very low diversity of dragonfly.	Low flora diversity. Low diversity of butterfly, bird, and very low diversity of dragonfly.	Low flora diversity. Low diversity of butterfly and bird, and very low diversity of dragonfly.

Criterion	Description		
	Urbanised/disturbed	Plantation	Abandoned Fishpond
Rarity	None for flora Fauna species of conservation importance: Japanese Pipistrelle	No flora or fauna species of conservation importance	None for flora or fauna species
Re-creatability	Easy to recreate	Easy to recreate	Easy to recreate
Fragmentation	None	Formed thin belts on engineered slopes	Isolated from other continuous wetland ecosystem of Deep Bay.
Ecological linkage	Not functionally linked to habitats of conservation importance	Not functionally linked to habitats of conservation importance	Not functionally linked to habitats of conservation importance
Potential value	Low	Low due to small footprint and regular maintenance	Very low due to isolation, small size and subject to high level of disturbance.
Nursery/breeding ground	No significant record.	No significant records.	No significant record.
Age	N/A	Young	N/A
Abundance/richness of wildlife	Low for butterfly and bird, very low for dragonfly.	Low for butterfly and bird, and very low for dragonfly	Low for butterfly and bird, very low for dragonfly.
Overall ecological value	Very Low	Very Low	Very Low

Table 6 Evaluation of Plantation Habitat within the Assessment Area

Criteria	Description
Naturalness	Man-made (planted).
Size	A total of 3.74 ha
Diversity	Low flora diversity. Low diversity of butterfly, bird, and very low diversity of dragonfly.
Rarity	None for flora and fauna.
Re-creatability	Easy to recreate
Fragmentation	Formed thin belts on engineered slopes
Ecological linkage	Not functionally linked to habitats of conservation importance
Potential value	Low due to small footprint and subjected to high level of disturbance from traffic
Nursery/breeding ground	No significant records. Value as breeding habitat for terrestrial fauna is low due to sparse canopy and exotic tree species composition, and subjected to high level of disturbance from traffic.
Age	Young
Abundance/richness of wildlife	Low for butterfly and bird, and very low for dragonfly
Overall ecological value	<b>Very Low</b>

Table 7 Evaluation of Agricultural Land within the Assessment Area

Criteria	Description
Naturalness	Man-made habitat, mostly left fallow/abandoned
Size	3.34 ha
Diversity	Low flora diversity. Low to moderate diversity of bird, low diversity of butterfly and very low diversity of dragonfly.
Rarity	None for flora.

Criteria	Description
	Fauna species of conservation importance: Japanese Pipistrelle.
Re-creatability	Easy to re-create
Fragmentation	Isolated stand
Ecological linkage	Not functionally linked to habitats of conservation importance
Potential value	Limited.
Nursery/breeding ground	No significant record. Minimal due to high level of disturbance from intensive management
Age	N/A
Abundance/richness of wildlife	Low for butterfly and bird, and very low dragonfly abundance
Overall ecological value	<b>Moderate</b> for those managed as temporary pond of YMST project; <b>Low</b> to moderate for the rest

Table 8 Evaluation of Urbanised/Disturbed Habitat within the Assessment Area

Criteria	Description
Naturalness	Man-made habitat
Size	91.59 ha
Diversity	Low flora diversity. Low to moderate diversity of butterfly, low diversity of bird, and very low diversity of dragonfly.
Rarity	None for flora. Fauna species of conservation importance: Japanese Pipistrelle and Little Egret
Re-creatability	Easy to recreate
Fragmentation	None
Ecological linkage	Not functionally linked to habitats of conservation importance
Potential value	Low
Nursery/breeding ground	No significant record. Minimal due to high level of disturbance
Age	N/A
Abundance/richness of wildlife	Low for butterfly and bird, very low for dragonfly.
Overall ecological value	<b>Very Low</b>

Table 9 Evaluation of Grassland/Shrubland within the Assessment Area

Criteria	Description
Naturalness	Man-made habitat, with earthwork and possibly hydroseeded after abandonment of agriculture
Size	15.88 ha
Diversity	Low flora diversity. Low diversity of butterfly and bird, and very low diversity of dragonflies.'
Rarity	None for flora; Fauna species of conservation importance: Japanese Pipistrelle and Black Kite
Re-creatability	Easy to recreate
Fragmentation	None
Ecological linkage	Not functionally linked to habitats of conservation importance
Potential value	Low
Nursery/breeding ground	No significant record. Minimal as nurse/breeding ground due to high level of disturbance
Age	N/A
Abundance/richness of wildlife	Low for butterfly and bird, and very low for dragonfly.
Overall ecological value	<b>Low to moderate</b>

**Table 10 Evaluation of Pond (Fish Pond and Flood Storage Pond) within the Assessment Area**

Criteria	Description
Naturalness	Man-made habitat
Size	6.91 ha (abandoned fish pond), 0.82 ha (flood storage pond)
Diversity	Low flora diversity. Low diversity of butterfly and bird, and very low diversity of dragonfly.
Rarity	None for flora. Fauna species of conservation importance: Japanese Pipistrelle, Little Grebe, Chinese Pond Heron, Black-crowned Night Heron, Little Egret, Great Egret, Grey Heron and White-throated Kingfisher
Re-creatability	Easy to recreate
Fragmentation	The flood storage pond and fishponds to the east of the Project Area are isolated from other wetland habitats. Fishponds in the southern corner of the Assessment Area exist as a fairly large patch
Ecological linkage	The flood storage pond and fishponds to the east of the Project Area are not functionally linked to habitats of conservation importance. Fishponds in the southern corner of the Assessment Area fall within WBA.
Potential value	Very low for the fishponds to the east of the Project Area due to isolation, small size and subject to high level of disturbance. Low to moderate for those fishponds in the south corner of the Assessment Area due to larger size and located within/close to WBA
Nursery/breeding ground	No significant record. Minimal for the fishponds to the east of the Project Area as nursely/breeding ground due to subjected to high level of disturbance. The abandoned fishponds in the south corner of the Assessment Area might provide breeding habitats for birds, amphibians and dragonflies.
Age	N/A
Abundance/richness of wildlife	Low for butterfly and bird, very low for dragonfly.
Overall ecological value	<b>Very low</b> for the fishponds to the east of the Project Area due to isolation, small size and subject to high level of disturbance. <b>Low to moderate</b> for the fish ponds in the south corner of the Assessment Area due to larger size and located within/close to WBA

