Attachment 5

Revised Ecological Impact Assessment

S.16 Planning Application for

Proposed Religious Institution (the Supreme Kwan Ti Temple) and the Associated Existing Road, and Improvements to the Tai Tong Kwan Ti Square, Lots 1475 (Part), 1591 (Part), 1594 (Part),1595, 1600 S.A (Part), 1600 S.B, 1602, 1622, 1624, 1629, 1630 S.A (Part), 1630 S.B, 1630 S.C, 1630 S.D, 1631, 1632, 1633, 1634, 1635 and 1636 (Part) in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long

Ecological Impact Assessment Report

February 2025

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1 INTRODUCTION

1.1 Background

1.1.1 Ecosystems Ltd. was commissioned by Toco Planning Consultants Limited to be the Ecological Consultant. This section presents an Ecological Impact Assessment (EcoIA) on any potential direct and indirect impacts to ecology arising from construction and operation of the Project. Ecological baseline conditions of the Application Site, the Development Site and its surroundings are described, potential ecological impacts including losses or damages to habitats and other potential impacts on the inhabiting flora and fauna have been assessed, with the need for mitigation measures such as avoidance, minimization and compensation explored. The potential ecological impacts on the identified species and habitats have also been evaluated.

1.1.2 The Application Site comprises the Development Site and the remaining area (including the existing Tai Tong Kwan Ti Square and Access Road Improvement Area) near Tai Tong Shan Road. The Development Site are located within Lot Nos.1622, 1624, 1629 and adjoining Government Land, while the existing Tai Tong Kwan Ti Square and Access Road Improvement Area are located within Lot Nos.1475 (part), 1591 (part), 1594 (part), 1595, 1600 S.A, 1600 S.B, 1602, 1630 S.A, 1630 S.B, 1630 S.C, 1630 S.D, 1631, 1632, 1633, 1634, 1635, 1636 (part) and adjoining Government Land. The Application Site is composed by developed area (other urban area), rural plantation, turfgrass (green urban area) and modified watercourse.

1.1.3 The Application Site falls within area zoned as “Recreation”, “Green Belt” and “Open Storage” under the Approved Tai Tong Outline Zoning Plan (OZP) No. S/YL-TT/20, whereas the Development Site, it is zoned as “Recreation”, “Green Belt” only.

2 LEGISLATION, STANDARDS AND GUIDELINES ON ECOLOGICAL SURVEY

2.1 General

2.1.1 The HKSAR ordinances and regulations relevant to ecological impact assessment (EcoIA) 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);
- Country Parks Ordinance (Cap. 208) and its subsidiary legislation;
- Environmental Impact Assessment Ordinance ("the EIAO", Cap. 499) and the associated Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), in particular Annexes 8 and 16; and
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation.

2.1.2 This EcoIA also made reference to the following guidelines and standards:

- EIAO Guidance Note No. 3/2010 – Flexibility and Enforceability of Mitigation Measures Proposed in an EIA Report;
- EIAO Guidance Note No. 6/2010 – Some Observations on Ecological Assessment from the Environmental Impact Assessment Ordinance Perspective;
- EIAO Guidance Note No. 7/2023 – Ecological Baseline Survey for Ecological Assessment;
- EIAO Guidance Note No. 10/2023 – Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys;
- ETWB Technical Circular (Works) No. 5/2005, “Protection of natural streams/rivers from adverse impacts arising from construction works”;
- Environment, Transport and Works Bureau Technical Circular (Works) No. 3/2006. Tree Preservation. 25 May 2006.;
- Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10, "Conservation"; and
- PELB Technical Circular 1/97 / Works Branch Technical Circular 4/97, "Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures";

2.1.3 This EcoIA also made reference to the following People's Republic of China (PRC) legislation:

- List of Wild Animals under State Priority Conservation; and
- List of Wild Plants under State Priority Conservation

2.1.4 International conventions and guidelines that are relevant to this study include the following:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"). This Convention regulates international trade in animal and plant species considered to be at risk from such trade. The main categories of species relevant to Hong Kong are Appendices I and II. Species listed in Appendix I are species threatened with extinction that are or may be affected by trade; species listed in Appendix II are those that, while not necessarily under current threat of extinction, may become threatened unless trade is subject to strict regulation. Hong Kong's obligations under this Convention are enforced via the Protection of Endangered Species of Animals and Plants Ordinance;
- The International Union for Conservation of Nature (IUCN). The World Conservation Union maintains, through its Species Survival Commission, a Red List of globally threatened species of wild plants and animals (see http//www.redlist.org). The Red List is considered the authoritative publication to classify species as critically endangered, endangered, vulnerable, or lower-risk; and

- United Nations Convention on Biological Diversity. This convention requires parties to regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use. It also requires parties to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. The People's Republic of China (PRC) ratified the Convention on Biological Diversity on 5th January 1993. The HKSAR Government has stated that it is "committed to meeting the environmental objectives" of the Convention (PELB 1996).

2.2 Key Ecological Resources & Important Habitats

2.2.1 Key ecological issues that are identified within the Study Area and the surrounding environment include the following:

- Ecologically Important Stream (EIS) of Yeung Ka Tsuen, Shap Pat Heung (**Figure 2.1**);
- Tai Lam Country Park (TLCP) (**Figure 2.1**);
- Historical egretries in Tai Tong (Wong Nai Tun) and Tai Tong (Pak Sha Tsuen) (**Figure 2.1**);
- Mixed woodland;
- Natural stream; and
- Species of conservation importance (e.g. Motschulsky's Starworm)

3 ECOLOGICAL SURVEY METHODOLOGY

3.1 Application Site and Ecological Study Area

3.1.1 The Application Site comprises the Development Site (the proposed Temple Development Area) and remaining area (including the existing Tai Tong Kwan Ti Square and Access Road Improvement Area). It situated to the south and west of Tai Tong Shan Road. The Application Site located closed to but outside the Tai Lam Country Park (TLCP).

3.1.2 The Access Road Improvement Area falls within the edge of areas zoned as "Recreation", "Green Belt" and "Open Storage" under the Approved Tai Tong Outline Zoning Plan (OZP) No. S/YL-TT/20. For the Development Site and existing Tai Tong Kwan Ti Square, the western part is zoned as "Recreation", while the eastern part is zoned as "Green Belt".

3.1.3 The Ecological Study Area includes the area of 500 metres distance from the boundary of the Application Site (**Figure 3.1**). The southern part and northeastern part of the Ecological Study Area are located within the Tai Lam Country Park. The locations of the Application Site and Ecological Study Area are shown in **Figure 3.1**.

3.2 Review of Existing Information

3.2.1 In accordance with Section 5.1.2.1 of the Annex 16 of EIAO-TM, existing information regarding the Application Site and the Development Site and its vicinity shall be reviewed. Literature review characterises the existing ecological baseline information within the Ecological Study Area. The literature review covers Government and private sector reports, independent and Government published literature, academic studies, vegetation maps and land use maps.

3.2.2 Reviewed information included, but not limited to the following:

- Register No. AEIAR-215/2017 – Approved EIA Report of Housing Sites in Yuen Long South
- Register No. AEIAR-078/2004 – Approved EIA Report of Yuen Long and Kam Tin Sewerage and Sewage Disposal Stage 2;
- Annual report and other publications of The Hong Kong Bird Watching Society;
- Draft Outline Zoning Plans and Outline Zoning Plans of Town Planning Board;
- Hong Kong Biodiversity – Newsletter of Agriculture, Fisheries and Conservation Department (AFCD);
- Porcupine! Newsletter of Ecology & Biodiversity, The School of Biological Sciences, The University of Hong Kong;
- Publications of AFCD;
- The International Union for Conservation of Nature (IUCN); and
- Relevant EIA reports.

3.3 Programme

3.3.1 The Ecological Survey Area covers terrestrial area only. The study on terrestrial ecology was mainly focus on the Development Site, the Application Site and adjacent areas of the Application Site. The Ecological Survey Area for the purpose of ecological baseline surveys includes all area within 500m distance from the boundary of the Application Site (**Figure 3.2**).

3.3.2 Owing to the sub-tropical climate in Hong Kong, there are mainly two distinct seasonal weathers in the area, namely "wet season" and "dry season". Wet season is between April and October with higher monthly temperature and rainfall, and the activities of organism are more active. On the other hand, dry season is between November and March with lower monthly temperature and rainfall, and the activities of organisms are less conspicuous.

3.3.3 Ecological survey was conducted from December 2023 to February 2024 and conducted in April to June 2024 covering both dry season and wet season to collect ecological baseline information (**Table 3.1**).

3.3.4 The recommend months and methodology of conducting surveys for specific taxa follows the EIAO GN No. 7/2023 "Ecological Baseline Survey for Ecological Assessment" and No. 10/2023 "Methodologies for Terrestrial and Freshwater Ecological Baseline Survey". The survey methodology for each item is described in the following sections.

Table 3.1 Ecological Survey Programme

Survey Type	2023	2024					
	Dry Season				Wet Season		
	Dec	Jan	Feb	Mar	Apr	May	Jun
Habitat & vegetation		**D**					**D**
Avifauna	**E, D, S&N**	**E, D, S&N**	**E, D, S&N**		**E, D, S&N**	**E, D, S&N**	**E, D, S&N**
Butterfly	**D**		**D**		**D**		**D**
Odonate	**D**		**D**		**D**		**D**
Herpetofauna	**D&N**		**D&N**		**D&N**		**D&N**
Terrestrial mammal	**D, S&N**	**D, S&N**	**D, S&N**		**D, S&N**	**D, S&N**	**D, S&N**
Freshwater community		**D&N**	**D&N**		**D&N**		**D&N**
Firefly	**S & N**				**S & N**	**S & N**	**S & N**

Note:

E: Early morning, D: Daytime; N: Night-time, S: Dusk; **Bold** for completed survey

3.4 Methodology

Habitat and Vegetation

3.4.1 Habitats within the Ecological Study Area were identified, sized and mapped based on the latest government aerial photos and field ground-truthing. Representative areas of each habitat type were surveyed on foot covering both dry and wet seasons. Special attentions were paid to any habitat type showing seasonal patterns. Flora species encountered in each habitat type and their relative abundance were recorded with special attention to rare or protected species. Nomenclature and conservation status of flora species follows the latest Hong Kong Plant Database available from the website of the Hong Kong Herbarium, whilst their rarity in Hong Kong followed Corlett *et al.* (2000) and Yip *et al.* (2010) where applicable. Habitats were characterized and defined with reference to size, vegetation type, flora species present, dominant species, species diversity and abundance, community structure and seasonality, as well as the presence of any feature of ecological importance. Representative colour photos will be taken for each habitat type and any important ecological features identified. Habitat maps of suitable scale (i.e. 1:1000 to 1:5000) were prepared.

Avifauna

3.4.2 Daytime and nighttime avifauna surveys were carried out monthly, covering both dry and wet seasons. Daytime surveys were carried out in the early morning at the period of peak avifauna activity, while night surveys were conducted during and after dusk to record nocturnal avifauna. The avifauna communities of each habitat type within the Ecological Study Area were surveyed using transect count method (**Figure 3.2**). All avifauna observed or heard within 30m along the survey transects were counted and identified to species wherever possible and a list of avifauna recorded in the surveys is provided. The location(s) of any avifauna species of conservation importance encountered were recorded, along with notable behaviour. Major foraging and roosting sites of avifauna species were marked on map, if any. Signs of breeding (e.g. nests and/ or recently fledged juveniles) within the Ecological Study Area, especially in the Application Site, were also recorded and marked on map. Surveyors were using a 7X to 10X binoculars or/and a 30X to 65X spotting scope mounted on tripod for the surveys and photographic records will be taken, if possible. Ornithological nomenclature in this report follows the latest List of Hong Kong Birds by Hong Kong Bird Watching Society.

Butterfly and Odonate

3.4.3 Butterfly and Odonate surveys were conducted by transect count method bimonthly during daytime (**Figure 3.2**), covering both wet and dry seasons. All the butterflies and odonates encountered were recorded with their abundance and two species lists for butterflies and odonates were provided respectively. The location(s) of butterfly and odonate species with conservation importance were marked on map, if any, along with notable behaviour. Nomenclature for butterflies and odonates follows that available from the Hong Kong Biodiversity Information Hub, whilst conservation status for butterflies and dragonflies follows Chan *et al.* (2011) and Tam *et al.* (2011) respectively where applicable.

Herpetofauna (Reptile and Amphibian)

3.4.4 Daytime and nighttime herpetofauna surveys were carried out covering both dry and wet seasons. Herpetofauna surveys were conducted through direct observation and active searching in all habitat types along the survey transects (**Figure 3.2**), and in potential hiding places such as among leaf litter, inside holes, under stones and logs within the Ecological Study Area. Particular attention was given to watercourses. Auditory detection of species-specific calls was used to survey frogs and toads. During the surveys, all reptiles and amphibians sighted and heard were counted and identified along with notable behaviour. A herpetofauna species list was provided according to the records. Location(s) of herpetofauna species with conservation importance were marked on map. Nomenclature and conservation status for herpetofauna follows that available from the Hong Kong Biodiversity Information Hub, Karsen *et al.* (1998) and Chan *et al.* (2005).

Terrestrial Mammal

3.4.5 Terrestrial mammal surveys were carried out during daytime and night-time on a monthly basis, covering both dry and wet seasons. As most mammals often occur at low densities, all sightings, tracks, and signs of mammals (including droppings) were actively searched along the survey transects (**Figure 3.2**). Night surveys were conducted to survey nocturnal mammal species (e.g. rodents and bats). Hand torch was used to active search for the nocturnal mammals. Camera traps were installed to survey cryptic terrestrial mammals at representative locations within the Ecological Study Area. Bat surveys were conducted during and after dusk through direct observations and recorded by ultrasonic bat detector. Particular attention was given to potential foraging and drinking sites such as fruit trees and freshwater ponds (Tong, 2016). Roosting site(s) of bat species was marked on map. All bat calls recorded were identified according to species-specific echolocation call structure (Tong, 2016). All the mammals observed during the survey were counted and identified to species whenever possible and a list of mammal species recorded was provided. Nomenclature for mammals follows that available from the Hong Kong Biodiversity Information Hub and Shek (2006).

Freshwater Community

3.4.6 Daytime and nighttime freshwater fauna surveys were carried out in January, February, April and June in 2024. Freshwater fauna, including freshwater macro-invertebrates (e.g. freshwater crabs, shrimps, freshwater molluscs and aquatic insect larvae) and fishes, in channels and watercourses within the Ecological Study Area were studied by direct observation and active searching. Cage trapping is used where applicable, if necessary. Sampling was carried out and the sampling locations were shown in **Figure 3.2**. Freshwater fishes and aquatic macro-invertebrates were recorded and identified to the lowest possible taxon and theire relative abundances were reported. The location(s) of freshwater fauna species of conservation importance were recorded, along with notable behaviour. Nomenclature for freshwater fishes follows that available from the Hong Kong Biodiversity Information Hub, while those for the macro-invertebrates will follow Dudgeon (2003).

Firefly

3.4.7 Firefly surveys were carried out along the transects (**Figure 3.2**) at dusk and night (started shortly after sunset and continued until 120 minutes after sunset when the fireflies are most active). During the survey, any firefly observed, including larvae and adults, was identified to the species level, where possible. The location(s) of firefly species of conservation importance or any notable behaviour (e.g. breeding) were recorded. Nomenclature and conservation status of fireflies (e.g. endemic to Hong Kong) follow Yiu (2023).

3.5 Impact Assessment

3.5.1 An interim ecological impact assessment was conducted to assess the impacts of the proposed development upon terrestrial and aquatic ecology.

3.5.2 The objectives of the ecological impact assessment included the followings:

- to identify and evaluate as far as possible the potential terrestrial and aquatic ecological impacts associated to the proposed development, both directly (e.g. by physical disturbance) and indirectly (e.g. by disturbance or change of water quality);
- to identify recognized sites of conservation importance, important habitats, and the associated wildlife groups/species; and
- where needed, to propose mitigation measures to minimize adverse impacts for the development.

3.5.3 The ecological assessment made reference to the criteria and guidelines as stated in Annexes 8 and 16 of the EIAO-TM.

4 RESULTS OF LITERATURE REVIEW

4.1 Recognized Sites of Conservation Importance & Important Habitats

Tai Lam Country Park (TLCP)

4.1.1 Around forty percent of the Ecological Study Area is covered by the Tai Lam Country Park. The Southern end of the Application Site and the Development Site are surrounded by the TLCP at its east, south and west. The shortest distance between the Application Site and the Tai Lam Country Park is about 30m to the south of the Application Site and within the ecological study area. A relatively small part on the TLCP is located at the northeastern part of the Ecological Study Area, which is approximately 103m close to the northern end of the Application Site.

4.1.2 The Tai Lam Country Park was designated in 1979, occupying 5412 hectares in the Western New Territories, promoting it to be the second largest country park in Hong Kong. It comprises of a vast area extending from Tsuen Wan to Tuen Mun (AFCD website, 2023).

4.1.3 The Tai Lam Country Park was eroded severely by rain decades ago and was frequently deteriorate by hill fire. Afforestation was done to enhance the habitats condition of the Country Park. Due to the afforestation, the TLCP was mainly covered by exotic afforestation species such as Taiwan Acacia (*Acacia confusa*), Brisbane Box (*Lophostemon confertus*), Chinese Red Pine (*Pinus massoniana*), Slash Pine (*Pinus elliottii*) and Swamp Mahogany (*Eucalyptus robusta*). However, the habitat enhancement provided a better condition for native species, such as Oak and Machilus species and Castanopsis (*Castanopsis fissa*) to establish inside the Country Park again, resulting in a great diversity of vegetation.

4.1.4 The lush forests in Tai Lam Country Park provide habitats and abundant resources for all kinds of species. Numerous avifauna species, cryptic mammals such as Chinese Pangolin (*Manis pentadactyla*), Leopard Cat (*Prionailurus bengalensis*) and Red Muntjac (*Muntiacus muntjak*), herpetofauna species like Hong Kong Cascade Frog (*Amolops hongkongensis*), Butler's Pigmy Frog (*Microhyla butleri*), Chinese Cobra (*Naja atra*), Bicoloured Stream Snake (*Opisthotropis lateralis*), Chinese Waterside Skink (*Tropidophorus sinicus*) etc. Freshwater fish species of conservation importance such as *Opsariichthys bidens* and Rice fish (*Oryzias curvinotus*) is also common to observe in Tai Lam Country Park rivers and streams.

Yeung Ka Tsuen, Shap Pat Heung Ecological Important Stream

4.1.5 An Ecological Important Stream (EIS) at Yeung Ka Tsuen is located approximately 47m to the west of the Ecological Study Area. The EIS located at the downstream of the Wong Nai Tun Irrigation Reservoir which located in the Tai lam Country Park. The EIS locates 135m away from the Tai lam Country Park and has a total length about 566m.

Egretries

4.1.6 Two historical egretries, Tai Tong Egretry (Wong Nai Tun) and Tai Tong (Pak Sha Tsuen) Egretry were located at the west of the Application Site (**Figure 2.1**) referring to the Egret Counts in Hong Kong Summer 2014 Report and 2022 Report

(Anon, 2014 & Anon, 2022). The former Tai Tong Egretry is located inside the Ecological Study Area while the former Pak Sha Tsuen Egretry located outside the Tai Lam Country Park for approximately 1.1km.

Tai Tong (Wong Nai Tun) Egretry

4.1.7 The previous Tai Tong (Wong Nai Tun) Egretry was recorded from 2003 to 2013 by HKBWS egret research group. According to the HKBWS egretry counts summer reports, the colony was dominated by Chinese Pond Heron (*Ardeola bacchus*). and Eastern Cattle Egret (*Bubulcus coromandus*), Little Egret (*Egretta garzetta*) nests were recorded occasionally in 2005 and 2006. The last breeding record of the Tai Tong Egretry was in 2013, with 2 nests of Chinese Pond Heron (Anon, 2013). The previous records of the abundances and species of egrets and herons of Tai Tong Egretry (Wong Nai Tun) is summarised in **Table 4.1**.

Table 4.1 Summary of Number of Nests recorded at the Tai Tong (Wong Nai Tun) Egretry from 2003 to 2015

Year	Species			Total no. of Nests
	Chinese Pond Heron	Eastern Cattle Egret	Little Egret	
2003	8	2	-	10
2004	16	15	-	31
2005	17	10	1	28
2006	10	15	1	26
2007	24	15	-	39
2008	10	9	-	19
2009	5	11	-	16
2010	7	12	-	19
2011	4	5	-	9
2012	4	-	-	4
2013	2	-	-	2
2014	-	-	-	0
2015	-	-	-	0

Tai Tong (Pak Sha Tsuen) Egretry

4.1.8 The former Tai Tong (Pak Sha Tsuen) Egretry was first recorded in 2014 when the Tai Tong Egretry was found abandoned. According to the HKBWS egretry counts summer reports, the colony was comprised by nests of Little Egret, Chinese Pond Heron and Eastern Cattle Egret. The last breeding record in the Pak Sha Tsuen Egretry was in 2019, with only one nest of Chinese Pond Heron (Anon 2020). The disturbance of egretry was believed as the nearby site formation and clearance of vegetations. The previous records of the abundances and species of egrets and herons of Tai Tong (Pak Sha Tsuen) Egretry is summarised in **Table 4.2**. Details of egretry species recorded are shown in **Table 4.3**, while the locations of egretries are shown in **Figure 4.1**.

Table 4.2 Summary of Number of Nests recorded at the Tai Tong (Pak Sha Tsuen) Egretry from 2014 to 2022

Year	Species			Total No. of Nests
	Chinese Pond Heron	Eastern Cattle Egret	Little Egret	
2014	12	2	3	17
2015	16	11	7	34
2016	13	5	12	30
2017	5	4	3	12
2018	1	-	-	1
2019	-	-	-	0
2020	-	-	-	0
2021	-	-	-	0
2022	-	-	-	0

4.2 Flora and Fauna Species of Conservation Importance

Butterfly

4.2.1 According to AEIAR-215/2017 – Approved EIA Report of Housing Sites in Yuen Long South, one butterfly species of conservation importance, Grass Demon (*Udaspes folus*) was recorded in the current developed area (other urban area). Detail of Grass Demon is shown in **Table 4.3**, while the location is shown in **Figure 4.1**.

Odonate

4.2.2 The shallow gradient Tai Tong Stream inside or within the vicinity of the Ecological Study Area was once a dragonfly hotspot in 1997 according to the Annotated Checklist of The Hong Kong Dragonflies with Recommendations for Their Conservation (Wilson, 1997) and AEIAR-078/2004 – Approved EIA Report of Yuen Long and Kam Tin Sewerage and Sewage Disposal Stage 2. Since no precise geographical location reference for the Tai Tong Stream and recorded species, the odonate species of conservation importance are not shown in the figures.