**Table 11 Evaluation of Drainage Channel/Nullah within the Assessment Area**

Criteria	Description
Naturalness	Man-made, with concrete bank and bottom
Size	1755 m, 3.95ha (Drainage channel), 2283 m, 1.61ha (nullah)
Diversity	Low flora diversity. Low diversity of bird and butterfly, very low diversity of dragonflies.
Rarity	Fauna species of conservation importance: Japanese Pipistrelle, Northern Shoveler, Eurasian Wigeon, Great Cormorant, Grey Heron, Little Egret, Chinese Pond Heron, Great Egret, Pied Avocet, Common Greenshank, Common Rerdshank and Black-winged Stilt.
Re-creatability	Easy to recreate
Fragmentation	The Ngau Tam Mei Main Drainage Channel is connected to the Kam Tin River Channel. Other drainage channel/nullahs are fragmented by urbanised/disturbed habitats
Ecological linkage	Hydrological linked to Inner Deep Bay
Potential value	Low due to the main function for flood control, surrounded by urbanised/disturbed habitats. The Ngau Tam Mei Main Drainage Channel could provide foraging and roosting habitats for some water birds
Nursery/breeding ground	No significant record. Minimal as nursely/breeding ground due to subjected to high level of disturbance and low habitat complexity
Age	N/A

Criteria	Description
Abundance/richness of wildlife	Low aquatic fauna abundance. Moderate for bird, low for butterfly and very low for dragonfly.
Overall ecological value	<b>Moderate</b> for the Ngau Tam Mei Main Drainage Channel <b>Low</b> for other drainage channel/nullah

Table 12 Evaluation of fauna species of conservation importance within the Assessment Area

Common name	Locations	Protection status	Distribution	Rarity
Japanese Pipistrelle	Recorded in urbanized/disturbed, agricultural land, grassland/shrubland, drainage channel and pond within Assessment Area	WAPO (Cap 170)	Widely distributed throughout Hong Kong	Very common
Northern Shoveler	Recorded in drainage channel within Assessment Area	WAPO (Cap 170); Regional Concern	Found in Deep Bay area	Abundant winter visitor
Eurasian Wigeon	Recorded in drainage channel within Assessment Area	WAPO (Cap 170); Regional Concern	Found in Deep Bay area, Tai Lam Chung.	Abundant winter visitor.
Little Grebe	Recorded in pond within the Assessment Area	WAPO (Cap 170); Local Concern	Found in Deep Bay area	Common resident
Black-crowned Night Heron	Recorded in pond within the Assessment Area	WAPO (Cap 170); Local Concern	Widely distributed in Hong Kong	Common resident and migrant
Chinese Pond Heron	Recorded in drainage channel and pond within the Assessment Area	WAPO (Cap 170); Potential Regional Concern	Widely distributed in Hong Kong	Common resident
Grey Heron	Recorded in drainage channel, grassland/shrubland and pond within the Assessment Area	WAPO (Cap 170); Potential Regional Concern	Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar	Common winter visitor
Great Egret	Recorded in drainage channel, grassland/shrubland, agricultural land and pond within the Assessment Area	WAPO (Cap 170); Potential Regional Concern	Widely distributed in Hong Kong	Common resident, migrant and winter visitor
Little Egret	Recorded in drainage channel, agricultural land and pond within the Assessment Area	WAPO (Cap 170); Potential Regional Concern	Widely distributed in coastal area throughout Hong Kong	Common resident, migrant and winter visitor
Great Cormorant	Recorded in drainage channel and pond within the Assessment Area	WAPO (Cap 170); Potential Regional Concern	Widely distributed in coastal areas throughout Hong Kong	Common winter visitor
Black Kite	Recorded in urbanized/disturbed, grassland/shrubland	WAPO (Cap 170); Appendix 2 of CITES	Widely distributed in Hong Kong	Common resident and winter visitor