4.2.3 According to A Ranking of Key Dragonfly Sites in Hong Kong Using a Species Conservation Value Assessment Metric Dragonfly hotspot (Reels, 2020), the ranking of Hong Kong key dragonfly sites was revised. The survey location of “Tai Tong Stream (N 22º24.266', E 114º01.366')” is outside of the Ecological Study Area, but the downstream is connected to current natural watercourse habitat. Ten odonate species of conservation importance was recorded during the hotspot survey (Reels, 2019). Angle-winged Cruiser (*Macromia berlandi*), Club-tailed Cruiser (*Macromia urania*), Dancing Shadow-emerald (*Idionyx victor*), Dog-legged Clubtail (*Burmagomphus vermicularis*), Emerald Cascader (*Zygonyx iris*), Giant Hooktail (*Megalogomphus sommeri*), Hainan Clubtail (*Asiagomphus hainanensis*), Ochre Titan (*Philoganga vetusta*), Tawny Hooktail (*Paragomphus capricornis*), Tiger Hawker (*Polycanthagyna erythromelas*) were recorded in the “Tai Tong Stream”. Details of odonate species recorded are shown in **Table 4.3**, while the locations of “Tai Tong Stream” Key Dragonfly Site are shown in **Figure 4.1**.

Firefly

4.2.4 An endemic firefly, Motschulsky's Starworm (*Rhagophthalmus motschulskyi*) is distributed in Tai Tong according to IUCN website and Yiu (2023). Its geographic range falls inside the Ecological Study Area. The distribution also overlapped part of the Access Road Improvement Area inside of the Application Site. Detail of Motschulsky's Starworm is shown in **Table 4.3**, while the location is shown in **Figure 4.1.**

Table 4.3 List of Fauna Species of Conservation Importance Recorded within the Present Study Area from Reviewed Literature

Species	Location[1 3 6 7 9 10 11]			Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site		Ecological Study Area			
	Outside Development Site	Within Development Site				
Avifauna						
Chinese Pond Heron *Ardeola bacchus*	-	-	Egretry at Tai Tong (Pak Sha Tsuen)	Common resident. Widely distributed in Hong Kong.	Cap. 170; Fellowes et al. (2002): PRC	AEIAR-215/2017; Anon. (2004-2022); Wong & Woo (2003)
Eastern Cattle Egret *Bubulcus coromandus*	-	-	Egretry at Tai Tong (Pak Sha Tsuen)	Resident and common passage migrant. Widely distributed in Hong Kong.	Cap. 170; Fellowes et al. (2002): LC	AEIAR-215/2017; Anon. (2004-2022); Wong & Woo (2003)
Little Egret *Egretta garzetta*	-	-	Egretry at Tai Tong (Pak Sha Tsuen)	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Cap. 170; Fellowes et al. (2002): PRC	AEIAR-215/2017; Anon. (2004-2022); Wong & Woo (2003)
Butterfly						
Grass Demon *Udaspes folus*	-	-	Dry Agricultural Land in Yeung Ka Tsuen	Rare. Widely distributed throughout Hong Kong.	-	AEIAR-215/2017

Species	Location[1 3 6 7 9 10 11]			Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site		Ecological Study Area			
	Outside Development Site	Within Development Site				
Odonate						
Angle-winged Cruiser *Macromia berlandi*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Uncommon. Patrols above the canopy of woodlands near sandy streams. Recorded in Hok Tau, Sha Lo Tung, Sham Tseng Settlement Basin and Wu Kau Tang.	Fellowes *et al.* (2002): LC; Reels (2019): Dragonfly species of conservation interest	Wilson (1997); Reels (2019)
Club-tailed Cruiser *Macromia urania*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Common. Found soaring in sheltered spots adjacent to woodlands. Recorded in Lion Rock Country Park, Pat Sin Leng, Sha Lo Tung, Tai Lam Country Park and Wu Kau Tang.	Fellowes *et al.* (2002): GC	Wilson (1997); Reels (2019)
Dancing Shadow-emerald *Idionyx victor*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Common. Found high in the forest canopy or over wooded streams. Widely distributed in wooded streams throughout Hong Kong.	Fellowes *et al.* (2002): LC	Wilson (1997); Reels (2019)
Dog-legged Clubtail *Burmagomphus vermicularis*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Common. Found in muddy and sandy substrates of small flowing streams. Population scattered in the woodland streams of the East New Territories.	Fellowes *et al.* (2002): LC	Wilson (1997); Reels (2019)
Emerald Cascader *Zygonyx iris*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Abundant. Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong.	Fellowes *et al.* (2002): PGC	Wilson (1997); Reels (2019)
Giant Hooktail *Megalogomphus sommeri*	-	-	Natural Stream in Tai Tong Stream	Common. Found in clean, shaded, and fast-flowing sandy streams in woodlands. Mainly occurs in the	Fellowes *et al.* (2002): LC	Wilson (1997); Reels (2019)

Species	Location[1 3 6 7 9 10 11]			Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site		Ecological Study Area			
	Outside Development Site	Within Development Site				
			Dragonfly Hotspot	central and northeast New Territories.		
Hainan Clubtail *Asiagomphus hainanensis*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Uncommon. Ng Tung Chai, Sha Lo Tung, Tai Lam Country Park and Tai Tong.	Fellowes *et al.* (2002): LC; Reels (2019): Dragonfly species of conservation interest	Wilson (1997); Reels (2019)
Ochre Titan *Philoganga vetusta*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Common. Widely distributed in woodland streams in the New Territories.	Fellowes *et al.* (2002): LC; Reels (2019): Dragonfly species of conservation interest	Wilson (1997); Reels (2019)
Tawny Hooktail *Paragomphus capricornis*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Uncommon. Found in woodland streams with fine to coarse sand beds. Recorded in Lion Rock Country Park, Lung Kwu Tang, Sham Tseng, Tai Lam Country Park, Tai Tong and Yeung Ka Tsuen.	Fellowes *et al.* (2002): RC; Reels (2019): Dragonfly species of conservation interest	Wilson (1997); Reels (2019)
Tiger Hawker *Polycanthagyna erythromelas*	-	-	Natural Stream in Tai Tong Stream Dragonfly Hotspot	Common. Frequents small ponds or puddles in forests. Widespread in woodlands all over Hong Kong.	Fellowes *et al.* (2002): LC; Reels (2019): Dragonfly species of conservation interest	Wilson (1997); Reels (2019)
Firefly						

Species	Location[1 3 6 7 9 10 11]			Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site		Ecological Study Area			
	Outside Development Site	Within Development Site				
Motschulsky's Starworm *Rhagophthalmus motschulskyi*	Forest in Tai Tong	-	Forest in Tai Tong	Endemic to Hong Kong. Tai Po Kau, Kam Tin, Tin Shui Wai, Ma Shi Po, Fu Tei Au, Ma On Shan, Lam Tsuen, Wu Kau Tang, Diamond Hill, Tai Tong, Mount Parker Road, Mui Wo	Endemic	IUCN (2023)

Notes:

1. AEIAR-215/2017 – Housing Sites in Yuen Long South
2. AFCD (2023). AFCD Biodiversity Information Hub.
3. Anon. (2004-2022). Summer 2004-2022 Reporst: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department. Hong Kong Special Administrative Region Government.
4. Cap. 170 Wild Animals Protection Ordinance.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes et al. (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
6. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
7. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
8. Tam *et al.* (2011). The Dragonflies of Hong Kong.
9. Wilson, K.D.P. (1997). An annotated checklist of the Hong Kong dragonflies with recommendations for their conservation. Memoirs of Hong Kong Natural History Society. 21. 1 – 69.
10. Wong, L.C. & Woo, C.K. (2003). Summer 2003 Report: Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme- Egretry Counts in Hong Kong, with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society Limited. Hong Kong.
11. Yiu (2023). Hong Kong Firefly Species.

Abbreviations:

- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern

5 RESULTS OF ECOLOGICAL BASELINE SURVEYS

5.1 Ecological Survey

Habitat

5.1.1 Ten types of habitats were identified within the Ecological Study Area, including agricultural land, developed area (other urban area), green urban area, mixed woodland (woodland), natural watercourse, modified watercourse, rural plantation, pond (artificial pond), shrubby grassland, turfgrass (green urban area) (**Figure 5.2**). The area/length of the respective habitats within the Ecological Study Area and the Application Site are tabulated in **Table 5.1**.

Table 5.1 Sizes/Length of Habitats within the Ecological Study Area

Habitat	Application Site				Ecological Study Area	
	Outside Development Site		Within Development Site			
	Size (ha)	Length (m)	Size (ha)	Length (m)	Size (ha)	Length (m)
Agricultural Land	-	-	-	-	2.2	-
Developed Area (Other Urban Area)	1.0	-	0.7	-	52.5	-
Green Urban Area	-	-	-	-	2.4	-
Mixed Woodland (Woodland)	-	-	-	-	61.2	-
Modified Watercourse	-	-	-	-	-	161.3
Natural Watercourse	-	-	-	-	1.5	6073.3
Pond (Artificial Pond)	-	-	-	-	0.1	-
Rural Plantation	0.2	-	1.1	-	10.2	-
Shrubby Grassland	-	-	-	-	28.9	-
Turfgrass (Green Urban Area)	0.2	-	-	-	-	-
Total	1.4	1.0	1.7	-	159.0	6234.6

Note:
The size of habitats is rounded off to the nearest one decimal place.

Agricultural Land

5.1.2 Dry agricultural land patches were found near Tai Tong Tsuen, where food crop (e.g. *Fragaria* × *ananassa* and *Lactuca sativa*) and fruit tree species were cultivated by villagers nearby.

5.1.3 An agricultural land in orchard form is located near Tai Tong Organic EcoPark. Cultivated and monodominant stands of fruit tree species, especially *Clausena lansium*, *Dimocarpus longan* and *Litchi chinensis*, were commonly observed.

Developed Area (Other Urban Area)

5.1.4 Developed area includes brownfield sites, campsites, carpark (e.g. Tai Tong Shan Road Carpark), facilities (e.g. Po Leung Kuk Jockey Club Tai Tong Holiday Camp, public toilet at Tai Tong Barbecue Site, racing circuit and part of Tai Tong Management Centre), roads (e.g. Tai Tong Shan Road) and villages (e.g. Tai Tong Tsuen). They were intensively and incessantly disturbed. Generally concrete-paved, landscaping and ornamental species were prevalently grown, and weedy herbs prospered in limited growing space. Developed area is found within the boundaries of most major works elements.

Green Urban Area

5.1.5 Green urban area within the Ecological Study Area encompasses Tai Tong Nursery, which is situated right next to Tai Tong Management Centre in Tai Lam Country Park, is managed by the AFCD for production and propagation of seedlings.

Mixed Woodland (Woodland)

5.1.6 Mixed woodland stands scattered throughout the Ecological Study Area. Compared to plantation, the mixed woodland was dominated by native tree species and interspersed with exotic tree species. The dominant flora is typical of lowland secondary forests in Hong Kong (e.g. *Aporusa dioica*, *oblongifolia*, *Macaranga tanarius* var. *tomentosa*, *Schefflera heptaphylla*, *Schima superba* and *Sterculia lanceolata*). Where the canopy was dense enough, the understorey was dominated by shade-tolerant native shrub species (e.g. *Psychotria asiatica*) and saplings of native tree species found at the canopy level. A closed canopy was not contiguously observed and where light gaps were available, light-demanding shrub species (e.g. *Eurya* nitida and *Litsea rotundifolia* var. *oblongifolia*) and climber species (e.g. *Desmos chinensis*) were readily observed. On the other hand, due to the close proximity to existing villages, self-regenerated fruit tree species, such as *Dimocarpus longan* and *Litchi chinensis*, were also commonly encountered.

Modified Watercourse

5.1.7 Modified watercourses within the Ecological Study Area include drainage channels near villages. Receiving rainwater from the hills and channelized to facilitate the discharge of stormwater and alleviate flooding issue, the narrow width, coupled with concrete bed and straightened banks, unfavour flora and fauna from colonizing and utilizing respectively.

5.1.8 A modified watercourse in ditch form, flowing westward and lined with riparian vegetation, is situated beneath the access road. The water depth of this modified watercourse is shallow and the quality of water is generally poor, subject to village effluent and discharge of pollutants of uncertain origin.

Natural Watercourse

5.1.9 Natural watercourses refer to watercourses with natural bed and substrate. The upper sections, mostly within TLCP, were largely unmodified and scattered with

boulders, discharging clear water flow to the lower or lowland sections subject to more frequent sewage discharge by villagers and more intensive pollution. In general, the watercourses were lined with riparian vegetation/woodland which, at most, formed a semi-closed canopy. The water depth of natural watercourses varies along their length. In most cases, the entire length of the watercourses was exposed to sunlight, except in their lowest reaches near villages. When compared to modified watercourses, the water quality of natural watercourses within the Ecological Study Area is generally better.

Rural Plantation

5.1.10 Rural plantation stands within the Ecological Study Area are found at Tai Tong Barbecue Site and along the access road. Monodominant stands of fast-growing exotic tree species, like Acacia confusa, Casuarina equisetifolia and Pinus elliottii, were established. Besides, the available growing space beneath the exotic trees were colonized by naturally recruited native tree, shrub, climber and herb species dispersed from nearby habitats.

5.1.11 Rural plantation stands are found within the temple development site, while plantation edges fall within the boundary of the access road.

Shrubby Grassland

5.1.12 Shrubby grassland was prominent in the exposed hillside and was dominated by native shrub and herb species, particularly *Baeckea frutescens*, *Dicranopteris pedata*, *Rhodomyrtus tomentosa*. Scarce self-sown exotic trees, especially *Acacia confusa*, were also observed. *B*. *frutescens* and *D*. *pedata*, in particular, formed dense thickets.

Turfgrass

5.1.13 A turfgrass patch dominated by *Bidens alba* and *Zoysia* sp. was found within the Access Road Improvement Area.

Vegetation

5.1.14 A total of 221 plant species were recorded during the survey period, among which 126, 91 and 4 are known to be native, exotic and of unknown origin to Hong Kong respectively (**Appendix A**). Among the plant species recorded, 95 of them could be found within the Application Site. None of the plant species recorded within the Application Site is considered of conservation importance. Meanwhile, 3 plant species of conservation importance were recorded within the Ecological Study Area. Locations of the species of conservation importance are shown in **Figure 5.2**, where appropriate. Photos of selected plant species of conservation importance are enclosed in **Figure 5.3**. Plant species and their relative abundance within each habitat are listed in **Appendix A**. Details of the only flora species of conservation importance recorded are summarized in **Table 5.13**.

5.1.15 Individuals of *Camellia granthamiana* recorded within the Application Site are likely cultivated, as the natural distribution of *Camellia granthamiana* in Hong Kong (e.g. Tai Mo Shan and Ma On Shan) falls outside the Ecological Study Area.

Avifauna

5.1.16 Fifty-three avifauna species were recorded within the Ecological Study Area (**Appendix B**). Most of the avifauna species are common resident and widely distributed in Hong Kong. No roosting, breeding or nursery behaviour was observed within the Ecological Study Area. All wild avifauna are protected under Cap. 170 Wild Animals Protection Ordinance. Among the avifauna species recorded, 16 avifauna species were considered as species of conservation importance. Six of them are common resident and widespread in Hong Kong, including Black Kite *Milvus migrans*, Black-crowned Night Heron *Nycticorax nycticorax*, Chinese Pond Heron *Ardeola bacchus*, Eastern Cattle Egret *Bubulcus coromandus*, Greater Coucal *Centropus sinensis* (AFCD, 2022). Other species are common resident but limited to specific habitats or locations. Black-throated Laughingthrush *Garrulax chinensis* and Crested Goshawk *Accipiter trivirgatus* are widely distributed in woodland and shrubland throughout Hong Kong. Collared Scops Owl *Otus lettia* and Crested Serpent Eagle *Spilornis cheela* are widely distributed in shrubland throughout Hong Kong. Little Egret *Egretta garzetta* and White-throated Kingfisher *Halcyon smyrnensis* are widely distributed in coastal areas throughout Hong Kong. Besra *Accipiter virgatus* and Rufous-capped Babbler *Stachyridopsis ruficeps* are restricted in specific locations. Asian Barred Owlet *Glaucidium cuculoides* is widely distributed in woodland of the north and central New Territories. For species of uncommon resident in Hong Kong, 2 species Common Emerald Dove *Chalcophaps indica* and Orange-bellied Leafbird *Chloropsis hardwickii* are widely distributed in woodland throughout Hong Kong.

5.1.17 Only one avifauna species of conservation importance, Eastern Cattle Egret is recorded in rural plantation inside the Application Site. It was found within the Development Site. No avifauna species of conservation importance was recorded inside the Application Site but outside of the Development Site. Location of avifauna species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**.

Butterfly

5.1.18 A total of 63 butterfly species were recorded within the Ecological Study Area (**Appendix C**). Most of the recorded butterfly species are regarded as very common or common in Hong Kong, and widely distributed throughout Hong Kong (AFCD, 2022). Five butterfly species were considered as species of conservation importance. Among them, 3 species Green Skirt Baron *Cynitia whiteheadi*, Small Cabbage White *Pieris rapae* and Swallowtail *Papilio xuthus* are considered as species of conservation importance by their local rarity in “rare” or “very rare” categories under AFCD database. They are restricted to specific locations in Hong Kong. While the other 2 species, Baron *Euthalia aconthea* and Pale Palm Dart *Telicota colon* are widely distributed throughout Hong Kong.

5.1.19 Baron was recorded within the rural plantation of the Ecological Study Area. Green Skirt Baron and Swallowtail was recorded within mixed woodland (woodland) of the Ecological Study Area. Pale Palm Dart was recorded within the agricultural land of the Ecological Study Area. Small Cabbage White was dominated in most of the habitats inside the Ecological Study Area and the Application Site. It was recorded in agricultural land, developed area (other urban area), mixed woodland

(woodland), natural watercourse, pond (artificial pond), rural plantation, shrubby grassland of the Ecological Study Area.

5.1.20 Only one butterfly species of conservation importance, Small Cabbage White was recorded inside the Application Site. It was recorded in developed area (other urban area), rural plantation, turfgrass (green urban area) outside of the Development Site, and inside of rural plantation of the Development Site. Location of butterfly species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**. As Small Cabbage White had a high abundance over all kinds of habitats and widespread within the Ecological Study Area, its location is not shown in **Figure 5.2.**

Odonate

5.1.21 Twenty-two odonate species were recorded within the Ecological Study Area (**Appendix D & I**). All of the odonate species are abundant and common in Hong Kong, and widely distributed throughout Hong Kong (AFCD, 2022 & Tam *et al.*, 2011). Three odonate species, Dancing Shadow-emerald *Idionyx victor*, Emerald Cascader *Zygonyx iris* and Hainan Clubtail *Asiagomphus hainanensis* were considered as species of conservation importance. Dancing Shadow-emerald is found high in the forest canopy or over wooded streams, widely distributed in wooded streams throughout Hong Kong. Emerald Cascader is widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong. Hainan Clubtail is found near sandy or muddy woodland streams, widely distributed throughout Hong Kong.

5.1.22 Dancing Shadow-emerald and Hainan Clubtail were recorded within the mixed woodland (woodland) of the Ecological Study Area, while Emerald Cascader was recorded within the natural watercourse of the Ecological Study Area.

5.1.23 Only 1 odonate species, Wandering Glider *Pantala flavescens*, was recorded inside the Application Site. It is found within the Development Site only. Two larvae of odonate species of conservation importance, Emerald Cascader *Zygonyx iris* and Small Dragonhunter *Sieboldius alexanderi* were recorded in the natural watercourse of the Ecological Study Area. Small Dragonhunter is uncommon and found in woodland streams. Location of odonate species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**.

Herpetofauna (Reptile and Amphibian)

5.1.24 Twelve reptile species were identified within the Ecological Study Area (**Appendix E**). Most of the reptile species are widely distributed in Hong Kong (AFCD, 2022). Four reptile species were regarded as species of conservation importance i.e. Brown Forest Skink *Sphenomorphus incognitus*, Buff-striped Keelback *Amphiesma stolatum*, Burmese Python *Python bivittatus* and Four-clawed Gecko *Gehyra mutilate*. Brown Forest Skink is distributed in streams in the New Territories. Buff-striped Keelback is Distributed in lowland in central and northern New Territories and Lantau Island. Burmese Python and Four-clawed Gecko are distributed in Hong Kong. Chinese Soft-shelled Turtle, *Pelodiscus sinensis* is listed

as "Vulnerable" in the IUCN Red List Status, "Global Concern" in Fellowes *et al.*, Cap. 170 and "Endangered" in Red List of China's Vertebrates Status. However, Chinese Soft-shelled Turtle has a narrow distribution in Hong Kong and could be cultivated as pet or food in artificial ponds. This recorded individual is believed to be released into the pond (artificial pond). Thus, it is not considered as species of conservation importance.

5.1.25 Brown Forest Skink was recorded within mixed woodland (woodland) of the Ecological Study Area, while Burmese Python was recorded within developed area (other urban area) of the Ecological Study Area. Four-clawed Gecko was recorded within both of mixed woodland (woodland) and developed area (other urban area) of the Ecological Study Area.

5.1.26 Only one reptile species of conservation importance, Buff-striped Keelback was recorded within the Application Site. It was recorded in rural plantation outside of the Development Site.

5.1.27 Twelve amphibian species were identified within the Ecological Study Area (**Appendix E**). Most of the amphibian species are widely distributed in Hong Kong (AFCD, 2022). Three amphibians regarded as species of conservation importance, Brown Wood Frog *Hylarana latouchii*, Hong Kong Cascade Frog *Amolops hongkongensis* and Lesser Spiny Frog *Quasipaa exilispinosa* were recorded. Hong Kong Cascade Frog is widely distributed in mountain streams only, while Lesser Spiny Frog is widely distributed in upland forest streams only. Brown Wood Frog *Hylarana latouchii* is more restricted, which is distributed in woodlands in Tai Po Kau Nature Reserve, Shing Mun Country Park, Tai Mo Shan Country Park, Sai Kung West Country Park and Clear Water Bay Peninsula.

5.1.28 The 3 amphibian species of conservation importance were recorded in the natural watercourse of the Ecological Study Area. Brown Wood Frog was also recorded in pond (artificial pond) of the Ecological Study Area, meanwhile Lesser Spiny Frog was also recorded in shrubby grassland of the Ecological Study Area.