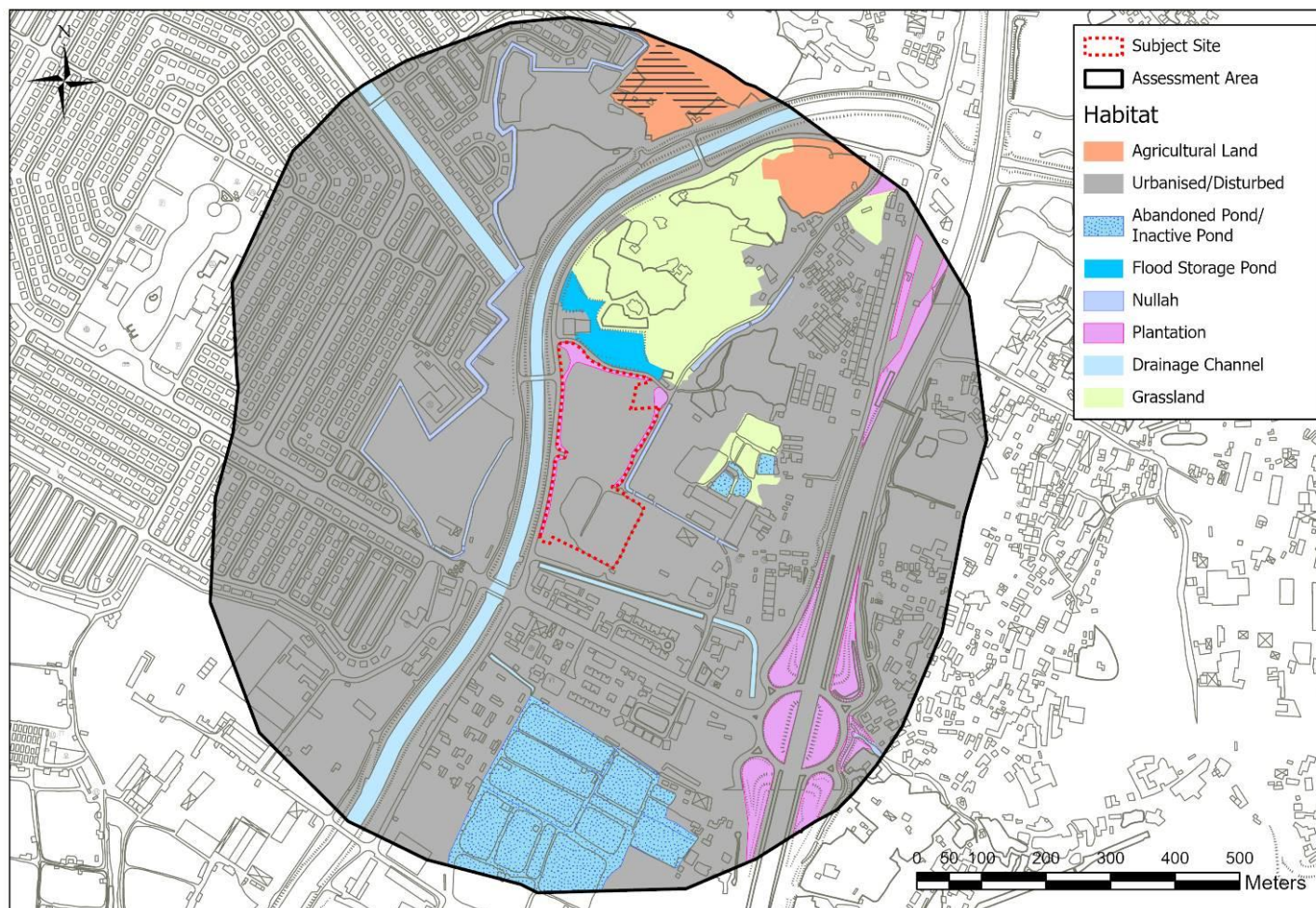


Common name	Locations	Protection status	Distribution	Rarity
	and pond within the Assessment Area			
Pied Avocet	Recorded in drainage channel within the Assessment Area	WAPO (Cap 170); Regional Concern	Found in Deep Bay area	Abundant winter visitor
Common Greenshank	Recorded in drainage channel within Assessment Area	WAPO (Cap 170); Regional Concern	Found in Deep Bay area.	Abundant passage migrant and winter visitor.
Common Redshank	Recorded in drainage channel within Assessment Area	WAPO (Cap 170); Local Concern	Found in Deep Bay area.	Abundant passage migrant and winter visitor.
Black-winged Stilt	Recorded in drainage channel within Assessment Area	WAPO (Cap 170); Regional Concern	Found in Deep Bay area, Long Valley, Kam Tin.	Common migrant and winter visitor
White-throated Kingfisher	Recorded in pond within the Assessment Area	WAPO (Cap 170); Local Concern	Widely distributed in coastal areas throughout Hong Kong	Common resident.

5. Reference

Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. and Yu, Y.T. 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.

Figure 1. Habitat Map of 2023 (Shaded area: temporary pond of YMST)



**Figure 2 Habitats within the Project Area**





**Figure 3 Habitats within the 500m Assessment Area**



**Figure 3 Habitats within the Assessment Area (cont'd)**

		
Nullah	Drainage Channel	

## Annexes

**Annex 1** Plant Species recorded within the Assessment Area during the verification surveys (Habitats: DC/N = drainage channel/nullah, PI = plantation, U/D = urbanized/disturbed, G/S = grassland/shrubland, A = agricultural land, Po = fishpond & flood storage pond; PA = Project Area)

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Acacia auriculiformis</i>	Tree	Exotic				S			
<i>Acacia confusa</i>	Tree	Exotic			C	C			S
<i>Aglaia odorata</i> var. <i>microphyllina</i>	Shrub	Exotic				C			
<i>Albizia lebbbeck</i>	Tree	Exotic			S	C			
<i>Aleurites moluccana</i>	Tree	Exotic				S			
<i>Alocasia macrorrhizos</i>	Herb	Native		O	O	C			O
<i>Aloe vera</i>	Herb	Exotic						O	
<i>Alternanthera philoxeroides</i>	Herb	Exotic	S						O
<i>Amaranthus viridis</i>	Herb	Native	S		S	O			S
<i>Aporosa dioica</i>	Tree	Native			S				
<i>Araucaria heterophylla</i>	Tree	Exotic				O			
<i>Archontophoenix alexandrae</i>	Tree	Exotic				C			
<i>Asystasia micrantha</i>	Herb	Exotic				C			
<i>Bambusa</i> sp.	Bamboo	Unknown				C			
<i>Bauhinia purpurea</i>	Tree	Exotic		S					
<i>Bauhinia variegata</i>	Tree	Exotic				S			
<i>Bauhinia variegata</i> var. <i>candida</i>	Tree	Exotic				S			
<i>Bauhinia x blakeana</i>	Tree	Native				C			
<i>Bidens alba</i>	Herb	Exotic	S	C	O	C	C	S	C
<i>Bischofia javanica</i>	Tree	Native		S		S			