5.1.29 No amphibian species of conservation importance was recorded inside the Application Site. Location of herpetofauna species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**.

Terrestrial Mammal

5.1.30 A total of 18 terrestrial mammal species was identified by active searching, ultrasonic bat detector and camera trapping. 12 species of them were bat species, only 1 of the species was recorded during active searching, others are recorded by ultrasonic bat detector.

Active Searching Result

5.1.31 During the active search of survey, two terrestrial mammal species were identified within the Ecological Study Area (**Appendix F**). Both of the mammal species were regarded as species of conservation importance under Cap. 170 Wild Animals Protection Ordinance in Hong Kong. Short-nosed Fruit Bat *Cynopterus sphinx* is very widely distributed in urban and countryside areas throughout Hong Kong,

while Pallas's Squirrel *Callosciurus erythraeus* is a common species but fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam) (AFCD, 2022).

5.1.32 Short-nosed Fruit Bat *Cynopterus sphinx* was found roosting in the developed area (other urban area) in each month of dry season survey but had no recorded in wet season survey. Pallas's Squirrel was recorded in the shrubby grassland of the Ecological Study Area. No terrestrial mammal was found in the Application Site. Location of terrestrial mammal species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**.

Ultrasonic Bat Detector Result

5.1.33 Of the bat species recorded by ultrasonic bat detector, 11 bat species was identified within the Ecological Study Area (**Appendix G**). As all wild bats are protected under Cap. 170 Wild Animals Protection Ordinance, all bats are considered as species of conservation importance.

5.1.34 Japanese Pipistrelle *Pipistrellus abramus* and Least Horseshoe Bat *Rhinolophus pusillus* are widely distributed throughout Hong Kong. Chinese Horseshoe Bat *Rhinolophus sinicus,* Chinese Noctule *Nyctalus plancyi*, Himalayan Leaf-nosed Bat *Hipposideros armiger*, Lesser Bamboo Bat *Tylonycteris pachypus* and Lesser Bent-winged Bat *Miniopterus pusillus* are fairly widely distributed in countryside areas throughout Hong Kong. Chinese Pipistrelle *Hypsugo pulveratus*, Least Pipistrelle *Pipistrellus tenuis* and Whiskered Myotis *Myotis muricola* has restricted distribution, while distribution data of Greater Bent-winged Bat *Miniopterus magnater* is inadequate.

5.1.35 Five bat species, Chinese Noctule, Chinese Pipistrelle, Japanese Pipistrelle, Least Pipistrelle and Lesser Bamboo Bat were recorded inside the Application Site (in both within and outside the Development Site). For the area outside the Development Site but inside the Application Site, a total of 8 bat species was recorded, i.e. Chinese Horseshoe Bat, Himalayan Leaf-nosed Bat and Whiskered Myotis*,* in addition to the 5 species mentioned above. While outside of the Application Site, 9 bat species, Chinese Noctule, Chinese Pipistrelle, Greater Bent-winged Bat, Himalayan Leaf-nosed Bat, Japanese Pipistrelle, Least Horseshoe Bat, Least Pipistrelle, Lesser Bamboo Bat and Lesser Bent-winged Bat were recorded. Due to the mobility of bats, and no specific habitat utilization was observed, location of the recorded bat species is not shown. Evaluation of the bat species of conservation importance is stated in **Table 5.14**.

Camera Trapping Result

5.1.36 As terrestrial mammals in Hong Kong which are of conservation concern, are mainly secretive and nocturnal, camera trapping method was utilized for this study. Three infrared cameras were deployed within the Ecological Study Area, two were set within the Tai Lam Country Park, while one was set within the Application Site (**Figure 3.2**). Based on the photos captured by the infrared cameras, five terrestrial mammal species were recorded within the Ecological Study Area but outside the

Application Site, while three terrestrial mammal species were recorded within the Application Site (**Appendix H**). Most of them are widely distributed in urban and countryside areas throughout Hong Kong. Two terrestrial mammal species of conservation importance, Red Muntjac *Muntiacus muntjak* and Small Indian Civet *Viverricula indica* were recorded. Both species were recorded outside the Application Site. Red Muntjac is very widely distributed in countryside areas throughout Hong Kong, while Small Indian Civet widely distributed in countryside areas throughout Hong Kong, except for Lantau Island and northwestern New Territories.

Freshwater Community

5.1.37 Nineteen freshwater community species were recorded within the Ecological Study Area (**Appendix I**). Among the freshwater community species, 7 fish species and 12 invertebrate species were recorded. Not only native fish species were recorded but also cultivated and introduced species were observed. Most of the species are widely distributed in Hong Kong streams, fishponds and reservoirs. Three freshwater community species of conservation importance, Emerald Cascader *Zygonyx iris*, Small Dragonhunter *Sieboldius alexanderi* and *Somanniathelphusa zanklon* were recorded in the natural watercourse of the Ecological Study Area. Emerald Cascader and Small Dragonhunter are odonate species and observed during their larva stage. Details of Emerald Cascader and Small Dragonhunter are stated in **Section 5.1.9**. *Somanniathelphusa zanklon* is endemic to Hong Kong. It is distributed quite widely in the northern and western New Territories and Lantau Island of Hong Kong. No freshwater community species was recorded inside the Application Site. Location of freshwater community species of conservation importance is shown in **Figure 5.2**, while evaluation of the species of conservation importance is stated in **Table 5.14**.

Firefly

5.1.38 There was no firefly recorded during the survey period. No firefly species of conservation importance was recorded inside the Application Site and Ecological Study Area.

5.2 Evaluation of Habitats and Species of conservation importance

5.2.1 There were ten habitats identified within the Ecological Study Area, namely agricultural land, developed area (other urban area), green urban area, mixed woodland (woodland), natural watercourse, modified watercourse, rural plantation, pond (artificial pond), shrubby grassland, turfgrass (green urban area) (**Figure 5.2**) The area within the Development Site of Application Site contains developed area (other urban area) and rural plantation, among which rural plantation is the major habitat within the Project Site. For the area within the Ecological Study Area but outside the Application Site contains developed area (other urban area), rural plantation and turfgrass (green urban area), among which rural plantation is the major habitat within the Project Site.

5.2.2 The ecological importance of habitats, flora and fauna species of conservation importance recorded within the Ecological Study Area are evaluated in **Table 5.2** to **5.12** according to the EIAO-TM.

5.2.3 A total of 3 flora, 11 avifauna, 2 butterfly, 5 herpetofauna, 11 terrestrial mammal, 2 freshwater community species of conservation importance were identified in the Ecological Study Area. 1 butterfly, 4 terrestrial mammal species of conservation importance were recorded in the Application Site but outside the Development Site, while 1 flora, 1 avifauna, 1 butterfly, 4 terrestrial mammal species of conservation importance were recorded within the Development Site. Selection photos of flora and fauna species of conservation importance are shown in **Figure 5.3** and **Figure 5.4** respectively.

5.2.4 In accordance with Table 3, Annex 8 of the EIAO-TM, the ecological value of species was assessed in terms of protection status, distribution, and rarity. Flora or fauna species protected by the following laws/regulations, listed under the following conventions and/or endemic to Hong Kong, were considered to be species of conservation importance. However, this excludes exotic weeds, escaped cultivars or captive species, vagrants and introduced species which have lower ecological value. Species which are classified by IUCN as Near Threatened (NT), Least Concern (LC), Data Deficient (DD), or Not Evaluated (NE), and not covered by any other laws/regulations/conventions are not considered of conservation importance in the present study. Flora and fauna species of conservation importance recorded within the Ecological Study Area were evaluated according to the EIAO-TM in **Table 5.13** and **Table 5.14** respectively.

- Category I or II in List of Wild Animals under State Priority Conservation;
- Category I/II/III in List of Wild Plants under State Priority Conservation;
- China Plant Red Data Book;
- China Red Data Book of Endangered Animals;
- China Species Red List;
- Fauna species considered of concern in Fellowes *et al.* (2002).;
- Forestry Regulations (Cap. 96A) which are subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96);
- Illustration of Rare & Endangered Plant in Guangdong Province;
- Plant species considered ‘Rare’ or ‘Very Rare’ listed by Corlett *et al*. (2000), or regarded as rare by Yip *et al.* (2010) where applicable;
- PRC Wild Animal Protection Law;
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Rare and Precious Plants of Hong Kong;
- Red List of China’s Vertebrates by Jiang *et al*. (2016);
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- The International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species;
- Threatened Species List of China’s Higher Plants (Qin *et al.* 2017); and
- Wild Animals Protection Ordinance (Cap. 170) (except birds as all wild birds are protected under the ordinance but their conservation importance is not equal)

Table 5.2 Evaluation of Habitats within the Application Site (inside Development Site)

Criteria	**Development Site**	
	Habitat	
	Developed Area (Other Urban Area)	**Rural Plantation**
	Description	
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance	Semi-natural, comprising mostly of exotic tree species but consists of a higher proportion of native plant species likely dispersed from nearby mixed woodland
Size	About 0.7ha	About 1.1ha
Diversity	Low floral diversity, comprising a high proportion of exotic flora species Low faunal diversity	Low floral diversity Low faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded	No floral species of conservation importance was recorded 2 faunal species of conservation importance were recorded: Eastern Cattle Egret & Small Cabbage White
Re-creatability	Readily re-created	Readily re-created
Fragmentation	None observed	None observed
Ecological linkage	None observed	Ecologically connected to woodland stands to its east
Potential value	Very low	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable	At least 30 years of age
Abundance/ richness of wildlife	Very low faunal abundance	Low faunal abundance
Overall ecological value	**Very low**	**Low**

Table 5.3 Evaluation of Habitats within the Application Site (outside Development Site)

Criteria	Application Site (outside Development Site)		
	Habitat		
	Developed Area (Other Urban Area)	Rural Plantation	Turfgrass (green urban area)
	Description		
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance	Semi-natural, comprising mostly of exotic tree species but with recruitment of native plant species	Man-made
Size	About 1ha	About 0.2ha	About 0.2ha
Diversity	Low floral diversity, comprising a high proportion of exotic flora species Low faunal diversity	Low floral diversity Low faunal diversity	Very low floral diversity Very low faunal diversity
Rarity	No floral species of conservation importance was recorded 1 faunal species of conservation importance was recorded: Small Cabbage White From literature review, 1 faunal species of conservation importance were recorded: Motschulsky's Starworm	No floral species of conservation importance was recorded 2 faunal species of conservation importance were recorded: Buff-striped Keelback & Small Cabbage White From literature review, 1 faunal species of conservation importance were recorded: Motschulsky's Starworm	No floral species of conservation importance was recorded 1 faunal species of conservation importance was recorded: Small Cabbage White
Re-creatability	Readily re-created	Readily re-created	Readily re-created
Fragmentation	None observed	None observed	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the Ecological Study Area	Ecologically connected to the surrounding rural plantation	Ecologically non-applicable
Potential value	Very low	Low	Very low
Nursery/breeding ground	No significant nursery or breeding ground known or observed	No significant nursery or breeding ground known or observed	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable	At least 30 years of age	Ecologically non-applicable

Criteria	Application Site (outside Development Site)		
	Habitat		
	Developed Area (Other Urban Area)	**Rural Plantation**	**Turfgrass (green urban area)**
	Description		
Abundance/ richness of wildlife	Very low faunal abundance	Low faunal abundance	Very low faunal abundance
Overall ecological value	**Very low**	**Low**	**Very low**

Table 5.4 Evaluation of Agricultural Land within the Ecological Study Area

Criteria	Description
Naturalness	Man-made
Size	About 2.2ha
Diversity	Low floral diversity Low faunal diversity
Rarity	1 floral species of conservation importance was recorded: *Aquilaria sinensis* 2 faunal species of conservation importance were recorded: Pale Palm Dart & Small Cabbage White
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the Ecological Study Area
Potential value	Low due to its man-made nature
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low**

Table 5.5 Evaluation of Developed Area (Other Urban Area) within the Ecological Study Area

Criteria	Description
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance
Size	About 52.5ha

Criteria	Description
Diversity	Low floral diversity, comprising a high proportion of exotic flora species Moderate amphibian species diversity but Low overall faunal diversity, mainly consisting of disturbance-tolerant and locally widespread fauna species
Rarity	1 floral species of conservation importance was recorded: *Aquilaria sinensis* 10 faunal species of conservation importance were recorded: Besra, Chinese Pond Heron, Crested Goshawk, Eastern Cattle Egret, Little Egret, White-throated Kingfisher, Small Cabbage White, Burmese Python, Four-clawed Gecko, Short-nosed Fruit Bat (Roosting) From literature review, 2 faunal species of conservation importance were recorded: Grass Demon, Motschulsky's Starworm
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Ecologically non-applicable
Potential value	Very low, given the intensive and incessant anthropogenic disturbance
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low to medium abundance of butterflies which are very common and widely distributed in Hong Kong, and low abundance of the remaining fauna groups
Overall ecological value	**Low**

Table 5.6 Evaluation of Green Urban Area within the Ecological Study Area

Criteria	Description
Naturalness	Man-made
Size	About 2.4ha
Diversity	Very low floral diversity and very low faunal diversity due to the inaccessibility of restricted area
Rarity	Neither floral nor faunal species of conservation importance was recorded during surveys
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the Ecological Study Area
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed

Criteria	Description
Age	Ecologically non-applicable
Abundance/richness of wildlife	Very low faunal abundance due to the inaccessibility of restricted area
Overall ecological value	**Low**

Table 5.7 Evaluation of Mixed Woodland (Woodland) within the Ecological Study Area

Criteria	Description
Naturalness	Semi-natural. Its fringes have been subject to frequent disturbance, owing to their vicinity to villages.
Size	About 61.2ha
Diversity	Low to medium floral diversity Low faunal diversity but moderate amphibian species diversity
Rarity	1 floral species of conservation importance was recorded: *Aquilaria sinensis* 19 faunal species of conservation importance were recorded: Asian Barred Owlet, Black Kite, Black-throated Laughingthrush, Collared Scops Owl, Common Emerald Dove, Crested Serpent Eagle, Eastern Cattle Egret, Greater Coucal, Orange-bellied Leafbird, Rufous-capped Babbler, Green Skirt Baron, Small Cabbage White, Swallowtail, Dancing Shadow-emerald, Hainan Clubtail, Brown Forest Skink, Four-clawed Gecko, Red Muntjac and Small Indian Civet From literature review, 1 faunal species of conservation importance were recorded: Motschulsky's Starworm
Re-creatability	Re-creatable but need time to mature
Fragmentation	Mixed woodland stands are largely continuous, except being fragmented by Tai Tong Shan Road
Ecological linkage	Ecologically connected to other natural habitats within TLCP
Potential value	Low to medium on the overall. Potentially be higher for mixed woodlands within TLCP, acknowledging the protection status of those flora species within TLCP but limited by the absence of shade-tolerant tree species indicative of more mature woodlands in Hong Kong. Moreover, comparing to the mixed woodlands outside TLCP which link with disturbed and urbanized areas, most of the fauna of conservation importance are recorded inside the mixed woodlands of TLCP. The diversity and abundance of fauna of conservation importance increase as locating closer to the inner part of TLCP.
Nursery/breeding ground	No significant nursery or breeding ground known or observed for all mixed woodland within the Ecological Study Area
Age	At least 30 years of age in general

Criteria	Description
Abundance/richness of wildlife	Low to medium abundance of butterflies which are very common and widely distributed in Hong Kong, and low abundance of the remaining faunal groups.
Overall ecological value	**Low to medium on the overall,** fragmentation observed for some patches especially those outside TLCP. **Medium for the mixed woodland within TLCP,** which has been protected under the Country Parks Ordinance (Cap. 208) since 1979 and under management. The mixed woodland within TLCP also support more diversity and abundance of fauna, especially species of conservation importance than mixed woodland outside TLCP.

Table 5.8 Evaluation of Modified Watercourse within the Ecological Study Area

Criteria	Description
Naturalness	Subject to modification and effluent discharge by villagers nearby
Size	About 161.3m
Diversity	Very low floral diversity Very low faunal diversity
Rarity	Neither floral nor faunal species of conservation importance was recorded during surveys
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	No specific ecological linkage with the remaining habitats
Potential value	Low given its current condition
Nursery/breeding ground	None observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Very low faunal abundance
Overall ecological value	**Very low**

Table 5.9 Evaluation of Natural Watercourse within the Ecological Study Area

Criteria	Description	
	Within TLCP	**Outside TLCP**
Naturalness	Mostly natural	More natural upstream connected to modified downstream to alleviate flood flow
Size	About 1.5ha (About 6073.3m)	
Diversity	Low floral diversity	Low floral diversity

Criteria	Description	
	Within TLCP	**Outside TLCP**
	Low faunal diversity, moderate amphibian species diversity	Low faunal diversity, moderate amphibian species diversity
Rarity	No floral species of conservation importance was recorded 10 faunal species of conservation importance were recorded: Black-crowned Night Heron, Chinese Pond Heron, Little Egret, Small Cabbage White, Emerald Cascader (adult and larvae), Brown Wood Frog, Hong Kong Cascade Frog, Lesser Spiny Frog, Small Dragonhunter (larvae) and *Somanniathelphusa zanklon*	No floral species of conservation importance was recorded 3 faunal species of conservation importance were recorded: Chinese Pond Heron, Little Egret and Small Cabbage White
Re-creatability	Natural sections are difficult to re-create, while modified sections can be re-created	
Fragmentation	The lower courses of the watercourses are fragmented by modified section, although the stream flow is still maintained	
Ecological linkage	Ecologically connected to the upstream sections	Mostly ecologically connected to the upstream sections within the Ecological Study Area
Potential value	Medium, the diversity and abundance of fauna of conservation importance increases when locating closer to the inner part of TLCP.	Low to medium, as the watercourses outside TLCP are generally modified and more susceptible to sewage and effluent discharge
Nursery/breeding ground	No significant nursery or breeding ground known or observed	
Age	Not ecologically applicable	
Abundance/richness of wildlife	Medium abundance of amphibians and freshwater faunal abundance, and low abundance of the remaining faunal groups.	
Overall ecological value	**Medium**	**Low to medium**

Table 5.10 Evaluation of Pond (Artificial Pond) within the Ecological Study Area

Criteria	Description
Naturalness	Man-made
Size	About 0.1ha
Diversity	Very low floral diversity Low faunal diversity

Criteria	Description
Rarity	No floral species of conservation importance were recorded 3 faunal species of conservation importance were recorded: Little Egret, Small Cabbage White and Brown Wood Frog
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Not hydrologically connected to other waterbodies within the Ecological Study Area
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Not readily determinable
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low**

Table 5.11 Evaluation of Rural Plantation within the Ecological Study Area

Criteria	Description
Naturalness	Semi-natural, comprising mostly of exotic tree species but consists of a higher proportion of native plant species likely dispersed from nearby mixed woodland.
Size	About 10.2ha
Diversity	Low floral diversity Low faunal diversity
Rarity	2 floral species of conservation importance were recorded: *Aquilaria sinensis* and *Aralia chinensis* 5 faunal species of conservation importance were recorded: Coucal, Rufous-capped Babbler, White-throated Kingfisher, Baron and Small Cabbage White
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the Ecological Study Area
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	At least 30 years of age in general
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low**

Table 5.12 Evaluation of Shrubby Grassland within the Ecological Study Area

Criteria	Description
Naturalness	A natural habitat commonly found in the hillside of Hong Kong. Formed by natural succession from bare ground, with those outside TLCP and in the vicinity of developed area (other urban area) subject to more frequent disturbance and exhibiting lower naturalness.
Size	About 28.9ha
Diversity	Low floral diversity Low faunal diversity
Rarity	1 floral species of conservation importance were recorded: *Nepenthes mirabilis* 5 faunal species of conservation importance were recorded: Black-throated Laughingthrush, Collared Scops Owl, Greater Coucal, Small Cabbage White and Lesser Spiny Frog
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Contiguous shrubby grassland connected to other habitats within TLCP (e.g. mixed woodland)
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Extent and condition have largely remained unchanged at least over the last 30 years
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low**

Table 5.13 Evaluation of Flora Species of Conservation Importance

Scientific Names	Rarity and Distribution in Hong Kong[1] [10]	Conservation status[2] [3] [4] [5] [6] [7] [8] [9]	Location		
			Application Site		Ecological Study Area
			Outside Development Site	Within Development Site	
Aquilaria sinensis	Common. Found in lowland forest and fung shui woods.	IUCN Red List of Threatened Species (2024): VU; Appendix II of CITES; Threatened Species List of China's Higher Plants: VU; China Plant Red Data Book: VU; Included in Illustrations of Rare & Endangered Plant in Guangdong Province; Listed in "Rare and Precious Plants of Hong Kong"; Cap. 586; State Protection (Category II)	-	-	Agricultural Land; Developed Area (Other Urban Area); Rural Plantation; Mixed Woodland (Woodland)
Aralia chinensis	Restricted. Found in forest margins.	IUCN Red List of Threatened Species (2024): VU	-	-	Rural Plantation
Nepenthes mirabilis	Common. Found in wet, open places on granite and sedimentary rocks.	Cap. 96A; Cap. 586; Rare and Precious Plants of Hong Kong: VU in China	-	-	Shrubby Grassland

Scientific Names	Rarity and Distribution in Hong Kong[1] [10]	Conservation status[2] [3] [4] [5] [6] [7] [8] [9]	Location		
			Application Site		Ecological Study Area
			Outside Development Site	Within Development Site	
		Threatened Species List of China's Higher Plants: VU; CITES Appendix II			

Table 5.14 Evaluation of Fauna Species of Conservation Importance

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Avifauna						
Asian Barred Owlet	*Glaucidium cuculoides*	Locally common resident. Widely distributed in woodland of the north and central New Territories.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	-	-	Mixed Woodland (Woodland)
Besra	*Accipiter virgatus*	Common resident and migrant. Found in Tai Po Kau, Deep Bay area, Chek Lap Kok, Cheung Chau, Soko Islands.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	-	-	Developed Area (Other Urban Area)
Black Kite	*Milvus migrans*	Common resident and winter visitor. Widely distributed in Hong Kong.	Fellowes et al. (2002): (RC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	-	-	Mixed Woodland (Woodland)
Black-crowned Night Heron	*Nycticorax nycticorax*	Common resident and migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	-	-	Natural Watercourse
Black-throated Laughingthrush	*Garrulax chinensis*	Common resident. Widely distributed in woodland and shrubland throughout Hong Kong.	List of Wild Animals under State Priority Conservation: Class II	-	-	Mixed Woodland (Woodland); Shrubby Grassland
Chinese Pond Heron	*Ardeola bacchus*	Common resident. Widely distributed in Hong Kong.	Fellowes et al. (2002): PRC	-	-	Developed Area (Other Urban Area);

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
						Natural Watercourse; Pond (Artificial Pond)
Collared Scops Owl	*Otus lettia*	Common resident. Widely distributed in shrubland throughout Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	-	-	Mixed Woodland (Woodland); Shrubby Grassland
Common Emerald Dove	*Chalcophaps indica*	Uncommon but widespread resident. Widely distributed in woodland throughout Hong Kong.	China Red Data Book Status: Vulnerable	-	-	Mixed Woodland (Woodland)
Crested Goshawk	*Accipiter trivirgatus*	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Rare	-	-	Developed Area (Other Urban Area)

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Crested Serpent Eagle	*Spilornis cheela*	Common resident. Widely distributed in shrublands on hillsides throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Vulnerable	-	-	Mixed Woodland (Woodland)
Eastern Cattle Egret	*Bubulcus coromandus*	Resident and common passage migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	-	Rural Plantation	Developed Area (Other Urban Area); Mixed Woodland (Woodland)
Greater Coucal	*Centropus sinensis*	Common resident. Widely distributed in Hong Kong.	List of Wild Animals under State Priority Conservation: Class II; China Red Data Book Status: Vulnerable	-	-	Mixed Woodland (Woodland); Rural Plantation; Shrubby Grassland
Little Egret	*Egretta garzetta*	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Fellowes et al. (2002): PRC	-	-	Developed Area (Other Urban Area); Natural Watercourse; Pond (Artificial Pond)

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Orange-bellied Leafbird	*Chloropsis hardwickii*	Uncommon resident and winter visitor. Widely distributed in woodland throughout Hong Kong.	Fellowes et al. (2002): LC	-	-	Mixed Woodland (Woodland)
Rufous-capped Babbler	*Stachyridopsis ruficeps*	Common resident. Found in Shing Mun, Tai Po Kau, Tai Mek Tuk, Ng Tung Chai, Fo Tan, Tai Mo Shan, The Peak, Kadoorie Agricultural Research Centre.	Fellowes et al. (2002): LC	-	-	Mixed Woodland (Woodland); Rural Plantation
White-throated Kingfisher	*Halcyon smyrnensis*	Common resident. Widely distributed in coastal areas throughout Hong Kong	Fellowes et al. (2002): (LC); List of Wild Animals under State Priority Conservation: Class II	-	-	Developed Area (Other Urban Area); Rural Plantation
Butterfly						
Baron	*Euthalia aconthea*	Uncommon. Widely distributed throughout Hong Kong.	Fellowes et al. (2002): LC	-	-	Rural Plantation
Green Skirt Baron	*Cynitia whiteheadi*	Rare. North New Territories.	-	-	-	Mixed Woodland (Woodland)
Pale Palm Dart	*Telicota colon*	Rare. Widely distributed throughout Hong Kong.	Fellowes et al. (2002): LC	-	-	Agricultural Land
Small Cabbage White	*Pieris rapae*	Rare. Shep Mun Kap, Fan Lau, Ngong Ping, Kam Tin, Ho Chung, Luk Keng, Tuen Mun Ash Lagoon	-	Developed Area (other urban area); Rural Plantation; Turfgrass (green urban area)	Rural Plantation	Agricultural Land; Developed Area (Other Urban Area); Mixed Woodland (Woodland);

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
						Natural Watercourse; Pond (Artificial Pond); Rural Plantation; Shrubby Grassland
Swallowtail	*Papilio xuthus*	Rare. Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau	-	-	-	Mixed Woodland (Woodland)
Odonate						
Dancing Shadow-emerald	*Idionyx victor*	Common. Found high in the forest canopy or over wooded streams. Widely distributed in wooded streams throughout Hong Kong.	Fellowes et al. (2002): LC	-	-	Mixed Woodland (Woodland)
Emerald Cascader	*Zygonyx iris*	Abundant. Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong.	Fellowes et al. (2002): PGC	-	-	Natural Watercourse
Hainan Clubtail	*Asiagomphus hainanensis*	Common. Found near sandy or muddy woodland streams. Widely distributed throughout Hong Kong.	Reels (2019): Dragonfly species of conservation interest	-	-	Mixed Woodland (Woodland)
Herpetofauna						
Brown Forest Skink	*Sphenomorphus incognitus*	Distributed in streams in the New Territories.	Fellowes et al. (2002): LC	-	-	Mixed Woodland (Woodland)

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Brown Wood Frog	*Hylarana latouchii*	Distributed in woodlands in Tai Po Kau Nature Reserve, Shing Mun Country Park, Tai Mo Shan Country Park, Sai Kung West Country Park and Clear Water Bay Peninsula.	Fellowes et al. (2002): LC	-	-	Natural Watercourse; Pond (Artificial Pond)
Buff-striped Keelback	*Amphiesma stolatum*	Distributed in lowland in central and northern New Territories and Lantau Island.	Fellowes et al. (2002): LC	Rural Plantation	-	-
Burmese Python	*Python bivittatus*	Widely distributed throughout Hong Kong.	IUCN Red List: VU; Fellowes et al. (2002): PRC; Cap. 170; Cap. 586; List of Wild Animals under State Priority Conservation: Class II; Red List of China's Vertebrates: CR; CITES: Appendix II; China Red Data Book Status: Critically Endangered	-	-	Developed Area (Other Urban Area)
Four-clawed Gecko	*Gehyra mutilata*	Widely distributed throughout Hong Kong.	Red List of China's Vertebrates: VU	-	-	Developed Area (Other Urban Area); Mixed Woodland (Woodland)

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Hong Kong Cascade Frog	*Amolops hongkongensis*	Widely distributed in mountain streams in Hong Kong.	IUCN Red List: EN; Fellowes et al. (2002): PGC; Cap. 170; List of Wild Animals under State Priority Conservation: Class II; Red List of China's Vertebrates: EN	-	-	Natural Watercourse
Lesser Spiny Frog	*Quasipaa exilispinosa*	Widely distributed in upland forest streams throughout Hong Kong.	Fellowes et al. (2002): PGC; Red List of China's Vertebrates: VU	-	-	Natural Watercourse; Shrubby Grassland
Terrestrial Mammal						
Chinese Horseshoe Bat	*Rhinolophus sinicus*	Very common. Widely distributed in countryside areas throughout Hong Kong.	Cap. 170	✓	-	-
Chinese Noctule	*Nyctalus plancyi*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC; Cap. 170	✓	✓	✓
Chinese Pipistrelle	*Hypsugo pulveratus*	Only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings.	Fellowes et al. (2002): (LC); Cap. 170	✓	✓	✓
Greater Bent-winged Bat	*Miniopterus magnater*	Data deficient.	Fellowes et al. (2002): PRC; Cap. 170	-	-	✓

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Himalayan Leaf-nosed Bat	*Hipposideros armiger*	Very common. Widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	✓	-	✓
Japanese Pipistrelle	*Pipistrellus abramus*	Widely distributed throughout Hong Kong.	Cap. 170	✓	✓	✓
Least Horseshoe Bat	*Rhinolophus pusillus*	Widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC; Cap. 170	-	-	✓
Least Pipistrelle	*Pipistrellus tenuis*	Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.	Cap. 170	✓	✓	✓
Lesser Bamboo Bat	*Tylonycteris pachypus*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	✓	✓	✓
Lesser Bent-winged Bat	*Miniopterus pusillus*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	-	-	✓
Red Muntjac	*Muntiacus muntjak*	Very widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC	-	-	Mixed Woodland (Woodland)
Short-nosed Fruit Bat	*Cynopterus sphinx*	Very widely distributed in urban and countryside areas throughout Hong Kong.	Cap. 170	-	-	Developed Area (Other Urban Area)
Small Indian Civet	*Viverricula indica*	Widely distributed in countryside areas throughout Hong Kong, except for Lantau Island and	Cap. 170; List of Wild Animals under State Priority Conservation: Class I;	-	-	Mixed Woodland (Woodland)

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location		
				Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
		northwestern New Territories.	Red List of China's Vertebrates: VU			
Whiskered Myotis	*Myotis muricola*	Rare/Species of Conservation Concern. Only several records in the countryside areas in the New Territories and on Lantau.	-	✓	-	-
Freshwater Community						
Emerald Cascader*	*Zygonyx iris*	Abundant. Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong.	Fellowes et al. (2002): PGC	-	-	Natural Watercourse
Small Dragonhunter*	*Sieboldius alexanderi*	Uncommon. Found in woodland streams. Found mainly in the Northeast New Territories, including Sha Lo Tung, Tai Lam Country Park, Pat Sin Leng etc.	Reels (2019): Dragonfly species of conservation interest	-	-	Natural Watercourse
-	*Somanniathelphusa zanklon*	Distributed quite widely in the northern and western New Territories and Lantau Island of Hong Kong	Fellowes et al. (2002): GC; IUCN Red List Status: EN; Endemic to Hong Kong	-	-	Natural Watercourse

Remark: all wild avifauna species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.
4. Convention on International Trade in Endangered Species of Wild Flora and Fauna (2024). Appendices I, II and III.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.

6. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
7. Jiang, Z. G., Jiang, J. P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L. L., ... & Dong, L. (2016). Red list of China's vertebrates.
8. List of Wild Animals under State Priority Conservation (2021).
9. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
10. Stanton & Leven (2016). Distribution, habitat utilisation and conservation status of the freshwater crab, *Somanniathelphusa zanklon* Ng & Dudgeon, 1992 (Crustacea: Brachyura: Gecarcinucidae) endemic to Hong Kong.
11. Tam *et al.* (2011). The Dragonflies of Hong Kong.
12. Wang (1999). China Red Data Book of Endangered Animals: Mammalia.
13. Zhao & Wang (1998). China Red Data Book of Endangered Animals: Amphibia and Reptilia.
14. Zheng & Wang (1998). China Red Data Book of Endangered Animals: Aves.

- As bats are mobile, and no specific habitat utilization of the recorded bats was observed (except Short-Nosed Fruit Bat), locations of bats were recorded by within the Application Site or outside the Application Site.
- * Emerald Cascader *Zygonyx iris* and Small Dragonhunter *Sieboldius alexanderi* were recorded in larva stage inside watercourses.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: CR = Critically Endangered; EN = Endangered; VU = Vulnerable

6 IMPACT IDENTIFICATION AND EVALUATION

6.1 Proposed Construction Works

6.1.1 The Project would form about 3.1 hectares of land, widening the access road and providing support of engineering infrastructure including minor site formation, minor road works, stormwater drains, sewerage works and landscape works, etc.

6.1.2 The construction works in relation to the proposed development within the Application Site include the following elements:

- Comprise of multiple concrete buildings inside the Development Site
- Car park and access road widening adjoining to the proposed Supreme Kwan Ti Temple

6.1.3 The area of existing Tai Tong Kwan Ti Square would not involve any new developments or improvements.

6.2 Impact Evaluation Criteria

6.2.1 Ecological impacts of the proposed temple and access road widening works at Tai Tong were assessed based upon the ecological resources considered at risk from the proposed development. Both negative and positive impacts were considered. Measures were proposed to mitigate negative impacts, and residual impacts were predicted assuming implementation of all feasible mitigation measures. Impact assessment and planning of mitigation measures were conducted in accordance with the Technical Memorandum (TM) on EIA Process.

6.2.2 The significance of ecological impacts was evaluated based primarily on the criteria set forth in Table 1, Annex 8 of the TM:

- habitat quality;
- species affected;
- size/abundance of habitats/organisms affected;
- duration of impacts;
- reversibility of impacts; and
- magnitude of environmental changes.

6.2.3 Direct, indirect and cumulative impacts are generally ranked as "minor", "moderate" or "severe", although in a few cases a ranking of "insignificant" (less than "minor") may be given. The ranking of a given impact varied based on the criteria listed above. For example, an impact might be ranked as "minor" if it affected only common species and habitats, or if it affected only small numbers of individuals or small areas, whereas it might be ranked as "severe" if it affected rare species or habitats, large numbers of individuals or large areas. The major factors giving rise to a ranking are explained in the text. As noted in Annex 16 of the TM, a degree of professional judgment is involved in the evaluation of impacts.

6.2.4 The potential ecological impacts arising from the construction works, including loss of habitats, removal of vegetation, and disturbance to animals, were assessed with

reference to the criteria stated in Annexes 8 and 16 of the EIAO-TM, which are currently the most comprehensive guidance for ecological impact assessment.

6.2.5 The major ecological impacts associated with the proposed works include:

- Direct habitat loss, either permanent or temporary, due to site formation and construction works within the Application Site;
- Direct and indirect impacts to flora and fauna species, in particular those of conservation importance, arising from mortality;
- Disturbance impacts to surrounding habitats and fauna during construction;
- Disturbance impacts to surrounding fauna, habitats and recognized sites of conservation importance during operation;
- Night-time light impacts.

6.3 Construction Phase

Direct Impact – Habitat Loss

6.3.1 Direct impact of the implementation of proposed construction and associated works would be loss of habitats including developed area (other urban area), rural plantation and turfgrass (green urban area). The estimated loss of various types of habitats is shown in **Table 6.1**. This direct impact of habitat loss is avoided on TLCP as the proposed construction will not develop inside TLCP and the proposed developments are not linked with the TLCP.

Table 6.1 Estimated Size of Habitats Affected by the Proposed Construction Works

Application Site	Habitats	Ecological Value	Habitat Loss Size
Development Site	Developed Area (Other Urban Area)	Very Low	~0.7ha
	Rural Plantation	Low	~1.1ha
Outside Development Site	Developed Area (Other Urban Area)	Very Low	~1ha
	Rural Plantation	Low	~0.2ha
	Turfgrass (Green Urban Area)	Very low	~0.2ha
		Total	~3.2ha

6.3.2 Loss of habitats and associated vegetation due to site formation will constitute direct ecological impacts of the construction. Although the Access Road Improvement Area is mainly comprised by an existing road, it is connected with rural plantations. Thus, additional site clearance of vegetation is expected for the access road widening works. For the Development Site, it is isolated by existing road network and residual buildings of developed area (other urban area), no additional site clearance is expected.

6.3.3 Estimated habitat loss of the Access Road Improvement Area and existing Tai Tong Kwan Ti Square would be about 1ha of developed area (other urban area), about 0.2ha of rural plantation and about 0.2ha of turfgrass (green urban area). Estimated habitat loss of the Development Site would be about 0.7ha of developed area (other urban area) and about 1.1ha of rural plantation.

6.3.4 The impact of the loss of a limited extent of developed area (other urban area), rural plantation and turfgrass (green urban area), and their associated flora and fauna is considered **Insignificant** due to its small extent of low or very low overall ecological value and the presence of low abundance of common species. No mitigation for the habitat loss is required. Tree loss within the Application Site in particular the trees within rural plantation will be compensated with 1.2:1 ratio. Detailed of the tree compensation is shown in the report for landscape and visual impact assessment.

Indirect Impact – Disturbance generated during construction phase

6.3.5 Potential indirect impacts for the surroundings during construction phase include construction traffic and construction activities that generate noise, dust, vibration and human disturbance during construction. As the Project involves piling works, the construction disturbance might temporarily affect the habitat quality and the utilization of adjacent habitats by wildlife during construction phase. Sensitive ecological receiver near the Application Site includes the Tai Lam Country Park. Disturbance may discourage terrestrial fauna from using the surrounding habitats and TLCP as breeding and roosting sites. Terrestrial fauna may be forced to use potential alternative locations in the vicinity. However, the surrounding habitats of rural plantation and developed area (other urban area) of the Application Site have relatively low ecological value, with low diversity and abundance of wildlife recorded, the potential impact of construction disturbance would be limited. Moreover, since the Application Site is surrounded by developed area (other urban area) and rural plantation, these habitats separated the Application Site and habitats with relatively higher overall ecological values (e.g. mixed woodland (woodland)). In additionally, the fauna in developed area (other urban area) have been habituated to disturbance, it is considered that terrestrial fauna will be remained in the affected area. Due to the temporary and localized nature of the impacts, disturbance impact is ranked as **Minor**, if recommended noise mitigation measures and other good site practices are anticipated.

Indirect Impact – Light Glare

6.3.6 If the construction site has strong lightings or flood light, there might be light glare impacts to nocturnal wildlife in the vicinity during any nighttime construction. However, nighttime construction works would be restricted for the constructions. No foreseeable security light source during the construction phase. The impacts due to increased night-time light during construction will therefore be **Insignificant**.

Indirect Impact – Water Quality and Site Run-off

6.3.7 Due to the removal of vegetation cover in rural plantation, turfgrass (green urban area), developed area (other urban area) habitats near the construction site might potentially be impacted by surface site runoff, especially during rainstorm. The

removal of vegetation cover in rural plantation, turfgrass (green urban area) might lead to soil erosion caused by surface runoff. Sediments produced from the eroded site surfaces might further pollute the periphery habitats. Furthermore, wash water from dust suppression sprays; and chemicals spillage such as fuel, oil, solvents and lubricants from maintenance of construction machinery and equipment might also pollute the surrounding habitats.

6.3.8 Elevated suspended solids levels caused by site runoff could increase the suspended solids load in the water bodies and could decrease dissolved oxygen levels. A lower oxygen level would affect stationary species, whilst mobile species would tend to temporarily avoid the area. The result could be a temporary reduction in aquatic life abundance and/or change in distribution and fisheries resources. It is noted that there is no permanent stream flowing within the Application Site. The only perennial stream with conservation importance species recorded is separated the Application Site by developed area (other urban area).

6.3.9 The uncovered modified watercourse section which locates outside the Application Site will be potentially impacted by the surface runoff during construction phase as it locates close to the works area. The ecological value of the uncovered section is ranked as very low since it is polluted by nearby village. The recorded fauna abundance and diversity is very low. However, it is expected the impact from surface runoff would be transient and the risk of runoff overflow is low as the Application Site located in urbanized area. Hence the potential impact due to surface runoff is considered as **Insignificant**. To avoid and minimize potential contamination of water, the construction runoff should be controlled by implementation of mitigation measures such as good site practice.

Indirect Impact – Recognized Sites of Conservation Importance and Important Habitat

6.3.10 Recognized sites of conservation importance within the Ecological Study Area include Tai Lam Country Park only. Important habitats i.e. Tai Tong Key Dragonfly Site, inactive Tai Tong (Pak Sha Tsuen) Egretry and Ecological Important Stream (EIS) of Yeung Ka Tsuen are away 500m from the Application Site, no potential impact to these recognized sites of conservation importance and important habitats is anticipated. Only the inactive Tai Tong (Wong Nai Tun) Egretry is within the 500m Ecological Study Area. Since the Wong Nai Tun Egretry had been abandoned for few years, no potential impact would be anticipated. Other important habitats i.e. natural stream and mixed woodland (woodland) are separated by developed area and rural plantation. Construction disturbances towards natural stream and mixed woodland will be screened off by the developed area and rural plantation. Thus, potential impact to important habitat during construction phase is considered as **Minor**.

6.3.11 The proposed developments have avoided TLCP, thus no direct impact towards it. The increase of human disturbances and traffic would be generated during the construction and operation phase, which might interfere fauna habituating in TLCP, especially when the Application Site is only about 30m away from TLCP. However, the northern fringe of TLCP has already disturbed by human activities frequently. The TLCP and the Application Site is directly connected with developed area (other urban area), the fringe area of TLCP has already disturbed by human

activities and traffics. Existing human disturbances are also introduced already inside the northern part of TLCP due to the daily commercial, residual and agricultural activities inside the Tai Tong Organic EcoPark. The indirect impacts of human disturbance have already existed, the fauna habituating in fringe of TLCP are considered as habituated to disturbance. In addition, as the surroundings of the Application Site are mostly developed area (other urban area), frequent human disturbances and traffic are also distributed throughout the Application Site. Since the TLCP and its surroundings are highly disturbed for decades, indirect impact of increased human and construction disturbances to TLCP is considered as **Minor**.

6.3.12 Moreover, site hoarding will be erected to avoid any construction disturbances to TLCP. The existing buildings from developed area along with existing trees of rural plantation outside the Application Site will screen off construction disturbances to TLCP. After construction, the trees from compensation planting will also contribute to the screening effect. Under these circumstances, indirect impact on TLCP by the Application Site is considered as **Minor** if unmitigated.

Indirect Impact – Species of Conservation Importance

6.3.13 Species of conservation importance found within the Application Site included Eastern Cattle Egret, Small Cabbage White and Buff-striped Keelback. These species of conservation importance however were of very low abundance. These species are also highly mobile and there are more suitable habitats for the recorded species of conservation importance in the vicinity (such as the mixed woodland (woodland), shrubby grassland). No breeding activity was discovered during the Survey Period neither. A Short-nosed Fruit Bat Roost locates away 50-100m from the proposed Development Site, the roost might be impacted by the construction disturbance of noise and vibration. However, this roost is a seasonal roost which was recorded in dry season only but not in wet season during survey period. The roost is recorded within developed area (other urban area) of the existing commercial park. As Short-nosed Fruit Bat is commonly found in urban areas and is a highly mobile species which habituated to human disturbances. They are considered with high ability to adapt potential construction disturbances. No other roosting behaviours was discovered. Thus, the ecological impacts are considered **Minor** if unmitigated, taken consideration of the habitat size and quality (i.e. Very low for developed area (other urban area) and turfgrass (green urban area) in the Application Site, very low for rural plantation in the Application Site). Site hoarding will be installed to screen off construction disturbances as a mitigation.

6.4 Operational Phase

Direct Impact – Operational Phase Permanent Habitat loss

6.4.1 The direct impacts during operational phase would be the areas permanently occupied by the project elements during operation, and in this case would be the area occupied by the access road area and temple development site (i.e. the same as the permanent habitat loss during the construction phase). No additional habitat loss will occur during operational phase. Among the habitats being loss in construction phase, developed area (other urban area), turfgrass (green urban area) and rural plantation were of relatively lower ecological values, except the

developed area (other urban area) which is replaced by the same habitat. The potential direct impacts to the loss of these habitats are considered **Minor**.

Indirect Impact – Human Disturbance

6.4.2 Indirect impact of disturbance to wildlife and habitats in the surrounding area could be caused by increasing human disturbance. Since part of the Temple Development Area will be designated as outdoor worship area with burning incense, careful site management and fire control should be implemented to avoid nuisance (left over burnt offerings, food, etc.) and fire accidents to the surrounding environment and wildlife. Outdoor incense burning would be restricted within the proposed temple area and limited to ceremonial events and festivals only.