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Boehmeria nivea</i>	Shrub	Exotic	S			S			
<i>Bombax ceiba</i>	Tree	Exotic			S	C	O		
<i>Bothriochloa bladhii</i>	Herb	Native	S		S	O			
<i>Bougainvillea spectabilis</i>	Climber	Exotic				O			
<i>Brachiaria mutica</i>	Herb	Exotic	S				C		C
<i>Brassica oleracea var. capitata</i>	Herb	Exotic						C	
<i>Broussonetia papyrifera</i>	Tree	Native				O			
<i>Bridelia tomentosa</i>	Shrub	Native			S	S			
<i>Bruguiera gymnorhiza</i>	Tree	Native		S					
<i>Camellia japonica</i>	Shrub	Exotic				S			
<i>Calliandra haematocephala</i>	Shrub	Exotic				C			
<i>Callistemon viminalis</i>	Tree	Exotic			S	O			
<i>Carica papaya</i>	Tree	Exotic				O		O	
<i>Caryota mitis</i>	Tree	Exotic				S			
<i>Cassia fistula</i>	Tree	Native			S				
<i>Casuarina equisetifolia</i>	Tree	Exotic				S			
<i>Catharanthus roseus</i>	Shrub	Exotic				S			
<i>Celosia argentea</i>	Herb	Native							S
<i>Celtis sinensis</i>	Tree	Native	S	S	O	C	S		
<i>Cenchrus echinatus</i>	Herb	Exotic				S			
<i>Centotheca lappacea</i>	Herb	Native				O			
<i>Chenopodium ficifolium</i>	Herb	Native			S	O			S
<i>Chloris barbata</i>	Herb	Native		S		O	O		S
<i>Cinnamomum camphora</i>	Tree	Native				O			
<i>Citrus maxima</i>	Tree	Exotic				S			
<i>Coccinia grandis</i>	Climber	Native							S



Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Cocculus orbiculatus</i>	Climber	Native	O		S	O			S
<i>Codiaeum variegatum</i>	Shrub	Exotic				O			
<i>Colocasia esculenta</i>	Herb	Native		S		S			S
<i>Commelina diffusa</i>	Herb	Native							O
<i>Conyza canadensis</i>	Herb	Exotic	S			S			
<i>Cordyline fruticosa</i>	Shrub	Exotic				S			
<i>Crateva unilocularis</i>	Tree	Exotic			S				
<i>Cuphea hyssopifolia</i>	Shrub	Exotic				S			
<i>Cuscuta</i> sp.	Climber	Native	S			S			S
<i>Cycas revoluta</i>	Tree	Exotic				S			
<i>Cyclosorus parasiticus</i>	Herb	Native				S			S
<i>Cynodon dactylon</i>	Herb	Native				C			
<i>Cyperus eragrostis</i>	Herb	Unknown	S						O
<i>Cyperus involucratus</i>	Herb	Exotic		S	S				
<i>Cyperus odoratus</i>	Herb	Exotic		O		S			
<i>Delonix regia</i>	Tree	Exotic			S	O			
<i>Desmos chinensis</i>	Climber	Native				S			
<i>Dimocarpus longan</i>	Tree	Exotic			S	C			S
<i>Dracaena reflexa</i> var. <i>angustifolia</i>	Shrub	Exotic					S		
<i>Duranta erecta</i>	Climber	Exotic				C			
<i>Dyopsis lutescens</i>	Shrub	Exotic				S			
<i>Eclipta prostrata</i>	Herb	Native				S			
<i>Ehretia monopyrena</i>	Shrub	Exotic				S			
<i>Eichhornia crassipes</i>	Herb	Exotic		S					
<i>Emilia sonchifolia</i>	Herb	Native				C			
<i>Eragrostis tenella</i>	Herb	Native				O			

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Eucalyptus citriodora</i>	Tree	Exotic			C	O			
<i>Eucalyptus robusta</i>	Tree	Exotic			O				
<i>Eucalyptus tereticornis</i>	Tree	Exotic			C	O			
<i>Euphorbia hirta</i>	Herb	Exotic				S			
<i>Euphorbia milii</i>	Shrub	Exotic				S			
<i>Euphorbia thymifolia</i>	Herb	Native				S			O
<i>Excoecaria cochinchinensis</i>	Shrub	Exotic				S			
<i>Fagraea ceilanica</i>	Shrub	Exotic				S			
<i>Ficus altissima</i>	Tree	Native				S			
<i>Ficus benjamina</i>	Tree	Exotic				S			
<i>Ficus hispida</i>	Shrub	Native		S		C	S		
<i>Ficus lyrata</i>	Tree	Exotic				S			
<i>Ficus maclellandii</i> 'Alii'	Tree	Exotic				S			
<i>Ficus microcarpa</i>	Tree	Native			C	C			
<i>Ficus pumila</i>	Climber	Native				C			
<i>Ficus religiosa</i>	Tree	Exotic				S			
<i>Ficus virens</i> var. <i>sublanceolata</i>	Tree	Native		S	O	S			
<i>Ficus subpisocarpa</i>	Tree	Native				S			
<i>Flueggea virosa</i>	Shrub	Native		S		S			
<i>Handroanthus chrysanthus</i>	Tree	Exotic				O	S		
<i>Hedyotis corymbosa</i>	Herb	Native				O			
<i>Heteropanax fragrans</i>	Tree	Exotic				S			
<i>Hibiscus rosa-sinensis</i>	Shrub	Exotic				O			
<i>Hibiscus tiliaceus</i>	Tree	Exotic		S					
<i>Hydrocotyle verticillata</i>	Herb	Exotic		S		S			
<i>Imperata cylindrica</i> var. <i>major</i>	Herb	Native					C	O	S

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Ipomoea aquatica</i>	Herb	Exotic							C
<i>Ipomoea cairica</i>	Climber	Exotic		O		C	O	S	C
<i>Ipomoea triloba</i>	Cimber	Exotic	S			O			O
<i>Ixora chinensis</i>	Shrub	Native			O	C			
<i>Ixora coccinea</i>	Shrub	Exotic				O			
<i>Juniperus chinensis</i>	Tree	Exotic				S			
<i>Kalanchoe tubiflora</i>	Herb	Exotic				S			
<i>Khaya senegalensis</i>	Tree	Exotic			O	S			
<i>Koelreuteria bipinnata</i>	Tree	Exotic			S	O			
<i>Lactuca sativa</i>	Herb	Exotic						C	
<i>Lagerstroemia speciosa</i>	Tree	Native			O	O			
<i>Lantana camara</i>	Shrub	Exotic	S		O	C			
<i>Lantana montevidensis</i>	Shrub	Exotic			S	S			
<i>Lemna minor</i>	Herb	Native							S
<i>Leucaena leucocephala</i>	Tree	Exotic	O	C	C	C	O	S	O
<i>Ligustrum sinense</i>	Tree	Native			S	C			
<i>Liquidambar formosana</i>	Tree	Native				O			
<i>Litchi chinensis</i>	Tree	Exotic				O		O	
<i>Litsea glutinosa</i>	Tree	Native				S			
<i>Livistona chinensis</i>	Tree	Exotic			O	O			
<i>Lophostemon confertus</i>	Tree	Exotic			S	S			S
<i>Loropetalum chinense</i> f. <i>rubrum</i>	Shrub	Exotic				S			
<i>Ludwigia octovalvis</i>	Herb	Native	S			S			
<i>Macaranga tanarius</i> var. <i>tomentosa</i>	Tree	Native	S	S	S	C	O	S	C
<i>Macroptilium atropurpureum</i>	Herb	Exotic				O			
<i>Malvastrum coromandelianum</i>	Shrub	Native				C			