6.4.3 As the Ecological Study Area involves large extent of mixed woodland (woodland), the increase of visitors might enhance the human disturbance to the surrounding environment. However, the number of visitors is limited and controlled to stay inside the temple development area. The visitors are also expected to participate in religious activities and events only. The visitors could only direct travel to the proposed temple development area by shuttle bus, which restricted their disturbance during travelling. The human disturbance caused by increased visitors will be limited and localized in proposed development area only. The increase of visitors is unlikely to create disturbances to surrounding area. During operation, worship activities will be held indoor mainly. The existing buildings from developed area along with existing trees of rural plantation outside the Application Site will screen off construction disturbances to TLCP. The proposed temple structure and compensation tree planting would also contribute to screening off increased human disturbances. Further details of minimizations refer to Section 7.3. Thus, the potential indirect impact of human disturbance is considered as **Minor**.

Indirect Impact – Water Quality

6.4.4 There could be potential indirect impacts to the water quality of the surrounding waterbodies from surface run-off and pollution events from the development and their associated infrastructure. This nonpoint pollution, such as stormwater washed off from areas of hardstanding, roads and landscape area may have various impacts to the local freshwater environment. Magnitude of impacts would be dependent upon the pollution type and quantity of pollutant. Increased stormwater runoff may also lead to increased siltation if there are areas with bare soils. The stormwater from the proposed development would be collected and discharged to the stream which located at the west of the Development Site. Since this part of the stream is outside the TLCP and have low abundance and diversity of freshwater species. It is also contaminated by nearby villages, the indirect impact caused by stormwater would be **Minor**.

6.4.5 The proposed development is a temple development and pollutants on road surface would be very limited, and significant bare grounds will be unlikely. The impact of point discharge would not be anticipated for the proposed development as the sewerage will be collected and off-site disposed. For the proposed access road, as it is an existing road, the upgrading work will be along the existing access road where such impact already exists, if any. Thus, the indirect impact caused by sewerage is not anticipated.

Indirect Impacts – Light Glare

6.4.6 The behaviours of nocturnal wildlife might be affected by the increased road and buildings lighting, i.e. nocturnal animals either avoid or are attracted to lighted areas. Under the proposed program, no additional light sources would be expected in the access road area, while limited lighting will be installed inside the Temple Development Area.

6.4.7 Since scarce abundance of nocturnal fauna was recorded and no firefly was found within 500m from the Application Site, the abundance and diversity of nocturnal fauna inside the Ecological Study Area is considered as low. The light glare impact would be insignificant as nocturnal fauna is limited. Moreover, for TLCP, recorded nocturnal fauna species of conservation importance i.e. Collared Scops Owl, Red Muntjac and Small Indian Civet were found away from the Application Site. The nocturnal fauna species is estimated to avoiding the edge area of TLCP and keep away from human disturbance.

6.4.8 As the surrounding of the Development Site is mostly developed area (other urban area), which serve as light barriers between Temple Development Area and the surrounding habitats including habitats inside TLCP. The light from proposed temple towards habitats inside the Ecological Study Area and TLCP will be sheltered and limited by the surrounding developed area (other urban area). Unnecessary temple lighting will be turned off before sunset, limited security lighting will be utilized for the proposed temple itself only.

6.4.9 Residential buildings, commercial park and road networks are present in nearby localities, light disturbances have already existed in the Application Site and Ecological Study Area. Thus, fauna inhabiting in nearby habitats and TLCP have probably habituated to lighting. For the access road area, streetlights are already installed in the existing road. Since there are existing light sources and no additional streetlight installation is expected, no extra light glare impact is expected. For the temple development area, the existing lighting from residential buildings and park already contributed light disturbances to the Development Site. The impact on additional lighting of temple is expected to be low.

6.4.10 Based on the results of baseline ecological surveys and existing site condition, the potential light glare impact to fauna from this source are ranked as **Minor**. However, as a precautionary measure, implementation of good site practices would still be recommended to minimise the impacts of the artificial lighting/glare as much as possible such as limiting the angle of the security lighting.

Indirect Impacts – Bird Collision

6.4.11 Bird collision risk would be more prominent when the building consists of extensive reflective glass façade such that the birds flying nearby are confused by the reflected image inside the glass which is normally the image of the sky and/or nearby environment. Considering that the current residential development would not have extensive glass façade, and lack of identified flight lines across the residential portion, the potential bird collision impact is considered **Insignificant**.

Indirect Impacts – Roadkill and barrier effect to wildlife

6.4.12 The proposed widening of access road would not increase the risk of roadkill and barrier effect to wildlife due to insignificant net increase in and width of land and the low abundance and diversity of fauna in surrounding habitats of developed area (other urban area) and rural plantation. The access road is currently a dual one-lane road and there will be no increase in the number of lanes after upgrading as the upgrade is to improve traffic safety. The indirect impact of roadkill and barrier effect to wildlife is predicted as **Insignificant**. Thus, the upgrading work will be along the existing access road where such impact already exists, if any.

Indirect Impacts – Potential Impact on Recognized Sites of Conservation Importance and Important Habitat

6.4.13 Important habitats i.e. Tai Tong Key Dragonfly Site, inactive Tai Tong (Pak Sha Tsuen) Egretry and Ecological Important Stream of Yeung Ka Tsuen are away 500m from the Application Site, no potential impact to these recognized sites of conservation importance and important habitats during operation phase is expected. Only the inactive Tai Tong (Wong Nai Tun) Egretry is within the 500m Ecological Study Area. Since the Wong Nai Tun Egretry has been abandoned for few years, no potential impact would be anticipated. Other important habitats i.e. natural stream and mixed woodland (woodland) are expected to have limited human disturbance from increased visitors in proposed developments. Since the existing residual buildings and Ecopark will shelter off human disturbances to natural stream and mixed woodland (woodland), the human disturbance would be localized.

6.4.14 Regarding the potential impacts during construction phase to recognised sites of conservation importance within the Study Area, the northern fringe of Tai Lam Country Park and the Application Site are already disturbed by daily commercial, residual and agricultural activities for decades. The fauna living in the fringe of TLCP is considered as habituated to disturbance. During operation phase, the increase of visitors and traffic might pose higher disturbance to TLCP. Since the fauna living in the fringe of TLCP is habituated to disturbance, the increase of visitors and traffic would not enhance potential impact to the fauna. Furthermore, the worship activities are mainly held indoors, the disturbances would be localized inside the temple area only. As the traffic would be controlled with limited classes of shuttle bus, disturbance form traffic is also limited. Moreover, the potential disturbances would be sheltered by developed area (other urban area) and rural plantation between the Application Site and TLCP. Minimizations of compensation planting and the proposed temple structure would also contribute to sheltering potential disturbance to TLCP. Further details of minimizations refer to Section 7.3. As the temple will be closed before sunset, no disturbance will be expected from visitors at night. Therefore, impact to nocturnal fauna is not anticipated. The human disturbance impact will be controlled as mentioned in **S6.4.2** to **S6.4.3**. As the human disturbances would be controlled, the potential impact to recognized sites of conservation importance including TLCP would be considered limited. Thus, the potential impact to these recognized sites of conservation importance and important habitats during operation is considered **Minor**.

Indirect Impacts – Potential Impact on Species of Conservation Importance

6.4.15 During operational phase, the lighting from the proposed temple development area and the access road improvement area might have potential light impact. For the proposed temple development area, the temple will be managed and close before sunset. The potential impact of firefly species of conservation importance would not be anticipated. For the access road area, as the access road already has existing lighting, no additional lighting installations is expected. Fauna in that area have already accustomed to lighting. The potential impact of species of conservation importance would not be anticipated. Moreover, due to existing human activities in the Ecological Study Area, fauna species is already habituated to human disturbances. The habitats lost to the proposed developments are not important habitats of fauna species of conservation importance. Potential impact due to loss of habitats as well as indirect impacts to faunal species of conservation importance including those recorded from the literatures, is considered not anticipated.

6.4.16 To conclude, no additional ecological impacts are anticipated during operation phase. Therefore, the overall potential impact on species of conservation importance is considered as **Insignificant**.

7 IMPACT AVOIDANCE, MINIMISATION AND MITIGATION MEASURES

7.1 General

7.1.1 According to the principles in the EIAO-TM Annex 16 and EIAO Guidance Note 3/2010, ecological impacts on important habitats and the associated wildlife caused by the proposed developments should be avoided, minimized and mitigated where practicable.

7.1.2 The potential impacts arising from the construction and operation of the proposed development have been assessed. The following mitigation measures are recommended.

7.2 Impact Avoidance

7.2.1 The proposed development has avoided sensitive habitats such as the Tai Lam Country Park, mixed woodlands (woodland) and natural watercourses. The Application Site is located outside the boundary of TLCP. The proposed development has thus avoided encroachment on sensitive habitats such as the mixed woodland (woodland) and natural watercourses in TLCP.

7.2.2 The Application Site has avoided habitats of higher ecological value such as natural watercourses especially for Tai Tong Stream and mixed woodlands (woodland), or other natural habitats. Only man-made and semi-natural habitats of low or very low ecological value, including developed area (other urban area), rural plantation and turfgrass (green urban area) will be affected.

7.2.3 The Application Site will be accessed mainly by existing road network during both construction and operation phases. There will be no impact due to temporary or permanent loss of habitats from construction of access.

7.3 Impact Minimisation

Site Hoarding and Good Site Practices

7.3.1 Site hoarding would be erected along the construction site boundary. Together with good site practice would be implemented for dust, noise, water quality and site surface run-off to adopted by the Project, which will be adequate to any potential indirect impacts to the surrounding environment during both construction and operation phase. The minimisation measures as follows:

- Implementation of mitigation measures specified in ProPECC PN 1/94 to control site runoff and drainage at all work sites during construction;
- Implementation of noise control measures at all construction sites to reduce impacts of construction noise to wildlife habitats adjacent works areas;
- Installation of site hoarding as temporary noise barrier where construction works will be undertaken;
- The use of movable noise barrier;
- The use of temporary noise screening structures or purpose-built temporary noise barriers;

- Implementation of dust control measures at all construction sites to minimise dust nuisance to adjacent wildlife habitats during construction activities;
- Construction debris and spoil should be covered up and/or properly disposed of as soon as possible to avoid being washed into nearby waterbodies by rain;
- Construction effluent, site run-off and sewage should be properly collected and/or treated, Wastewater from a construction site should be managed with the following approach in descending order;
- All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- Proper locations for discharge outlets of wastewater treatment facilities well away from the natural streams/rivers should be identified;
- Prohibition and prevention of open fires within the work site boundary during construction;
- Regular checking should be undertaken to ensure that the work site boundaries are not exceeded and avoid damage to the vegetation in surrounding areas; and
- Supervisory staff should be assigned to station on site to closely supervise and monitor the works.

7.3.2 The above measures will all contribute to the minimization of potential construction disturbance to the surrounding habitats and associated fauna. With the implementation of these measures and the screening effects of the hoarding, noise and disturbance impact would be mitigated to an acceptable level and no residual impact is anticipated.

Good Practice of Night-time Light

7.3.3 Although mitigation measures would not be required for the potential nighttime light impact, it is recommended to avoid orientating any external flood light towards the TLCP during both construction and operational phases to minimize any potential disturbance. The operational time of proposed temple developments would be suggested to limit before sunset.

Compensation Planting

7.3.4 Tree loss within the Application Site in particular the trees within rural plantation will be compensated with 1.2:1 ratio. Detailed of the tree compensation is shown in the report for landscape and visual impact assessment.

Nature of Development Operation

7.3.5 Before the construction of proposed temple, worship activities are held outdoor at the existing Tai Tong Kwan Ti Square. During operation phase of proposed temple development, most of the worship activities will be held indoor. Human disturbance caused by visitors is restricted inside developed area and won't affect surrounding habitats especially for mixed woodland (woodland). Moreover, the compensation planting will compensate more than 1:1 ratio of trees, compensation trees and

proposed temple could also serve as buffer to screen off disturbances and sheltered any potential impacts to other habitats.

7.3.6 All construction phase and operational phase potential impacts identified, according with impact avoidance, minimisation and mitigation are showed in **Table 7.1**.

Table 7.1 Summary of Construction Phase and Operational Phase Impacts

Impact	Sources	Receivers	Nature of impacts						Significance of ecological impact	Mitigation/ monitoring required
			Habitat quality	Species affected	Size / abundance	Duration	Reversibility	Magnitude		
Construction Phase – Direct Impact										
Habitat Loss	Works areas of the proposed developments	Developed area (other urban area), rural plantation and turfgrass (green urban area) within the Application Site	Ecological value of Development Site: Low for both Developed Area (Other Urban Area) and rural plantation Ecological value of area outside Development Site: Low for both Developed Area (Other Urban Area) and rural plantation, Very low for Turfgrass (Green Urban Area)	Low diversity and abundance of flora Low diversity and abundance of fauna	Development Site: Developed Area (Other Urban Area): 0.7ha; Rural Plantation:1.1 ha Outside Development Site: Developed Area (Other Urban Area): 1.0 ha; Rural Plantation:0.2 ha Turfgrass (green urban area): 0.2ha	Permanent	Not reversible	Low	Insignificant	No
Construction Phase – Indirect Impact										
Disturbance generated during construction phase	Construction works	Habitats and wildlife near the works area	Low ecological value for overall habitats except mixed woodland (woodland) of low to medium ecological value	Terrestrial fauna	Vary	Temporary	Reversible	Low	Minor	No, Good site practice and follow mitigation measures stated in Noise Chapter and Water Quality Chapter,

Impact	Sources	Receivers	Nature of impacts						Significance of ecological impact	Mitigation/ monitoring required
			Habitat quality	Species affected	Size / abundance	Duration	Reversibility	Magnitude		
										compensation planting
Dust	Construction works and construction vehicles	Habitats and wildlife near the works area	Low ecological value for overall habitats except mixed woodland (woodland) of low to medium ecological value	Terrestrial fauna	Vary	Temporary	Reversible	Low	Insignificant	No, Good site practice
Light glare	Construction works	Light sensitive species or habitats	Vary	No light sensitive species reported	Vary	Temporary	Reversible	Insignificant	Insignificant	No
Water quality and Site Run-off	Surface runoff from works area	Modified Watercourse	Low ecological value	Freshwater community organisms and the wildlife using this habitat, such as herpetofauna	Vary	Temporary	Reversible	Insignificant	Insignificant	No, follow mitigation measures stated in Water Quality Chapter
Impacts on recognized sites of conservation importance	Construction works and the proposed developments	Habitats adjacent to and within the Application Site within TLCP	Low ecological value for overall habitats except mixed woodland (woodland) of low to medium ecological value, and natural watercourse within TLCP of medium ecological value	Terrestrial fauna	Vary	Temporary	Reversible	Low	Minor	No, compensation planting

Impact	Sources	Receivers	Nature of impacts						Significance of ecological impact	Mitigation/ monitoring required
			Habitat quality	Species affected	Size / abundance	Duration	Reversibility	Magnitude		
Impacts on species of conservation importance	Construction works and the proposed developments	Fauna species of conservation importance	N/A	Eastern Cattle Egret, Small Cabbage White and Buff-striped Keelback	Low	Temporary	Reversible	Low	Minor	Site Hoarding and Good Site Practices
Operational Phase – Direct Impact										
Permanent habitat loss	The proposed developments	Areas occupied by the proposed temple and road widening. No additional habitat loss during operational phase	Ecological value of Development Site: Low for both Developed Area (Other Urban Area) and rural plantation Ecological value of area outside Development Site: Low for both Developed Area (Other Urban Area) and rural plantation, Very low for Turfgrass (Green Urban Area)	Low diversity and abundance of flora Low diversity and abundance of fauna	Development Site: Developed Area (Other Urban Area): 0.7ha; Rural Plantation:1.1 ha Outside Development Site: Developed Area (Other Urban Area): 1.0 ha; Rural Plantation:0.2 ha Turfgrass (green urban area): 0.2ha	Permanent	Not reversible	Low	Minor	No

Impact	Sources	Receivers	Nature of impacts						Significance of ecological impact	Mitigation/ monitoring required
			Habitat quality	Species affected	Size / abundance	Duration	Reversibility	Magnitude		
Operational Phase – Indirect Impact										
Human Disturbance	The proposed developments	Sensitive habitats near the potential Development Site	Low and low to medium for various habitat types	Terrestrial fauna including those species of conservation importance	Vary	Permanent	Not reversible	Low	Minor	No, compensation planting, nature of development operation
Water quality	Runoff and sewage from the proposed developments	The natural watercourse, surrounding habitats	Vary	Freshwater organisms and the wildlife using this habitat	Vary	Permanent	Not reversible	Low	Minor, not anticipated for sewage	No
Light glare	Buildings of the proposed developments and streetlights of the access road	Light sensitive species or habitats	Vary	No light sensitive species recorded during survey period	Vary	Permanent	Not reversible	Low	Minor	No, restricted operation time of proposed buildings
Potential bird collision	Buildings of the proposed developments	Avifauna	N/A	Avifauna including avifauna species of conservation importance	N/A	Permanent	Not reversible	Low	Insignificant	No
Roadkill and barrier effect to wildlife	The proposed road widening	Terrestrial fauna	Ecological value of Development Site: Low for both Developed Area (Other Urban Area) and rural plantation	Terrestrial fauna	Vary	Permanent	Not reversible	Insignificant	Insignificant	No
Potential Impact on recognized sites of	The proposed developments	Habitats adjacent to and within the	Low ecological value for overall habitats except mixed woodland	Terrestrial fauna	Vary	Permanent	Not reversible	Low	Minor	No

Impact	Sources	Receivers	Nature of impacts						Significance of ecological impact	Mitigation/ monitoring required
			Habitat quality	Species affected	Size / abundance	Duration	Reversibility	Magnitude		
conservation importance		Application Site in TLCP	(woodland) of low to medium ecological value, and natural watercourse within TLCP of medium ecological value							
Potential Impact on species of conservation importance	The proposed developments	Fauna species of conservation importance	Low ecological value for overall habitats except mixed woodland (woodland) of low to medium ecological value, and natural watercourse within TLCP of medium ecological value	Terrestrial fauna	Vary	Permanent	Not reversible	Low	Insignificant	No, restricted operation time of proposed buildings

8 RESIDUAL IMPACTS

8.1.1 The residual environmental impacts refer to the net environmental impacts after the implementation of mitigation measures. The residual impact will be the Access Road Improvement Area and existing temple area would be about 1ha of developed area (other urban area), ~0.2ha of rural plantation and about 0.2ha of turfgrass (green urban area). Estimated habitat loss of the Development Site would be about 0.7ha of developed area (other urban area) and about 1.1ha of rural plantation. As discussed in **Section 6.3.2** above, the loss of these habitats is 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 the implementation of the recommended mitigation measures and monitoring, it is anticipated that all potential ecological impacts will be reduced to an acceptable level. As a result, no adverse residual impact is anticipated during both construction and operational phases.

9 CUMULATIVE IMPACT

9.1.1 No cumulative impacts as no construction projects within the vicinity of the proposed construction.

10 CONCLUSION

10.1.1 Information on the ecological baseline conditions of the Application Site was collected through literature review and surveys, and they were integrated into the present EcoIA to support the application.

10.1.2 Within the Development Site as part of the Application Site, about 0.7ha of developed area (other urban area) and about 1.1ha of rural plantation will be lost directly, while for the Access Road Improvement Area and the existing temple area, about 1ha of developed area (other urban area), ~0.2ha of rural plantation and about 0.2ha of turfgrass (green urban area) will be lost directly. Due to the **Very Low** or **Low** ecological values of habitats, the potential impact due to loss of those habitats within the Application Site is considered minor mainly.

10.1.3 This application would satisfy the requirements listed in Town Planning Board Guidelines No. 12C (TPB PG-No. 12C).

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Figure 2.1 The Application Site, Development Site, Ecological Study Area, Locations of Important Habitats, Tai Tong Key Dragonfly Site, Tai Tong Egretries and Recognized Sites of Conservation Importance

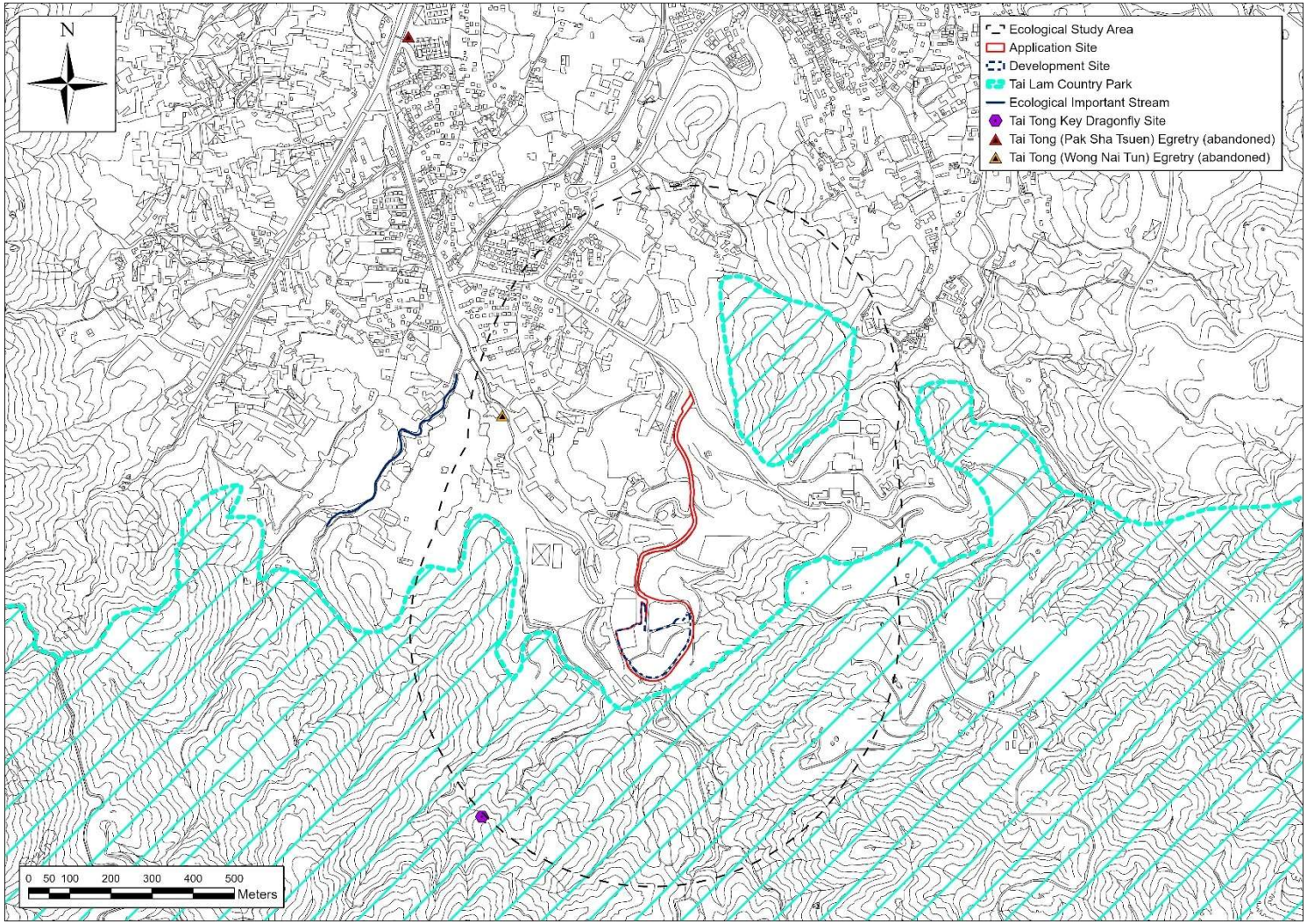


Figure 3.1 Location of Ecological Survey Transects, Aquatic Sampling Points, Camera Traps

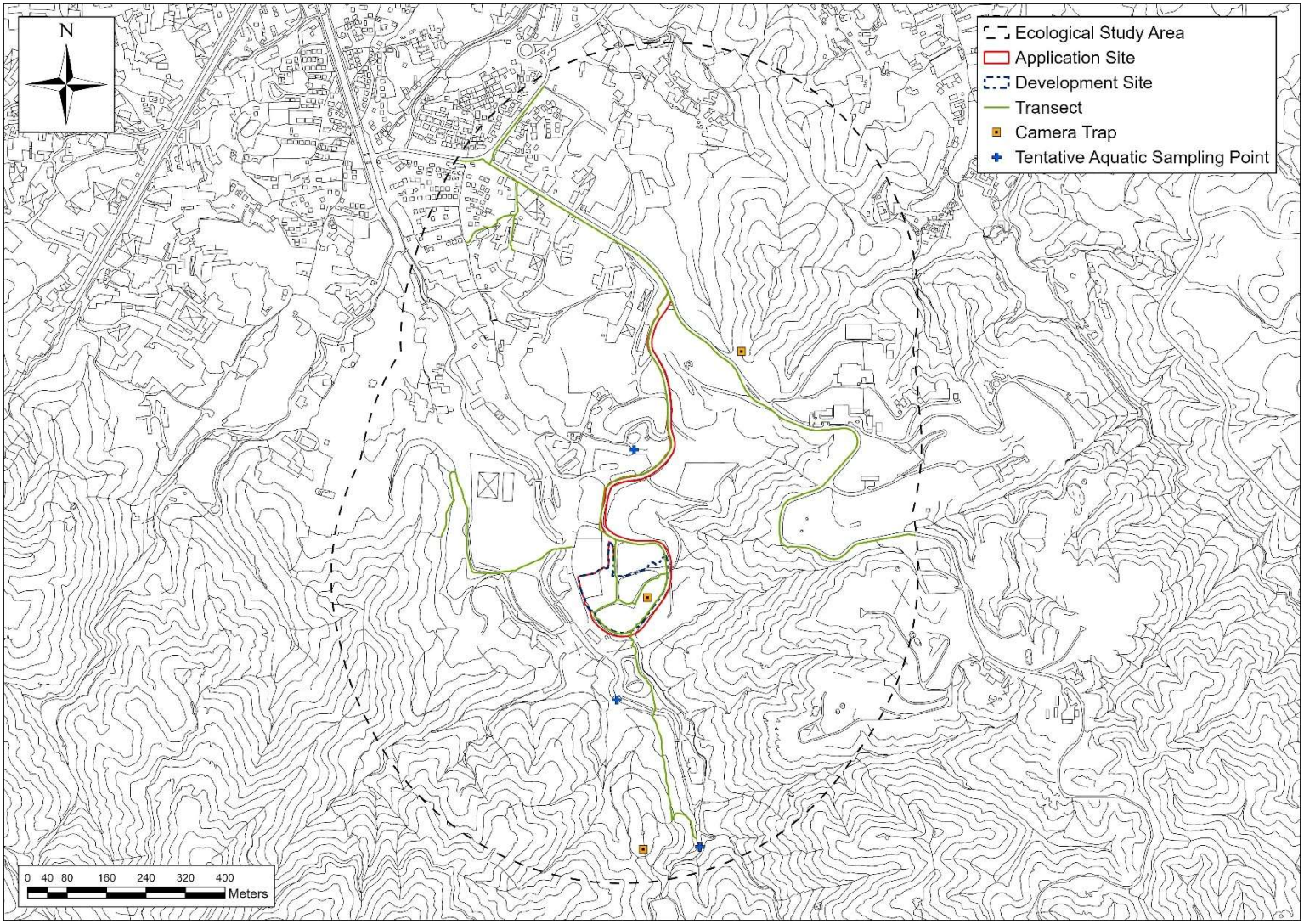


Figure 4.1 Literature Review of Species of Conservation Importance within Ecological Study Area

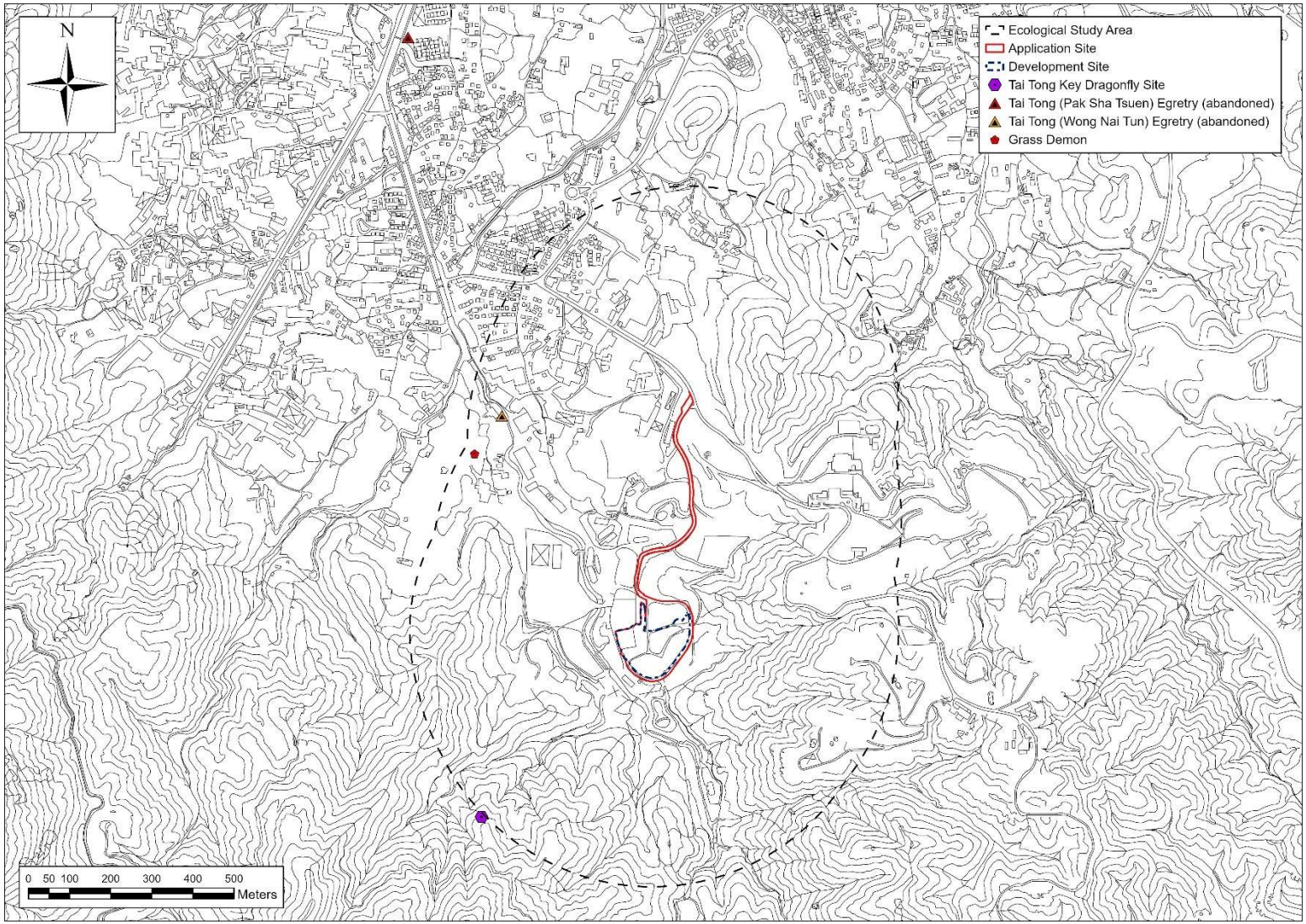
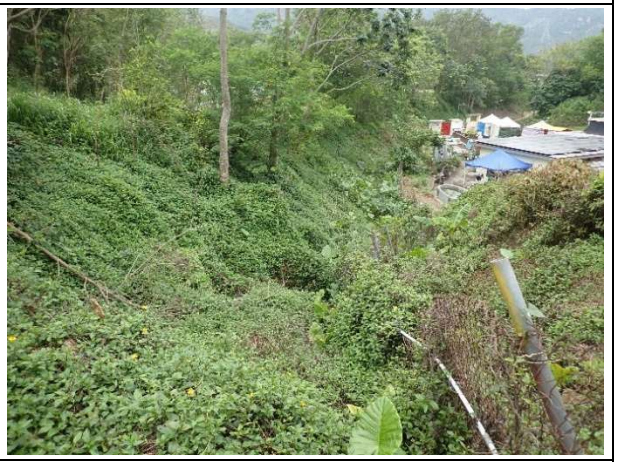


Figure 5.1 Photos of Habitats

		
Agricultural Land	Developed Area (Other Urban Area)	Green Urban Area
		
Mixed Woodland (Woodland)	Natural Watercourse	Modified Watercourse

Rural Plantation

Pond (Artificial Pond)

Shrubby Grassland

Turfgrass (Green Urban Area)

Figure 5.2 Habitat Map, Locations of Species of Conservation Importance

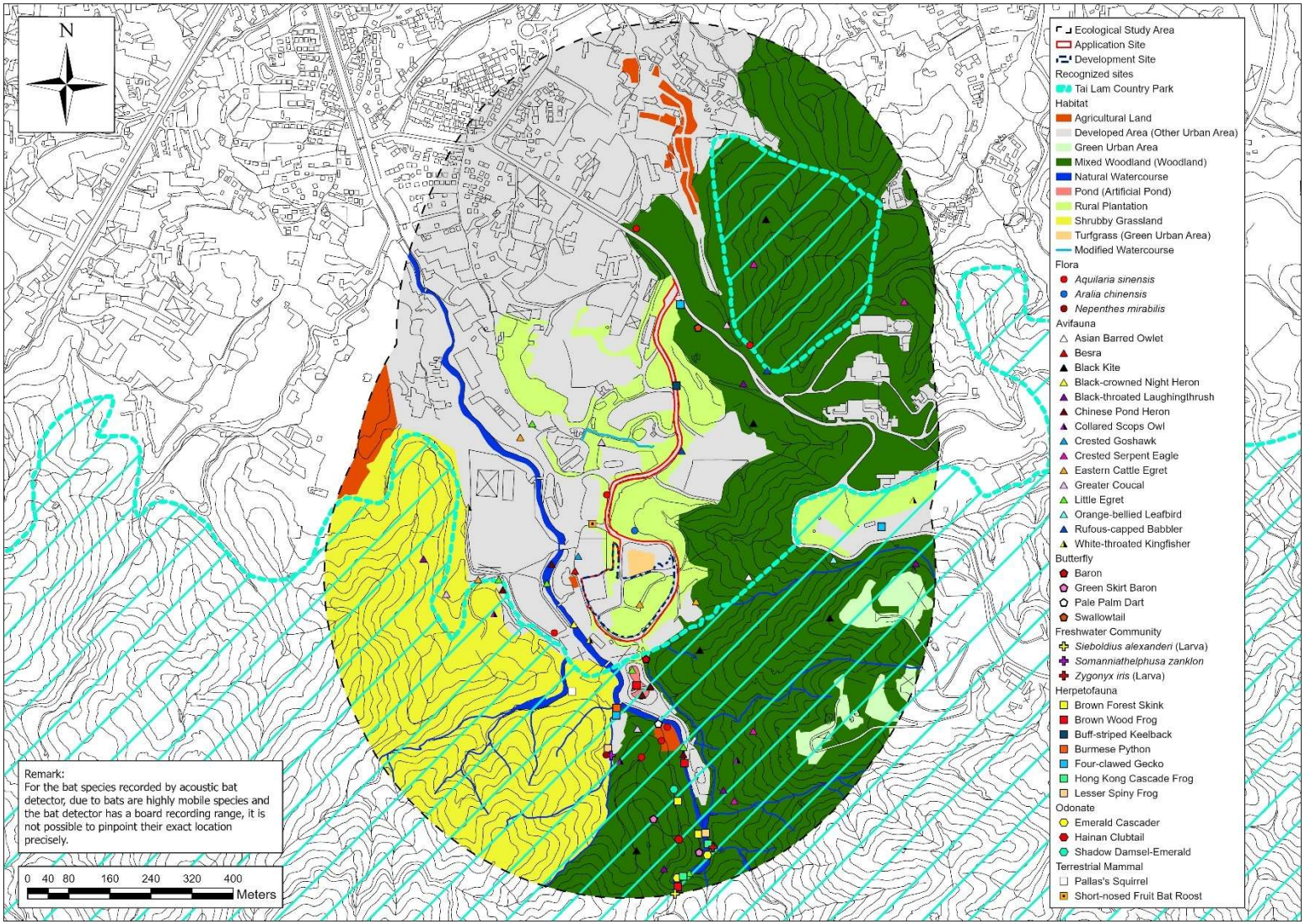


Figure 5.3 Photos of Selected Species of Flora Species of Conservation Importance within the Ecological Study Area

		
Aquilaria sinensis	*Aralia chinensis*	*Nepenthes mirabilis*

Figure 5.4 Photos of Selected Species of Fauna Species of Conservation Importance within the Ecological Study Area

		
Chinese Pond Heron	Eastern Cattle Egret	Little Egret
		
White-throated Kingfisher	Hong Kong Cascade Frog	Buff-striped Keelback

		
Short-nosed Fruit Bat	Red Muntjac	Small Cabbage White
		
Small Dragonhunter	Emerald Cascader	

Appendix A Flora species recorded within the Ecological Study Area

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Acacia auriculiformis	耳果相思	Tree	Exotic	-	-					O				S				C	
Acacia confusa	台灣相思	Tree	Exotic	-	-					S				O				C	
Acacia mangium	大葉相思	Tree	Exotic	-	-					S									
Acronychia pedunculata	山油柑	Tree	Native	Very common	-														S
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Native	Very common	-														S
Ageratum conyzoides	藿香薊	Herb	Exotic	Common	-							C							
Alangium chinense	八角楓	Tree	Native	Common	-									S					
Albizia lebbeck	大葉合歡	Tree	Exotic	-	-													S	
Aleurites moluccana	石栗	Tree	Exotic	-	-							S							
Allium fistulosum	蔥	Herb	Exotic	-	-						S								

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Alocasia macrorrhizos	海芋	Herb	Native	Very common	-	O	S									C			
Aloe vera	蘆薈	Herb	Exotic	-	-	S					S								
Alysicarpus vaginalis	鏈莢豆	Herb	Native	Very common	-			S											
Antidesma bunius	五月茶	Tree	Native	Common	-													S	
Aporosa dioica	銀柴	Tree	Native	Very common	-		S			S				C					
Aquilaria sinensis	土沉香	**Tree**	**Native**	**Common**	**Cap. 586** **Rare and Precious Plants of Hong Kong** **China Plant Red Data Book: VU** **Illustrations of Rare & endangered plant in Guangdong Province** **List of Wild Plants under State Priority Conservation: Class 2** **Threatened Species List of**						**S**	**S**		**S**				**S**	

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
					China's Higher Plants: VU, endemic species **IUCN Red List: VU** **CITES Appendix II**															
Aralia chinensis	**楤木**	**Shrub**	**Native**	**Restricted**	**IUCN Red List: VU**													**S**	
**Araucaria heterophylla*	異葉南洋杉	Tree	Exotic	-	IUCN Red List: VU							S							

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Archidendron lucidum	亮葉猴耳環	Tree	Native	Common	-														S
Archontophoenix alexandrae	假檳榔	Tree	Exotic	-	-				S			O							
Artocarpus heterophyllus	菠蘿蜜	Tree	Exotic	-	-	S					O								
Axonopus compressus	地毯草	Herb	Exotic	Common	-			S											
Averrhoa carambola	楊桃	Tree	Exotic	-	-						O								
Bambusa sp. 1	竹屬 1	Unknown	Unknown	-	-							S							
Bambusa sp. 2	竹屬 2	Unknown	Unknown	-	-							S							
Bauhinia purpurea	紅花羊蹄甲	Tree	Exotic	-	-									O					
Bauhinia variegata	宮粉羊蹄甲	Tree	Exotic	-	-													C	
Bauhinia x *blakeana*	洋紫荊	Tree	Native	-	-							O							
Bidens alba	白花鬼針草	Herb	Exotic	Very common	-	C	C	C											
Blechnum orientale	烏毛蕨	Herb	Native	Very common	-					S				S					
Bombax ceiba	木棉	Tree	Exotic	-	-									S					
Bougainvillea spectabilis	葉子花	Climber	Exotic	-	-		S			S		C							

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Breynia fruticosa	黑面神	Shrub	Native	Very common	-									S					
Bridelia tomentosa	土蜜樹	Shrub	Native	Very common	-		S			O				S				S	
Broussonetia papyrifera	構樹	Tree	Native	Very common	-						S								
Brucea javanica	鴉膽子	Shrub	Native	Common	-									S					
Callistemon rigidus	紅千層	Tree	Exotic	-	-					S									

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
#*Camellia granthamiana*	大苞山茶	Tree	Native	Rare	Cap. 96A Rare and Precious Plants of Hong Kong: EN in China China Plant Red Data Book: EN Illustrations of Rare & endangered plant in Guangdong Province Threatened Species List of China's Higher Plants: VU, endemic species IUCN Red List: VU		S					S								

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Catharanthus roseus	長春花	Shrub	Exotic	Common	-				O										
Capsicum annuum	辣椒	Herb	Exotic	-	-						O								
Carica papaya	番木瓜	Tree	Exotic	-	-	S			S	S	S								
Castanopsis fissa	黧蒴錐	Tree	Native	Common	-									C				C	
**Casuarina equisetifolia*	木麻黃	Tree	Exotic	Rare	-													C	
Ceiba speciosa	美麗木棉	Tree	Exotic	-	-					C									
Celosia argentea	青葙	Herb	Native	Very common	-													S	
Celtis sinensis	朴樹	Tree	Native	Common	-									S				S	
Chloris barbata	孟仁草	Herb	Native	Very common	-							O							

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Cinnamomum burmannii	陰香	Tree	Native	-	-									S					
Cinnamomum camphora	樟	Tree	Native	Common	-									S					
**Citrus reticulata*	柑橘	Tree	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2	S													
Clausena lansium	黃皮	Tree	Exotic	-	-						C								
Cleistocalyx nervosum	水翁	Tree	Native	Common	-									S					
Clerodendrum cyrtophyllum	大青	Shrub	Native	Common	-									S					
Cocculus orbiculatus	木防己	Climber	Native	Common	-		S			S		O		S					
Codiaeum variegatum	變葉木	Shrub	Exotic	-	-							S							
Commelina diffusa	節節草	Herb	Native	Common	-											O			
Conyza canadensis	小蓬草	Herb	Exotic	Very common	-	S													

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Cratoxylum cochinchinense	黃牛木	Tree	Native	Very common	-									S					
Cyclosorus parasiticus	華南毛蕨	Herb	Native	Very common	-		O												
Cynodon dactylon	狗牙根	Herb	Native	Very common	-						S								
Cyperus difformis	異型莎草	Herb	Native	Very common	-	S		O											
Cyperus distans	疏穗莎草	Herb	Native	Common	-					C									
Cyperus iria	碎米莎草	Herb	Native	Common	-			S											
Delonix regia	鳳凰木	Tree	Exotic	-	-									S					
Dendrotrophe varians	寄生藤	Climber	Native	Very common	-														S
Desmodium sp.	山蚂蝗屬	Herb	Unknown	-	-			S											
Desmos chinensis	假鷹爪	Shrub	Native	Common	-					S				C					
Dianella ensifolia	山菅蘭	Herb	Native	Very common	-									S					
Dicranopteris pedata	芒萁	Herb	Native	Very common	-													S	C

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
**Dimocarpus longan*	龍眼	Tree	Exotic	Restricted	China Plant Red Data Book: VU List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU	O			O	S	C	C							
Dracaena sanderiana	辛氏龍樹	Shrub	Exotic	-	-							S							
Drosera spathulata	寬苞茅膏菜	Herb	Native	Common	-											S			
Duranta repens 'Variegata'	花葉假連翹	Herb	Exotic	-	-		S					S							
Eriocaulon sexangulare	華南穀精草	Herb	Native	Very common	-											S			

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Eucalyptus citriodora	檸檬桉	Tree	Exotic	-	-		C			O				S				C	
Eucalyptus torelliana	毛葉桉	Tree	Exotic	-	-									O				C	
**Euphorbia hirta*	飛揚草	Herb	Exotic	Very common	CITES Appendix II			S											
**Euphorbia hypericifolia*	通奶草	Herb	Native	Common	CITES Appendix II			S											
Eurya nitida	細齒葉柃	Shrub	Native	Very common	-					S									
Fagraea ceilanica	灰莉	Shrub	Exotic	-	-							O							
Ficus elastica	印度榕	Tree	Exotic	-	-							S							
Ficus hirta	粗葉榕	Shrub	Native	Common	-		S							S					
Ficus hispida	對葉榕	Shrub	Native	Very common	-	O	S			S		O		S					
Ficus microcarpa	榕樹	Tree	Native	Common	-							C	C					S	
Ficus pumila	薜荔	Climber	Native	Very common	-							O							
Ficus pyriformis	舶梨榕	Shrub	Native	Common	-														
Ficus subpisocarpa	筆管榕	Tree	Native	-	-									S					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance												
						Application Site					Ecological Study Area							
						Outside Development Site			Within Development Site									
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Ficus variegata var. chlorocarpa	青果榕	Tree	Native	Common	-							S						
Fragaria x *ananassa*	草莓	Herb	Exotic	-	-						C							
Fuirena ciliaris	毛芙蘭草	Herb	Native	Restricted	-											S		
Gahnia tristis	黑莎草	Herb	Native	Very common	-												S	O
Glochidion eriocarpum	毛果算盤子	Shrub	Native	Very common	-					S								
Glochidion wrightii	白背算盤子	Shrub	Native	Very common	-													S
Gnetum luofuense	羅浮買麻藤	Climber	Native	Very common	-									C				O
Gymnanthemum amygdalinum	南非葉	Shrub	Exotic	-	-						S							
Hedyotis diffusa	白花蛇舌草	Herb	Native	Very common	-			S										
Hibiscus mutabilis	木芙蓉	Shrub	Exotic	-		S												
Hibiscus rosa-sinensis	朱槿	Shrub	Exotic	-	-							O						
**Hylocereus undatus*	量天尺	Herb	Exotic	-	CITES Appendix II					S								