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Mangifera indica</i>	Tree	Exotic				O		O	
<i>Melaleuca bracteata</i>	Tree	Exotic			O				
<i>Melaleuca cajuputi</i> subsp. <i>cumingiana</i>	Tree	Exotic			C	C			S
<i>Melia azedarach</i>	Tree	Exotic	S	S	O	C	S	S	S
<i>Microcos nervosa</i>	Tree	Native				S			
<i>Microstegium ciliatum</i>	Herb	Native	S			S			
<i>Mikania micrantha</i>	Herb	Exotic	O	C	O	C	C	S	
<i>Mimosa pudica</i>	Herb	Exotic	S			O	S		
<i>Miscanthus floridulus</i>	Herb	Native	S	O					O
<i>Monstera deliciosa</i>	Shrub	Exotic		S					
<i>Murraya paniculata</i>	Tree	Exotic		C		O			
<i>Musa x paradisiaca</i>	Herb	Exotic				S	S		O
<i>Nelumbo nucifera</i>	Herb	Exotic				S			
<i>Neyraudia reynaudiana</i>	Herb	Native				C	S		O
<i>Osmanthus fragrans</i>	Shrub	Exotic				S			
<i>Osmunda vachellii</i>	Herb	Native							O
<i>Oxalis corniculata</i>	Herb	Native				O			
<i>Oxalis debilis</i> subsp. <i>corymbosa</i>	Herb	Exotic		S	C	O			
<i>Pachira aquatica</i>	Tree	Exotic							S
<i>Paederia scandens</i>	Climber	Native	S	O	O	O	S		
<i>Panicum dichotomiflorum</i>	Herb	Native		S					
<i>Panicum maximum</i>	Herb	Exotic	S	C	C	C	S	S	C
<i>Passiflora foetida</i>	Climber	Exotic	S			S			O
<i>Passiflora suberosa</i>	Climber	Exotic				S			
<i>Pennisetum polystachion</i>	Herb	Exotic				O			
<i>Pennisetum purpureum</i>	Herb	Exotic	S			S	S		C

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Peperomia obtusifolia</i>	Herb	Exotic				S			
<i>Persicaria barbata</i>	Herb	Native		S					
<i>Persicaria chinensis</i>	Herb	Native		S		S			
<i>Persicaria lapathifolia</i>	Herb	Native				S			
<i>Persicaria perfoliata</i>	Herb	Native				S			
<i>Phoenix roebelenii</i>	Tree	Exotic			O	S			
<i>Phragmites australis</i>	Herb	Native		S			S	S	C
<i>Phyllanthus reticulatus</i> var. <i>glaber</i>	Shrub	Unknown				S	S		
<i>Phyllanthus tenellus</i>	Herb	Unknown				S			
<i>Physalis angulata</i>	Herb	Native							S
<i>Pilea microphylla</i>	Herb	Exotic		S					
<i>Platycladus orientalis</i>	Tree	Exotic				S			
<i>Plumeria rubra</i>	Tree	Exotic			S	S			
<i>Podocarpus macrophyllus</i>	Tree	Native				O			
<i>Portulaca pilosa</i>	Herb	Native				S			
<i>Pouzolzia zeylanica</i>	Herb	Native				S			
<i>Psidium guajava</i>	Tree	Exotic				O		S	
<i>Pteris insignis</i>	Herb	Native				S			
<i>Pteris vittata</i>	Herb	Native				S	S		
<i>Pueraria lobata</i> var. <i>montana</i>	Climber	Native			S	O			
<i>Pueraria lobata</i> var. <i>thomsonii</i>	Climber	Exotic				S			
<i>Pyrrosia adnascens</i>	Climber	Native			S	S			
<i>Ranunculus sceleratus</i>	Herb	Native		S					
<i>Rhaphiolepis indica</i>	Shrub	Native				S			
<i>Rhododendron pulchrum</i>	Shrub	Exotic				S			
<i>Rhus hypoleuca</i>	Tree	Native			S				

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Ricinus communis</i>	Shrub	Exotic					S		
<i>Ruellia simplex</i>	Herb	Exotic				S			
<i>Rumex japonicus</i>	Herb	Native							S
<i>Rumex trisetifer</i>	Herb	Native	S	S					
<i>Schefflera arboricola</i>	Climber	Exotic				C			
<i>Schefflera heptaphylla</i>	Tree	Native				S			
<i>Scoparia dulcis</i>	Herb	Exotic				S			
<i>Senna siamea</i>	Tree	Exotic				S			
<i>Senna surattensis</i>	Tree	Exotic			S				
<i>Sesbania javanica</i>	Herb	Native					S		
<i>Sesbania cannabina</i>	Herb	Exotic					S		S
<i>Sida rhombifolia</i>	Shrub	Native				O			
<i>Solanum americanum</i>	Herb	Exotic		S		O			S
<i>Solanum torvum</i>	Shrub	Exotic		S		S			
<i>Solanum lycopersicum</i>	Herb	Exotic						O	
<i>Sonchus oleraceus</i>	Herb	Exotic				O			
<i>Sporobolus fertilis</i>	Herb	Native				O			
<i>Stephania longa</i>	Climber	Native				S			
<i>Sterculia lanceolata</i>	Tree	Native				S			
<i>Stromanthe sanguinea</i>	Herb	Exotic				S			
<i>Syzygium cumini</i>	Tree	Exotic				S			
<i>Syzygium jambos</i>	Tree	Exotic				O			
<i>Terminalia catappa</i>	Tree	Exotic				S			
<i>Terminalia mantaly</i>	Tree	Exotic				O			
<i>Terminalia mantaly</i> cv. "Tricolor"	Tree	Exotic				S			
<i>Thunbergia grandiflora</i>	Climber	Exotic		S					