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Hypericum japonicum	地耳草	Herb	Native	Very common	-			S											
Hypserpa nitida	夜花藤	Climber	Native	Very common	-														O
Ilex asprella	梅葉冬青	Shrub	Native	Very common	-					S				O					S
Ipomoea batatas	番薯	Herb	Exotic	-	-						C								
Ipomoea cairica	五爪金龍	Climber	Exotic	Very common	-					C									
Ixora chinensis	龍船花	Shrub	Native	Restricted	-					S		S							
Juniperus chinensis	圓柏	Tree	Exotic	-	-	S				S		S							
Kyllinga polyphylla	水蜈蚣	Herb	Exotic	Common	-		S												
Lactuca sativa	萵苣	Herb	Exotic	-	-						C								
**Lagerstroemia speciosa*	大花紫薇	Tree	Native	-	Cap. 96A				S	C								S	
Lantana camara	馬纓丹	Shrub	Exotic	Very common	-							C		S					
Lepidosperma chinense	鱗子莎	Herb	Native	Very common	-														C
Leucaena leucocephala	銀合歡	Tree	Exotic	Common	-	C	S			C		C		O				C	
Ligustrum sinense	山指甲	Tree	Native	Common	-		S			O				S					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Lindsaea ensifolia	劍葉鱗始蕨	Herb	Native	Very common	-									S					S
Liquidambar formosana	楓香	Tree	Native	Common	-					C				S					
**Litchi chinensis*	荔枝	Tree	Exotic	Restricted	China Plant Red Data Book: VU Threatened Species List of China's Higher Plants: EN	S				S	C								
Lithocarpus uvariifolius	木薑子	Shrub	Native	Common	-					S								S	
Litsea glutinosa	潺槁樹	Tree	Native	Very common	-		S			S				S					
Litsea rotundifolia var. *oblongifolia*	豺皮樟	Shrub	Native	Very common	-					S				O					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
**Livistona chinensis*	蒲葵	Tree	Exotic	-	Threatened Species List of China's Higher Plants: VU					S		O							
Lophatherum gracile	淡竹葉	Herb	Native	Very common	-													S	
Lophostemon confertus	紅膠木	Tree	Exotic	-	-		S							O				C	
Lycopersicon esculentum	番茄	Herb	Exotic	-	-						O								
Lygodium japonicum	海金沙	Herb	Native	Very common	-		S			S				S					
Macaranga tanarius var. *tomentosa*	血桐	Tree	Native	Common	-	O	O			C				O					
Machilus chekiangensis	浙江潤楠	Tree	Native	Very common	-									O					
Macroptilium atropurpureum	紫花大翼豆	Herb	Exotic	Common	-														
Mallotus apelta	白背葉	Shrub	Native	Common	-					S									

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Mallotus paniculatus	白楸	Tree	Native	Very common	-					S				C					
Mallotus repandus	石岩楓	Climber	Native	Common	-									S					
Mangifera indica	杧果	Tree	Exotic	-	-						S	S							
Melaleuca cajuputi subsp. *Cumingiana*	白千層	Tree	Exotic	-	-					S		C		S				C	
Melastoma malabathricum	野牡丹	Shrub	Native	Common	-					S									
Melastoma sanguineum	毛蒽	Shrub	Native	Common	-					S									
Melia azedarach	苦楝	Tree	Exotic	Common	-									S				S	
**Michelia* x *alba*	白蘭	Tree	Exotic	-	Cap. 96A		S					S							
Microcos nervosa	破布葉	Shrub	Native	Common	-		S							O					
Microstegium ciliatum	剛莠竹	Herb	Native	Very common	-									S					
Mikania micrantha	**薇甘菊**	**Herb**	**Exotic**	**Very common**	**-**	**C**	**O**												
Mimosa pudica	含羞草	Herb	Exotic	Very common	-		S	S											

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Miscanthus floridulus	五節芒	Herb	Native	Common	-	S													
Miscanthus sinensis	芒	Herb	Native	Very common	-					S								C	
Morinda parvifolia	雞眼藤	Climber	Native	Very common	-									O					
Mucuna birdwoodiana	白花油麻藤	Climber	Native	Common	-							S							
Musa x *paradisiaca*	大蕉	Herb	Exotic	-	-	S				S	S								
Mussaenda pubescens	玉葉金花	Climber	Native	Very common	-														S
Myriophyllum aquaticum	粉綠狐尾藻	Herb	Exotic	-	-											O			
**Nelumbo nucifera*	蓮	Herb	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2												S		

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Nepenthes mirabilis	豬籠草	**Herb**	**Native**	**Common**	**Cap. 96A** **Cap. 586** **Rare and Precious Plants of Hong Kong: VU in China** **Threatened Species List of China's Higher Plants: VU** **CITES Appendix II**														**S**

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Oplismenus compositus	竹葉草	Herb	Native	Very common	-									S				S	
**Opuntia stricta* var. *dillenii*	仙人掌	Herb	Exotic	Common	CITES Appendix II						S								
Oxalis debilis subsp. *corymbosa*	紅花酢漿草	Herb	Exotic	Common	-					O		O							
Pachira aquatica	瓜栗	Tree	Exotic	-	-							S							
Paederia scandens	雞矢藤	Climber	Native	Very common	-		S					C							
Pandanus kaida	簕古子	Shrub	Native	Restricted	-														S
Panicum maximum	大黍	Herb	Exotic	Common	-									S					
Passiflora edulis	雞蛋果	Climber	Exotic	-	-							S							
Pelargonium hortorum	天竺葵	Herb	Exotic	-	-					S									
Pennisetum alopecurodies	狼尾草	Herb	Native	Common	-					S									
Persicaria chinensis	火炭母	Herb	Native	Very Common	-							S							
Phoenix sp.	刺葵屬	Tree	Exotic	-	-													S	

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Phyllanthus cochinchinensis	越南葉下珠	Shrub	Native	Very common	-														S
Phyllanthus emblica	餘甘子	Tree	Native	Very common	-						S								
Phyllanthus reticulatus	小果葉下珠	Shrub	Native	Common	-					S				S					
Pinus elliottii	濕地松	Tree	Exotic	-	-									S				C	
Tibouchina sp.	巴西野牡丹	Shrub	Exotic	-	-					S									
Pogonatherum crinitum	金絲草	Herb	Native	Common	-											S			
Polyspora axillaris	大頭茶	Shrub	Native	Very common	-									O					
Praxelis clematidea	假臭草	Herb	Exotic	Very common	-	S													
Prunus campanulata	鐘花櫻桃	Tree	Exotic	-	-		O												
Prunus mume	梅	Shrub	Exotic	-	-					S									
Prunus persica	桃	Tree	Exotic	-	-		C				C								
Pseudocyclosorus ciliatus	溪邊假毛蕨	Herb	Native	Common	-											S			
Psychotria asiatica	九節	Tree	Native	Very common	-					S				C					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Psychotria serpens	蔓九節	Climber	Native	Very common	-									S					S
Pteridium aquilinum var. latiusculum	蕨	Herb	Native	Common	-									S					
Pteris linearis	線羽鳳尾蕨	Herb	Native	Restricted	-									S					
Pteris semipinnata	半邊旗	Herb	Native	Very common	-									S				S	
**Pterocarpus indicus*	紫檀	Tree	Exotic	-	Threatened Species List of China's Higher Plants: CR IUCN Red List: CR							S							
Pueraria lobata var. *montana*	葛麻姆	Climber	Native	Common	-							S							
Pueraria phaseoloides	三裂葉野葛	Climber	Native	Very common	-					S									
Pyrostegia venusta	炮仗花	Climber	Exotic	-	-							S							

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Raphanus sativus	蘿蔔	Herb	Exotic	-	-						O								
Rhaphiolepis indica	石斑木	Shrub	Native	Very common	-									S					
**Rhodoleia championii*	紅花荷	Tree	Native	Rare	Cap. 96A Rare and Precious Plants of Hong Kong: VU in China									O					
Rhodomyrtus tomentosa	桃金娘	Shrub	Native	Very common	-														C
Ricinus communis	蓖麻	Shrub	Exotic	Restricted	-						S								
Rourea microphylla	小葉紅葉藤	Climber	Native	Common	-					S									S
Sanchezia parvibracteata	小苞黃脈爵床	Shrub	Exotic	-	-							S							
Sapium discolor	山烏桕	Tree	Native	Very common	-														S
Schefflera arboricola	鵝掌藤	Climber	Exotic	-	-							S							
Schefflera heptaphylla	鵝掌柴	Tree	Native	Very common	-		S			S				C				S	
Schizostachyum dumetorum	苗竹仔	Herb	Native	Very common	-														S
Smilax china	菝葜	Climber	Native	Very common	-					S									

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Smilax glabra	土茯苓	Climber	Native	Very common	-														S
Smilax lanceifolia var. *opaca*	暗色菝葜	Climber	Native	Common	-														S
Solanum americanum	少花龍葵	Herb	Exotic	Very common	-							S							
Solanum torvum	水茄	Shrub	Exotic	Common	-						S								
Spathodea campanulata	火焰樹	Tree	Exotic	-	-		S												
Stephania longa	糞箕篤	Climber	Native	Common	-					S									
Sterculia lanceolata	假蘋婆	Tree	Native	Very common	-					S				C					
Strophanthus divaricatus	羊角拗	Climber	Native	Common	-									S					S
Strychnos angustiflora	牛眼馬錢	Climber	Native	Common	-													S	
Symplocos lancifolia	光葉山礬	Tree	Native	Common	-														S
Syzygium buxifolium	赤楠	Shrub	Native	Common	-													S	
Syzygium hancei	韓氏蒲桃	Tree	Native	Common	-									O					
Syzygium jambos	蒲桃	Tree	Exotic	Common	-					S				C					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
**Tabebuia chrysantha*	黃鐘木	Tree	Exotic	-	CITES Appendix II					C		S						C	
Terminalia mantaly	小葉欖仁	Tree	Exotic	-	-				S			S							
Tetracera asiatica	錫葉藤	Climber	Native	Very common	-														S
Thalia dealbata	水竹芋	Herb	Exotic	-	-												C		
Thysanolaena latifolia	粽葉蘆	Herb	Native	Common	-									C					
Trema tomentosa	山黃麻	Shrub	Native	Common	-									S					S
Tridax procumbens	羽芒菊	Herb	Exotic	Very common	-							S		S					S
Uvaria macrophylla	紫玉盤	Climber	Native	Common	-									C					
Vitis balanseana	小果葡萄	Climber	Native	Restricted	-					S									
Wedelia trilobata	三裂葉蟛蜞菊	Herb	Exotic	Common	-	C	C			C									
Youngia japonica	黃鶴菜	Herb	Native	Very common	-							S							
Zanthoxylum avicennae	簕欓花椒	Tree	Native	Common	-					S				S					
Zanthoxylum nitidum	兩面針	Climber	Native	Very common	-									S					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance													
						Application Site					Ecological Study Area								
						Outside Development Site			Within Development Site										
						DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Zoysia sp.	結縷草屬	Herb	Unknown	-	-			C											
Number of plant species recorded in each habitat within the Application Site & Ecological Study Area						20	29	12	6	59	25	47	1	70	0	8	2	33	28
Total number of plant species recorded within the Application Site & Ecological Study Area						51			62		176								

Notes:

1. Corlett *et al.* (2000). Hong Kong vascular plants: distribution and status.
2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (2024). Appendices I, II and III.
3. Forestry Regulations, the subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96A).
4. Fu & Chin (1992). China Plant Red Data Book – Rare and Endangered Plants.
5. Hu *et al.* (2003). Rare and Precious Plants of Hong Kong.
6. International Union of Conservation for Nature. (2024). The IUCN Red List of Threatened Species. Version 2024-1.
7. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Plants under the State Priority Protection.
8. Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
9. Qin *et al.* (2017). Threatened Species List of China's Higher Plants.
10. Wu *et al.* (1988). Illustration of Rare & endangered plant in Guangdong Province.
11. **Species in bold are considered of conservation importance.**

- * *Araucaria heterophylla*, *Casuarina equisetifolia*, *Citrus reticulata*, *Dimocarpus longan*, *Euphorbia hirta*, *Euphorbia hypericifolia*, *Hylocereus undatus*, *Lagerstroemia speciosa*, *Litchi chinensis, Livistona chinensis*, *Michelia* x *alba*, *Nelumbo nucifera*, *Opuntia stricta var. dillenii*, *Pterocarpus indicus*, *Rhodoleia championii* and *Tabebuia chrysantha* are all exotic to Hong Kong and not considered of conservation importance.

Abbreviations:

- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); MW = Mixed Woodland (Woodland); NW = Natural Watercourse; N = Nursery; O = Orchard (Rural Plantation); PL = Plantation (Green Urban Area); PO = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)
- Protection and conservation status: CR = Critically endangered; EN = Endangered; VU = Vulnerable
- Abundance: c=Common; o=Occasional and s=Scarce

Appendix B Avifauna species recorded within the Ecological Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Asian Barred Owlet	***Glaucidium cuculoides***	**Locally common resident. Widely distributed in woodland of the north and central New Territories.**	**Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**									**1**					
Asian Koel	*Eudynamys scolopaceus*	Common resident. Widely distributed in Hong Kong.	-							1						1	
Barn Swallow	*Hirundo rustica*	Abundant passage migrant and summer visitor. Widely distributed in Hong Kong.	-							2		2					
Besra	***Accipiter virgatus***	**Common resident and migrant. Found in Tai Po Kau, Deep Bay area, Chek Lap Kok, Cheung Chau, Soko Islands.**	**Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**							**1**							
Black Kite	***Milvus migrans***	**Common resident and winter visitor. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): (RC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**									**5**					
Black-collared Starling	*Gracupica nigricollis*	Common resident. Widely distributed in Hong Kong.	-							5							23
Black-crowned Night Heron	***Nycticorax nycticorax***	**Common resident and migrant. Widely**	**Fellowes et al. (2002): LC**											**1**			

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		distributed in Hong Kong.																
Black-throated Laughingthrush	***Garrulax chinensis***	**Common resident. Widely distributed in woodland and shrubland throughout Hong Kong.**	**List of Wild Animals under State Priority Conservation: Class II**									**4**					**1**
Blue Whistling Thrush	*Myophonus caeruleus*	Common resident. Widely distributed in shrubland and woodland throughout Hong Kong.	-									2					
Chinese Blackbird	*Turdus mandarinus*	Common winter visitor and migrant. Widely distributed in Hong Kong.	-	1													
Chinese Bulbul	*Pycnonotus sinensis*	Abundant resident. Widely distributed in Hong Kong.	-									4					
Chinese Pond Heron	***Ardeola bacchus***	**Common resident. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): PRC**							**3**				**3**	**3**		
Cinereous Tit	*Parus cinereus*	Common resident. Widely distributed in Hong Kong.	-	3				2		4		6				4	1
Collared Scops Owl	***Otus lettia***	**Common resident. Widely distributed in shrubland throughout Hong Kong.**	**Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**									**2**					**1**
Common Emerald Dove	***Chalcophaps indica***	**Uncommon but widespread resident. Widely distributed in woodland throughout Hong Kong.**	**China Red Data Book Status: Vulnerable**									**2**					
Common Kingfisher	*Alcedo atthis*	Common passage migrant and winter visitor. Widely distributed in wetland habitat throughout Hong Kong.	-											1			

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Common Myna	*Acridotheres tristis*	Locally common resident. Found in Mai Po, Sheung Uk Tsuen, Sheung Shui, Kam Tin, Shek Kong, Ping Shan, Mong Tseng.	-							10							
Common Tailorbird	*Orthotomus sutorius*	Common resident. Widely distributed in Hong Kong.	-	5	2			3	2	6		9		1		3	6
Crested Goshawk	***Accipiter trivirgatus***	**Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.**	**Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Rare**							**1**							
Crested Myna	*Acridotheres cristatellus*	Abundant resident. Widely distributed in Hong Kong.	-							9							4
Crested Serpent Eagle	***Spilornis cheela***	**Common resident. Widely distributed in shrublands on hillsides throughout Hong Kong.**	**Fellowes et al. (2002): (LC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Vulnerable**									**5**					
Daurian Redstart	*Phoenicurus auroreus*	Common winter visitor. Widely distributed in Hong Kong.	-					1		2							1
Eastern Cattle Egret	***Bubulcus coromandus***	**Resident and common passage migrant. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): LC**					**4**		**22**		**16**					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Eurasian Tree Sparrow	*Passer montanus*	Abundant resident. Widely distributed in Hong Kong.	-							3		2					
Fork-tailed Sunbird	*Aethopyga christinae*	Common resident and winter visitor. Widely distributed in Hong Kong.	-	2						2		2					
Greater Coucal	***Centropus sinensis***	**Common resident. Widely distributed in Hong Kong.**	**List of Wild Animals under State Priority Conservation: Class II; China Red Data Book Status: Vulnerable**									**3**				**1**	**1**
Greater Necklaced Laughingthrush	*Garrulax pectoralis*	Locally common resident. Widely distributed in shrubland and woodland throughout Hong Kong.	-									5					
Greenish Warbler	*Phylloscopus trochiloides*	Scarce autumn passage migrant and winter visitor. Found in Tai O.	-														1
Grey Wagtail	*Motacilla cinerea*	Common passage migrant and winter visitor. Widely distributed in hill streams throughout Hong Kong.	-											2			
Hair-crested Drongo	*Dicrurus hottentottus*	Common migrant and winter visitor, and locally common resident. Widely distributed in wooded area throughout Hong Kong.	-	2	2			4		4		2					5
House Swift	*Apus nipalensis*	Abundant spring migrant and common resident. Widely distributed in Hong Kong.	-							1							
Large Hawk-Cuckoo	*Hierococcyx sparverioides*	Locally common spring and summer visitor. Widely distributed in woodland throughout in Hong Kong.	-									1					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Large-billed Crow	*Corvus macrorhynchos*	Common resident. Widely distributed in Hong Kong	-	2				3		9		2				1	4
Little Egret	***Egretta garzetta***	**Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.**	**Fellowes et al. (2002): PRC**							**3**				**3**	**2**		
Masked Laughingthrush	*Pterorhinus perspicillatus*	Abundant resident. Widely distributed in shrubland throughout Hong Kong.	-		2					4							4
Olive-backed Pipit	*Anthus godlewskii*	Common passage migrant and winter visitor. Widely distributed in Hong Kong.	-					3	1	3		4					2
Orange-bellied Leafbird	***Chloropsis hardwickii***	**Uncommon resident and winter visitor. Widely distributed in woodland throughout Hong Kong.**	**Fellowes et al. (2002): LC**									**1**					
Oriental Dollarbird	*Eurystomus orientalis*	Common passage migrant. Widely distributed in woodland throughout Hong Kong.	-							1							
Oriental Magpie-Robin	*Copsychus saularis*	Abundant resident. Widely distributed in Hong Kong.	-	1	3	1		4		10				2		4	
Pallas's Leaf Warbler	*Phylloscopus proregulus*	Common winter visitor and migrant. Found in woodland throughout Hong Kong.	-	2						1		3					
Red-billed Blue Magpie	*Urocissa erythroryncha*	Common resident. Widely distributed in woodland edges throught Hong Kong	-							2							
Red-whiskered Bulbul	*Pycnonotus jocosus*	Abundant resident. Widely distributed in Hong Kong.	-	8	6			8		30		28				10	4
Rufous-capped Babbler	***Stachyridopsis ruficeps***	**Common resident. Found in Shing Mun,**	**Fellowes et al. (2002): LC**									**2**				**2**	

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		Tai Po Kau, Tai Mek Tuk, Ng Tung Chai, Fo Tan, Tai Mo Shan, The Peak, Kadoorie Agricultural Research Centre.															
Scaly-breasted Munia	*Lonchura punctulata*	Abundant resident. Widely distributed in Hong Kong.	-							6							6
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Common resident. Widely distributed in wooded area throughout Hong Kong.	-	1					1	1						1	
Spotted Dove	*Spilopelia chinensis*	Abundant resident. Widely distributed in Hong Kong.	-	8	5			3	1	22		3				1	6
Streak-breasted Scimitar Babbler	*Pomatorhinus ruficollis*	Common resident. Widely distributed in shrubland and woodland throughout Hong Kong.	-									1					1
Swinhoe's White-eye	*Zosterops simplex*	Abundant resident. Widely distributed in Hong Kong.	-	8	6				2	12		22				8	2
White Wagtail	*Motacilla alba*	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	-			2		8		6							
White-breasted Waterhen	*Amaurornis phoenicurus*	Common resident. Widely distributed in wetland throughout Hong Kong.	-											1			
White-throated Kingfisher	***Halcyon smyrnensis***	**Common resident. Widely distributed in coastal areas throughout Hong Kong**	**Fellowes et al. (2002): (LC); List of Wild Animals under State Priority Conservation: Class II**							**2**						**1**	
Yellow-bellied Prinia	*Prinia flaviventris*	Common resident. Widely distributed in Hong Kong.	-													2	1

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Yellow-browed Warbler	*Phylloscopus inornatus*	Abundant winter visitor and migrant. Widely distributed in woodland throughout Hong Kong.	-									4					
Number of avifauna species recorded in each habitat within the Application Site & Ecological Study Area				12	7	2	0	11	5	31	0	28	0	8	2	13	19	
Total number of avifauna species recorded within the Application Site & Ecological Study Area				14			11		52									