Species	Habit	Origin	Relative abundance						
			PA	DC/ N	PI	U/D	G/S	A	Po
<i>Tradescantia zebrina</i>	Herb	Exotic				S			
<i>Tradescantia spathacea</i>	Herb	Exotic				S			
<i>Tridax procumbens</i>	Herb	Exotic	S			O			
<i>Typha angustifolia</i>	Herb	Exotic	S						S
<i>Vernonia cinerea</i>	Herb	Native				O			
<i>Wedelia trilobata</i>	Herb	Exotic	S		O	C	O		
<i>Youngia japonica</i>	Herb	Native		O		O			
<i>Zanthoxylum avicennae</i>	Tree	Native			S				
<i>Zea mays</i>	Herb	Exotic				S			

**Annex 2**      **Bird Species recorded within the Assessment Area during the  
verification surveys (Habitats: DC/N = drainage channel/nullah, PI =  
plantation, U/D = urbanized/disturbed, G/S = grassland/shrubland, A =  
agricultural land, Po = fishpond & flood storage pond; PA = Project  
Area)**

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Northern Shoveler	<i>Spatula clypeata</i>	+							Abundant winter visitor. Found in Deep Bay area.	Regional Concern
Eurasian Wigeon	<i>Mareca penelope</i>	+							Abundant winter visitor. Found in Deep Bay area, Tai Lam Chung.	Regional Concern
Little Grebe	<i>Tachybaptus ruficollis</i>						+		Common resident. Found in Deep Bay area.	Local Concern
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>						+		Common resident and migrant. Widely distributed in Hong Kong.	Local Concern
Chinese Pond Heron	<i>Ardeola bacchus</i>	+					+		Common resident. Widely distributed in Hong Kong.	Regional Concern
Grey Heron	<i>Ardea cinerea</i>	+					+		Common winter visitor. Found in Deep	Potential Regional Concern



Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
									Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	
Great Egret	<i>Ardea alba</i>	+					+		Common resident and winter visitor. Widely distributed in Hong Kong.	Regional Concern
Little Egret	<i>Egretta garzetta</i>	++		+			+		Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Regional Concern
Great Cormorant	<i>Phalacrocorax carbo</i>	+							Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	Potential Regional Concern
Black Kite	<i>Milvus migrans</i>				+				Common resident and winter visitor. Widely distributed in Hong Kong.	Regional Concern
White-breasted Waterhen	<i>Amauornis phoenicurus</i>	+		+			+		Common resident. Widely distributed in	

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
									wetland throughout Hong Kong.	
Pied Avocet	<i>Recurvirostra avosetta</i>	+							Abundant winter visitor. Found in Deep Bay area.	Regional Concern
Common Greenshank	<i>Tringa nebularia</i>	+							Abundant passage migrant and winter visitor. Found in Deep Bay area.	Regional Concern
Common Redshank	<i>Tringa totanus</i>	+							Abundant passage migrant and winter visitor. Found in Deep Bay area.	Local Concern
Common Sandpiper	<i>Actitis hypoleucos</i>	+					+		Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.	
Black-winged Stilt	<i>Himantopus himantopus</i>	+							Common migrant and winter visitor. Found in Deep Bay area, Long Valley, Kam Tin.	Regional Concern

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Domestic Pigeon	<i>Columba livia</i>		+	+	+	+	+	+	Locally common resident. Widely distributed in urban area throughout Hong Kong.	
Spotted Dove	<i>Spilopelia chinensis</i>		+	+	+	+		+	Abundant resident. Widely distributed in Hong Kong.	
Greater Coucal	<i>Centropus sinensis</i>			+		+	+		Common resident. Widely distributed in Hong Kong.	
Plaintive Cuckoo	<i>Cacomantis merulinus</i>						+		Passage migrant and common visitor. Widely distributed in open area throughout Hong Kong.	
Asian Koel	<i>Eudynamys scolopaceus</i>	+	+			+	+	+	Common resident. Widely distributed in Hong Kong.	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>						+		Common resident. Widely distributed in coastal areas throughout Hong Kong	Local Concern

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Common Kingfisher	<i>Alcedo atthis</i>	+					+		Common passage migrant and winter visitor. Widely distributed in wetland habitat throughout Hong Kong.	
Long-tailed Shrike	<i>Lanius schach</i>			+		+	+		Common resident. Widely distributed in open areas throughout Hong Kong.	
Black Drongo	<i>Dicrurus macrocercus</i>			+					Common autumn passage migrant and winter visitor. Widely distributed in open area throughout Hong Kong.	
Azure-winged Magpie	<i>Cyanopica cyanus</i>		++						Locally common breeding resident. Found in Mai Po.	
Eurasian Magpie	<i>Pica serica</i>					+	+		Common resident. Widely distributed in Hong Kong	

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Large-billed Crow	<i>Corvus macrorhynchos</i>				+	+			Common resident.  Widely distributed in Hong Kong	
Cinereous Tit	<i>Parus cinereous</i>		+						Common resident.  Widely distributed in Hong Kong.	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	+	+	+	+	+	+	+	Abundant resident.  Widely distributed in Hong Kong.	
Chinese Bulbul	<i>Pycnonotus sinensis</i>		+	+	+	+	+	+	Abundant resident.  Widely distributed in Hong Kong.	
Barn Swallow	<i>Hirundo rustica</i>	+	+					+	Abundant passage migrant and uncommon winter visitor. Widely distributed in Hong Kong.	
Cinereous Tit	<i>Parus cinereus</i>	+	+			+			Common resident.  Widely distributed in Hong Kong.	
Dusky Warbler	<i>Phylloscopus fuscatus</i>					+		+	Abundant winter visitor and migrant.  Widely distributed in	

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
									shrubland and waterside vegetation throughout Hong Kong.	
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>		+		+				Abundant winter visitor and migrant.  Widely distributed in woodland throughout Hong Kong.	
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	+		+		+		+	Common resident.  Widely distributed in Hong Kong.	
Plain Prinia	<i>Prinia inornata</i>	+				+	+		Locally common resident. Widely distributed in grassland throughout Hong Kong.	
Common Tailorbird	<i>Orthotomus sutorius</i>		+			+		+	Common resident.  Widely distributed in Hong Kong.	
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	+		+	+	+	+		Abundant resident.  Widely distributed in shrubland throughout Hong Kong.	

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Japanese White-eye	<i>Zosterops japonicus</i>	+	+		+	+		+	Abundant resident.  Widely distributed in Hong Kong.	
Crested Myna	<i>Acridotheres cristatellus</i>	+	+	+	+		+	+	Common resident.  Widely distributed in Hong Kong.	
Common Myna	<i>Acridotheres tristis</i>			+					Locally common  resident. Found in Mai Po, Sheung Uk Tsuen, Sheung Shui, Kam Tin, Shek Kong, Ping Shan, Mong Tseng.	
Black-collared Starling	<i>Gracupica nigricollis</i>		+	+		+	+	+	Common resident.  Widely distributed in Hong Kong.	
Grey-backed Thrush	<i>Turdus hortulorum</i>							+	Common winter visitor  and migrant. Widely distributed in woodland throughout Hong Kong.	
Oriental Magpie Robin	<i>Copsychus saularis</i>		+	+	+		+	+	Abundant resident.  Widely distributed in Hong Kong.	

Common names	Scientific names	DC /N	PI	U/D	G/S	A	Po	PA	Commonness & Distribution in Hong Kong <sup>1</sup>	Local/ Regional/ International Conservation Status / Level of concern <sup>1</sup>
Daurian Redstart	<i>Phoenicurus aureus</i>	+	+						Common winter visitor. Widely distributed in Hong Kong.	
Eurasian Tree Sparrow	<i>Passer montanus</i>			++	+++	+	++	++	Abundant resident. Widely distributed in Hong Kong.	
White Wagtail	<i>Motacilla alba</i>	+		+				+	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	
Olive-backed Pipit	<i>Anthus hodgsoni</i>			+			+	+	Common passage migrant and winter visitor. Widely distributed in Hong Kong.	
Black-faced Bunting	<i>Emberiza spodocephala</i>			+				+	Common winter visitor and passage migrant. Widely distributed in Hong Kong.	

Relative Abundance: +++ = abundant, ++ = moderate, + = few

1: AFCD (2022)

Level of concern: LC = local concern, PRC = potential regional concern, RC = regional concern, GC = global 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 (Fellowes et al., 2002)



**Annex 3 Mammal and Herpetofauna Species recorded within the Assessment  
Area during the verification surveys (Habitats: DC/N = drainage  
channel/nullah, PI = plantation, U/D = urbanized/disturbed, G/S =  
grassland/shrubland, A = agricultural land, Po = fishpond & flood  
storage pond; PA = Project Site)**

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Distribution in Hong Kong*
<b>Mammal</b>									
Domestic Ox	<i>Bos taurus</i>						+		Widely distributed in countryside areas throughout Hong Kong, except for Hong Kong Island and northwestern New Territories.
Domestic Water Buffalo	<i>Bubalus bubalis</i>			+					Found in Kam Tin, and the southern part of Lantau Island.
Japanese Pipistrelle**	<i>Pipistrellus abramus</i>	+		+	+	+	+	+	Widely distributed throughout Hong Kong.
Indochinese Forest Rat	<i>Rattus andamanensis</i>		+						Widely distributed in countryside areas throughout Hong Kong.
<b>Amphibian</b>									
Asian Common Toad	<i>Duttaphrynus melanostictus</i>		+	+	+	+	+		Widely distributed throughout Hong Kong
Asiatic Painted Frog	<i>Kaloula pulchra</i>	+		+		+	+		Widely distributed throughout Hong Kong
Gunther's Frog	<i>Sylvirana guentheri</i>	+			+	+	++	+	Widely distributed throughout Hong Kong

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Distribution in Hong Kong*
Brown Tree Frog	<i>Polypedates megacephalus</i>			+		+	+	+	Widely distributed in Hong Kong
<b>Reptile</b>									
Red-eared Slider	<i>Trachemys scripta</i>	++							Widely distributed and commonly found in reservoirs or ponds in urban parks
Long-tailed Skink	<i>Eutropis longicaudata</i>	+		+	+			+	Widely distributed throughout Hong Kong
Reeves's Smooth Skink	<i>Scincella reevesii</i>	+	+		+		+		Widely distributed in woodlands throughout Hong Kong.
Chinese Gecko	<i>Gekko chinensis</i>			+	+	+		+	Widely distributed throughout Hong Kong
Bowring's Gecko	<i>Hemidactylus bowringii</i>			++				+	Distributed throughout Hong Kong

Relative Abundance: +++ = abundant, ++ = moderate, + = few

\* AFCD (2022)

\*\* protected under WAPO in Hong Kong

**Annex 4**      **Butterfly Species recorded within the Assessment Area during the  
verification surveys (Habitats: DC/N = drainage channel/nullah, PI =  
plantation, U/D = urbanized/disturbed, G/S = grassland/shrubland, A =  
agricultural land, Po = fishpond & flood storage pond; PA = Project  
Site)**

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Abundance and Distribution in Hong Kong*
Forest Hopper	<i>Astictopterus jama</i>			+					Common. Widely distributed throughout Hong Kong.
Lime Blue	<i>Chilades lajus</i>			+	+	+		+	Common. Widely distributed throughout Hong Kong
Dark Grass Blue	<i>Zizeeria karsandra</i>		+				+	+	Uncommon. High Junk Peak, Kat O, Po Toi Island, Shek Mun Kap, Lai Chi Wo, Yung Shue O
Red-base Jezebel	<i>Delias pasithoe</i>	+	+		+	+	+	+	Very common. Widely distributed throughout Hong Kong
Great Orange Tip	<i>Hebomoia glaucippe</i>		+	+	+		+		Common. Widely distributed throughout Hong Kong
Indian Cabbage White	<i>Pieris canidia</i>			+	+	+	+	+	Very common. Widely distributed throughout Hong Kong
Common Grass Yellow	<i>Eurema hecabe</i>	+		+	+	+	+	+	Very common. Widely distributed throughout Hong Kong
Mottled Emigrant	<i>Catopsilia pyranthe</i>			+					Very common. Widely distributed throughout Hong Kong

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Abundance and Distribution in Hong Kong*
Lemon Emigrant	<i>Catopsilia pomona</i>				+				Common. Widely distributed throughout Hong Kong
Common Mormon	<i>Papilio polytes</i>	+	+						Very common. Widely distributed throughout Hong
Great Mormon	<i>Papilio memnon</i>		+		+	+		+	Very common. Widely distributed throughout Hong
Red Helen	<i>Papilio helenus</i>						+		Very common. Widely distributed throughout Hong Kong
Paris Peacock	<i>Papilio paris</i>			+		+			Very common. Widely distributed throughout Hong Kong
Common Five-ring	<i>Ypthima baldus</i>				+				Very common. Widely distributed throughout Hong Kong
Common Mapwing	<i>Cyrestis thyodamas</i>					+			Common. Widely distributed throughout Hong Kong
Rustic	<i>Cupha erymanthis</i>		+	+					Very common. Widely distributed throughout Hong Kong
Angled Castor	<i>Ariadna airadne</i>			+					Common. Widely distributed throughout Hong Kong.
Plum Judy	<i>Abisara echerius</i>	+					+		Very common. Widely distributed throughout Hong Kong

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Abundance and Distribution in Hong Kong*
Punchinello	<i>Zemeros flegyas</i>	+	+						Common. Very common.  Widely distributed throughout Hong Kong
Common Tiger	<i>Danaus genutia</i>			+					Common. Widely distributed throughout Hong Kong
Common Indian Crow	<i>Euploea core</i>	+	+						Common. Widely distributed throughout Hong Kong
Blue-spotted Crow	<i>Euploea midamus</i>					+			Very common. Widely distributed throughout Hong Kong
Ceylon Blue Glassy Tiger	<i>Ideopsis similis</i>		+	+					Very Common. Widely distributed throughout Hong Kong

Relative Abundance: +++ = abundant, ++ = moderate, + = few

\* AFCD (2022)

**Annex 5 Dragonfly Species recorded within the Assessment Area during the verification surveys (Habitats: DC/N = drainage channel/nullah, PI = plantation, U/D = urbanized/disturbed, G/S = grassland/shrubland, A = agricultural land, Po = fishpond & flood storage pond; PA = Project Area)**

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Abundance and Distribution in Hong Kong*
Orange-tailed Midget	<i>Agriocnemis femina</i>					+	+		Abundant. Widely distributed in disused paddy fields, marshes, ditches and weedy ponds margins.
Orange-tailed Sprite	<i>Agriocnemis pygmaea</i>					+	+	+	Abundant. Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters.
Common Bluetail	<i>Ischnura senegalensis</i>					+	+	+	Abundant. Widely distributed in all wetland habitats except fast flowing rivers throughout Hong Kong.
Red-faced Skimmer	<i>Orthetrum chrysis</i>	+							Abundant. Widely distribute in pools and marshy areas adjacent to flowing streams throughout Hong Kong
Common Blue Skimmer	<i>Orthetrum glaucum</i>		+				+		Abundant. Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong
Common Red Skimmer	<i>Orthetrum pruinosum</i>					+			Abundant. Widely distributed in slow streams, ponds, rain puddles and irrigation conduits

Common names	Scientific names	DC/ N	PI	U/D	G/S	A	Po	PA	Abundance and Distribution in Hong Kong*
Green Skimmer	<i>Orthetrum sabina</i>			+	+	+		+	Abundant. Widely distributed in all wetland habitats throughout Hong Kong
Asian Amberwing	<i>Brachythemis contaminata</i>						+	+	Abundant. Widely distributed in weedy ponds and sluggish streams
Wandering Glider	<i>Pantala flavescens</i>		+	+	+	+	+	+	Abundant. Widely distributed all over Hong Kong
Blue Dasher	<i>Brachydiplax chalybea</i>					+			Common. Widely distribute in marshes and weedy ponds throughout Hong Kong
Crimson Dropwing	<i>Trithemis aurora</i>	+		+		+			Abundant. Found in marshes, ponds, streams, and or even ornamental ponds in urban areas. Widely distributed throughout Hong Kong.

Relative Abundance: +++ = abundant, ++ = moderate, + = few

\* AFCD (2022)

## Annex 6 Aquatic fauna Species recorded within the Assessment Area during the verification surveys

Common names	Scientific names	DC/ N	Commonness in Hong Kong*
Mozambique Tilapia	<i>Oreochromis mossambicus</i>	++	Widespread in brackish waters, freshwater ponds, ditches, rivers and reservoirs. The fish is also cultivated in some local fish farms.
Grey Mullet	<i>Mugil cephalus</i>	+	Widespread in estuaries and marine environment in Hong Kong.

Common names	Scientific names	DC/ N	Commonness in Hong Kong*
Mudskipper	<i>Periophthalmus cantonensis</i>	+	It is the commonest mudskipper in Hong Kong and almost found in all mudflats and estuaries.
Apple Snail	<i>Pomacea canaliculata</i>	+++	Common
Freshwater Snail	<i>Melanoides tuberculata</i>	+	Common

Relative Abundance: +++ = abundant, ++ = moderate, + = few

\* AFCD (2022)