Remark: all wild avifauna species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.
4. Convention on International Trade in Endangered Species of Wild Flora and Fauna (2024). Appendices I, II and III.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
6. List of Wild Animals under State Priority Conservation (2021).
7. Zheng & Wang (1998). China Red Data Book of Endangered Animals: Aves.
8. **Species in bold are considered of conservation importance.**

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); GUA = Green Urban Area; MW = Mixed Woodland (Woodland); NWC = Natural Watercourse; MWC = Modified Watercourse; RP= Rural Plantation; P = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)

Appendix C Butterfly species recorded within the Ecological Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Angled Castor	*Ariadne ariadne*	Common. Widely distributed throughout Hong Kong	-													6	1
Banded Tree Brown	*Lethe confusa*	Common. Widely distributed throughout Hong Kong.	-											1			
Baron	***Euthalia aconthea***	**Uncommon. Widely distributed throughout Hong Kong.**	**Fellowes et al. (2002): LC**													**1**	
Blue Admiral	*Kaniska canace*	Common. Widely distributed throughout Hong Kong	-							2		1		1			3
Blue Pansy	*Junonia orithya*	Uncommon. Wu Kau Tang, Fan Lau, Ngau Ngak Shan, Yung Shue O, Wong Lung Hang, Shan Liu, Lung Kwu Tang	-									1					
Blue-spotted Crow	*Euploea midamus*	Very common. Widely distributed throughout Hong Kong	-	1	3			6	1	12		10				1	4
Ceylon Blue Glassy Tiger	*Ideopsis similis*	Very common. Widely distributed throughout Hong Kong	-		1			1		1							
Chinese Peacock	*Papilio bianor*	Common. Widely distributed throughout Hong Kong	-		1												1
Chocolate Royal	*Remelana jangala*	Common. Widely distributed throughout Hong Kong	-									1					
Common Archduke	*Lexias pardalis*	Suspected species. Widely distributed throughout Hong Kong.	-						2								
Common Bluebottle	*Graphium sarpedon*	Very common. Widely distributed throughout Hong Kong	-		1					2		2				1	1
Common Five-ring	*Ypthima baldus*	Very common. Widely distributed throughout Hong Kong.	-	1						2		4				1	1
Common Grass Yellow	*Eurema hecabe*	Very common. Widely distributed throughout Hong Kong	-	1	1			1	1	3		5		3		3	15
Common Gull	*Cepora nerissa*	Common. Widely distributed throughout Hong Kong	-														1
Common Hedge Blue	*Acytolepis puspa*	Common. Widely distributed throughout Hong Kong	-		1				1	3		1					1

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Common Indian Crow	*Euploea core*	Common. Widely distributed throughout Hong Kong	-		2												1
Common Jay	*Graphium doson*	Common. Widely distributed throughout Hong Kong	-									3					
Common Jester	*Symbrenthia lilaea*	Common. Widely distributed throughout Hong Kong	-						2			1					
Common Mapwing	*Cyrestis thyodamas*	Common. Widely distributed throughout Hong Kong.	-							3				3			
Common Mime	*Chilasa clytia*	Common. Widely distributed throughout Hong Kong	-		2									2		1	
Common Mormon	*Papilio polytes*	Very common. Widely distributed throughout Hong Kong	-	1	1			4	2	7		8		6	2	4	3
Common Palmfly	*Elymnias hypermnestra*	Common. Widely distributed throughout Hong Kong.	-							1				2			
Common Sailer	*Neptis hylas*	Very common. Widely distributed throughout Hong Kong	-					1				1					2
Common Tiger	*Danaus genutia*	Common. Widely distributed throughout Hong Kong	-	4	2			6		1		5		17			1
Dark Evening Brown	*Melanitis phedima*	Uncommon. Widely distributed throughout Hong Kong.	-							1		3					
Dark Grass Blue	*Zizeeria karsandra*	Uncommon. High Junk Peak, Kat O, Po Toi Island, Shek Mun Kap, Lai Chi Wo, Yung Shue O	-									4					
Dark-brand Bush Brown	*Mycalesis mineus*	Very common. Widely distributed throughout Hong Kong	-	1	2			2	5			2		2			9
Forest Hopper	*Astictopterus jama*	Common. Widely distributed throughout Hong Kong.	-									3					5
Formosan Swift	*Borbo cinnara*	Common. Widely distributed throughout Hong Kong.	-														1
Gaudy Baron	*Euthalia lubentina*	Uncommon. Widely distributed throughout Hong Kong.	-							1					1		
Glassy Tiger	*Parantica aglea*	Common. Widely distributed throughout Hong Kong	-							2		3		2			
Great Eggfly	*Hypolimnas bolina*	Common. Widely distributed throughout Hong Kong	-		1			2		4		3				2	
Great Mormon	*Papilio memnon*	Very common. Widely distributed throughout Hong Kong	-									1		1			1

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Green Flash	*Artipe eryx*	Uncommon. Widely distributed throughout Hong Kong	-							1							
Green Skirt Baron	***Cynitia whiteheadi***	**Rare. North New Territories.**	**-**									**2**					
Indian Cabbage White	*Pieris canidia*	Very common. Widely distributed throughout Hong Kong	-					1		1							
Indian Fritillary	*Argyreus hyperbius*	Common. Widely distributed throughout Hong Kong	-							1							
Large Faun	*Faunis eumeus*	Common. Widely distributed throughout Hong Kong.	-											1			
Lemon Emigrant	*Catopsilia pomona*	Common. Widely distributed throughout Hong Kong	-	2	2			2		1		2				1	1
Lemon Pansy	*Junonia lemonias*	Common. Wu Kau Tang, Shan Liu, Shui Long Wo, Tong Fuk, Pak Tam Chung	-							2		1				1	1
Long-banded Silverline	*Spindasis lohita*	Common. Widely distributed throughout Hong Kong.	-									1					
Long-tailed Blue	*Lampides boeticus*	Common. Widely distributed throughout Hong Kong.	-		1	1				1							
Painted Jezebel	*Delias hyparete*	Uncommon. Widely distributed throughout Hong Kong	-	1		1											
Pale Grass Blue	*Pseudozizeeria maha*	Very common. Widely distributed throughout Hong Kong	-	3				2		3		3			8	2	1
Pale Palm Dart	***Telicota colon***	**Rare. Widely distributed throughout Hong Kong.**	**Fellowes et al. (2002): LC**						**1**								
Paris Peacock	*Papilio paris*	Very common. Widely distributed throughout Hong Kong	-	1				3		3		6					1
Plum Judy	*Abisara echerius*	Very common. Widely distributed throughout Hong Kong	-							1		7		2			1
Purple Sapphire	*Heliophorus epicles*	Common. Widely distributed throughout Hong Kong	-											2			2
Red Helen	*Papilio helenus*	Very common. Widely distributed throughout Hong Kong	-	1				2		1		4					
Red Ring Skirt	*Hestina assimilis*	Common. Widely distributed throughout Hong Kong.	-		1											1	1

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Red-base Jezebel	*Delias pasithoe*	Very common. Widely distributed throughout Hong Kong	-	33		10		130	4	153		165		21			110
Rustic	*Cupha erymanthis*	Very common. Widely distributed throughout Hong Kong	-							1		4		4			3
Short-banded Sailer	*Phaedyma columella*	Common. Widely distributed throughout Hong Kong.	-													1	
Silver Streak Blue	*Iraota timoleon*	Uncommon. Widely distributed throughout Hong Kong.	-							1							
Small Cabbage White	***Pieris rapae***	**Rare. Shep Mun Kap, Fan Lau, Ngong Ping, Kam Tin, Ho Chung, Luk Keng, Tuen Mun Ash Lagoon**	**-**	**8**	**7**	**5**		**12**	**15**	**18**		**12**		**5**	**1**	**2**	**14**
South China Bush Brown	*Mycalesis zonata*	Common.Widely distributed throughout Hong Kong.	-							1		9		1			5
Spangle	*Papilio protenor*	Very common. Widely distributed throughout Hong Kong	-		1			3	3	4		6		2	1	1	3
Staff Sergeant	*Athyma selenophora*	Common. Widely distributed throughout Hong Kong	-									2					
Straight Five-ring	*Ypthima lisandra*	Common. Widely distributed throughout Hong Kong.	-														1
Swallowtail	***Papilio xuthus***	**Rare. Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau**	**-**									**1**					
Tailed Jay	*Graphium agamemnon*	Common. Widely distributed throughout Hong Kong	-									1					
Three-spot Grass Yellow	*Eurema blanda*	Common. Widely distributed throughout Hong Kong	-	1	4			1	1	3		1		3		3	3
White-edged Blue Baron	*Euthalia phemius*	Common. Widely distributed throughout Hong Kong.	-							1							
Number of butterfly species recorded in each habitat within the Application Site & Ecological Study Area				14	18	4	0	17	12	33	0	37	0	20	5	17	31
Total number of butterfly species recorded within the Application Site & Ecological Study Area				24			16		62								

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.

- For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.

3. Species in bold are considered of conservation importance.

Abbreviations:

- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); GUA = Green Urban Area; MW = Mixed Woodland (Woodland); NWC = Natural Watercourse; MWC = Modified Watercourse; RP= Rural Plantation; P = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)

Appendix D Odonate species recorded within the Ecological Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1 4]	Conservation status2 3	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Black Threadtail	*Prodasineura autumnalis*	Abundant. Often perches on the plants near streams. Widely distributed in streams throughout Hong Kong.	-											3			
Black-banded Gossamerwing	*Euphaea decorata*	Abundant. Widely distributed in all streams of Hong Kong.	-									1					
Blue Dasher	*Brachydiplax chalybea*	Common. Widely distributed in marshes and weedy ponds throughout Hong Kong.	-												1		
Common Blue Jewel	*Rhinocypha perforata*	Abundant. Widely distributed in fast flowing streams throughout Hong Kong.	-											7			
Common Blue Skimmer	*Orthetrum glaucum*	Abundant. Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong.	-							1		2		2			5
Common Bluetail	*Ischnura senegalensis*	Abundant. Widely distributed in all wetland habitats except fast flowing rivers throughout Hong Kong.	-												1		
Common Red Skimmer	*Orthetrum pruinosum neglectum*	Abundant. Widely distributed in slow streams, ponds, rain puddles and irrigation conduits.	-							3				3	2		
Crimson Dropwing	*Trithemis aurora*	Abundant. Found in marshes, ponds, streams, andor even ornamental ponds in urban areas. Widely distributed throughout Hong Kong.	-											5			1
Dancing Shadow-emerald	***Idionyx victor***	**Common. Found high in the forest canopy or over wooded streams. Widely distributed in wooded streams throughout Hong Kong.**	**Fellowes et al. (2002): LC**									**1**					
Emerald Cascader	***Zygonyx iris***	**Abundant. Widely distributed in moderately clean, rapidly flowing**	**Fellowes et al. (2002): PGC**											**4**			

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1 4]	Conservation status[2 3]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		forested streams throughout Hong Kong.																
Fiery Emperor	*Anax immaculifrons*	Common. Widely distributed in upland mountain streams throughout Hong Kong.	-											1				
Hainan Clubtail	***Asiagomphus hainanensis***	**Common. Found near sandy or muddy woodland streams. Widely distributed throughout Hong Kong.**	**Reels (2019): Dragonfly species of conservation interest**									**1**						
Indigo Dropwing	*Trithemis festiva*	Abundant. Favours sluggish sections of streams with a strong current or the small rock pools inof mountain streams. Widespread in Hong Kong.	-											3			2	
Orange-faced Sprite	*Pseudagrion rubriceps*	Uncommon. Widely distributed in ponds and weedy margins of slow flowing streams.	-											2				
Pale-spotted Emperor	*Anax guttatus*	Common. Widely distributed in ponds and sluggish streams throughout Hong Kong.	-							1								
Pied Skimmer	*Pseudothemis zonata*	Common. Widely distributed in woodlands adjacent to reservoirs, sluggish streams, ponds, tanks and marshes throughout Hong Kong.	-											1	7			
Red-faced Skimmer	*Orthetrum chrysis*	Abundant. Widely distributed in pools and marshy areas adjacent to flowing streams throughout Hong Kong.	-											1	3		1	
Russet Percher	*Neurothemis fulvia*	Common. Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong.	-											6	6		5	
Saddlebag Glider	*Tramea virginia*	Abundant. Widely distributed in trees adjacent to ponds and lakes throughout Hong Kong.	-							1								

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1] [4]	Conservation status[2] [3]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Variegated Flutterer	*Rhyothemis variegata arria*	Common. Widely distributed in marshes, ponds and tanks throughout Hong Kong.	-														1
Wandering Glider	*Pantala flavescens*	Abundant. Widely distributed all over Hong Kong.	-				4	4		78		2			1		1
Yellow Featherlegs	*Copera marginipes*	Abundant. Widely distributded in lowland streams, ditches, and weedy margins of pond throughout Hong Kong.	-							1				10	3		
Number of odonate species recorded in each habitat within the Application Site & Ecological Study Area				0	0	0	1	1	0	6	0	5	0	13	8	0	7
Total number of odonate species recorded within the Application Site & Ecological Study Area				0			1		22								

Notes:

1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
3. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
4. Tam *et al.* (2011). The Dragonflies of Hong Kong.
5. **Species in bold are considered of conservation importance.**

Abbreviations:

- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); GUA = Green Urban Area; MW = Mixed Woodland (Woodland); NWC = Natural Watercourse; MWC = Modified Watercourse; RP= Rural Plantation; P = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)

Appendix E Herpetofauna species recorded within the Ecological Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Bamboo Snake	*Trimeresurus albolabris*	Very common and widespread in Hong Kong.	-					1									
Blue-tailed Skink	*Plestiodon quadrilineatus*	Distributed in woodlands on Lantau Island, Hong Kong Island, Po Toi, Lung Kwu Chau.	-							5		2					
Bowring's Gecko	*Hemidactylus bowringii*	Distributed throughout Hong Kong.	-	1	3		3	6		5		1					
Brown Forest Skink	***Sphenomorphus incognitus***	**Distributed in streams in the New Territories.**	**Fellowes et al. (2002): LC**									3					
Buff-striped Keelback	***Amphiesma stolatum***	**Distributed in lowland in central and northern New Territories and Lantau Island.**	**Fellowes et al. (2002): LC**		1												
Burmese Python	***Python bivittatus***	**Widely distributed throughout Hong Kong.**	**IUCN Red List: VU; Fellowes et al. (2002): PRC; Cap. 170; Cap. 586;**							1							

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
			List of Wild Animals under State Priority Conservation : Class II; Red List of China's Vertebrates: CR; CITES: Appendix II; China Red Data Book Status: Critically Endangered														
Changeable Lizard	*Calotes versicolor*	Widely distributed throughout Hong Kong.	-	1				1				2					
Chinese Gecko	*Gekko chinensis*	Widely distributed throughout Hong Kong.	-							1		4					
*Chinese Soft-shelled Turtle	*Pelodiscus sinensis*	Locally found in reservoirs and fishponds in Deep Bay area.	IUCN Red List: VU; Fellowes et al. (2002): GC; Cap. 170; Red List of China's Vertebrates: EN; China Red Data Book Status: Vulnerable												2		
Four-clawed Gecko	***Gehyra mutilata***	**Widely distributed throughout**	**Red List of China's**							4		2					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		Hong Kong.	**Vertebrates: VU**														
Red-eared Slider	*Trachemys scripta elegans*	Widely distributed and commonly found in reservoirs or ponds in urban parks.	-											1	20		
Red-necked Keelback	*Rhabdophis subminiatus helleri*	Very common and widely distributed in Hong Kong.	-							1							
Asian Common Toad	*Duttaphrynus melanostictus*	Widely distributed in Hong Kong.	-		5		2	3		28		6		27	30	4	1
Asiatic Painted Frog	*Kaloula pulchra*	Widely distributed in Hong Kong.	-					1		5		6		15			
Brown Tree Frog	*Polypedates megacephalus*	Widely distributed throughout Hong Kong.	-							7		1				1	1
Brown Wood Frog	***Hylarana latouchii***	**Distributed in woodlands in Tai Po Kau Nature Reserve, Shing Mun Country Park, Tai Mo Shan Country Park, Sai**	**Fellowes et al. (2002): LC**											10	1		

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		Kung West Country Park and Clear Water Bay Peninsula.															
Butler's Pigmy Frog	*Microhyla butleri*	Widely distributed in Hong Kong.	-											10		1	
Greenhouse Frog	*Eleutherodactylus planirostris*	Widely distributed throughout Hong Kong.	-	1								5					
Gunther's Frog	*Sylvirana guentheri*	Widely distributed throughout Hong Kong.	-	1		2	3			8		2	2	40	36		
Hong Kong Cascade Frog	***Amolops hongkongensis***	**Widely distributed in mountain streams in Hong Kong.**	**IUCN Red List: EN; Fellowes et al. (2002): PGC; Cap. 170; List of Wild Animals under State Priority Conservation : Class II; Red List of China's Vertebrates: EN**											18			
Lesser Spiny Frog	***Quasipaa exilispinosa***	**Widely distributed in upland forest streams throughout**	**Fellowes et al. (2002): PGC; Red List of China's Vertebrates: VU**											4			1

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Abundance													
				Application Site					Ecological Study Area								
				Outside Development Site			Within Development Site										
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
		Hong Kong.															
Marbled Pigmy Frog	*Microhyla pulchra*	Widely distributed in Hong Kong.	-							1							
Ornate Pigmy Frog	*Microhyla fissipes*	Widely distributed in Hong Kong.	-							6		3		7			1
Paddy Frog	*Fejervarya limnocharis*	Widely distributed in Hong Kong.	-			1				5		3		31		1	5
Number of herpetofauna species recorded in each habitat within the Application Site & Ecological Study Area				4	3	2	3	5	0	13	0	13	1	10	5	4	5
Total number of herpetofauna species recorded within the Application Site & Ecological Study Area				7			6		22								

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
4. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
5. Jiang, Z. G., Jiang, J. P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L. L., … & Dong, L. (2016). Red list of China's vertebrates.
6. List of Wild Animals under State Priority Conservation (2021).
7. Zhao & Wang (1998). China Red Data Book of Endangered Animals: Amphibia and Reptilia.
8. **Species in bold are considered of conservation importance.**

- * Chinese Soft-shelled Turtle, *Pelodiscus sinensis* is listed as "Vulnerable" in the IUCN Red List Status, "Global Concern" in Fellowes *et al.*, Cap. 170 and "Endangered" in Red List of China's Vertebrates Status. However Chinese Soft-shelled Turtle has a narrow distribution in Hong Kong and is cultivated as pet or food in artificial ponds. This recorded individual is believed to be released into the Pond (Artificial Pond). Thus, it is not considered of conservation importance.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: CR = Critically Endangered; EN = Endangered; VU = Vulnerable
- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); GUA = Green Urban Area; MW = Mixed Woodland (Woodland); NWC = Natural Watercourse; MWC = Modified Watercourse; RP= Rural Plantation; P = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)

Appendix F Mammal species recorded within the Ecological Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2]	Abundance														
				Application Site					Ecological Study Area									
				Outside Development Site			Within Development Site											
				DA	RP	T	DA	RP	AGR	DA	GUA	MW	MWC	NWC	P	RP	SG
Pallas's Squirrel	***Callosciurus erythraeus***	**Common. Fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam).**	**Cap. 170**														**1**
Short-nosed Fruit Bat	***Cynopterus sphinx***	**Very widely distributed in urban and countryside areas throughout Hong Kong.**	**Cap. 170**							**24**							
Number of terrestrial mammal species recorded in each habitat within the Application Site & Ecological Study Area by Active Searching				0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total number of terrestrial mammal species recorded within the Application Site & Ecological Study Area by Active Searching				0			0		2								

Remark: all wild bat species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. **Species in bold are considered of conservation importance.**
4. Bat species recorded by Acoustic Bat Detector and mammal species recorded by Infrared Camera Trap are excluded.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area (Other Urban Area); GUA = Green Urban Area; MW = Mixed Woodland (Woodland); NWC = Natural Watercourse; MWC = Modified Watercourse; RP= Rural Plantation; P = Pond (Artificial Pond); SG = Shrubby Grassland; T = Turfgrass (Green Urban Area)

Appendix G Bat species recorded within the Ecological Study Area by Acoustic Bat Detector

Common Name	Scientific Name	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4]	Occurrence		
				Within Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Chinese Horseshoe Bat	*Rhinolophus sinicus*	Very common. Widely distributed in countryside areas throughout Hong Kong.	Cap. 170	✓		
Chinese Noctule	*Nyctalus plancyi*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC; Cap. 170	✓	✓	✓
Chinese Pipistrelle	*Hypsugo pulveratus*	Only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings.	Fellowes et al. (2002): (LC); Cap. 170	✓	✓	✓
Greater Bent-winged Bat	*Miniopterus magnater*	Data deficient.	Fellowes et al. (2002): PRC; Cap. 170			✓
Himalayan Leaf-nosed Bat	*Hipposideros armiger*	Very common. Widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	✓		✓
Japanese Pipistrelle	*Pipistrellus abramus*	Widely distributed throughout Hong Kong.	Cap. 170	✓	✓	✓
Least Horseshoe Bat	*Rhinolophus pusillus*	Widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC; Cap. 170			✓
Least Pipistrelle	*Pipistrellus tenuis*	Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.	Cap. 170	✓	✓	✓
Lesser Bamboo Bat	*Tylonycteris pachypus*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170; China Red Data Book Status: Rare	✓	✓	✓

Common Name	Scientific Name	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4]	Occurrence		
				Within Application Site		Ecological Study Area
				Outside Development Site	Within Development Site	
Lesser Bent-winged Bat	***Miniopterus pusillus***	**Fairly widely distributed in countryside areas throughout Hong Kong.**	**Fellowes et al. (2002): (LC); Cap. 170**			✓
Whiskered Myotis	***Myotis muricola***	**Rare/Species of Conservation Concern. Only several records in the countryside areas in the New Territories and on Lantau.**	**-**	✓		
Total number of bat species recorded within the Application Site & Ecological Study Area by Acoustic Bat Detector				8	5	9

Remark: all wild bat species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Wang (1999). China Red Data Book of Endangered Animals: Mammalia.
4. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
5. **Species in bold are considered of conservation importance.**
6. As bats are highly mobile, and no specific habitat utilization of the recorded bats was observed, locations of bats were recorded by within the Application Site or outside the Application Site.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern

Appendix H Mammal Species Recorded withing the Ecological Study Area by Infrared Camera Trap

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5]	Occurrence	
				Within Application Site	Outside Application Site
Domestic Cat	*Felis catus*	Widely distributed in urban and countryside areas throughout Hong Kong.	-	✓	✓
Domestic Dog	*Canis lupus familiaris*	Widely distributed in urban and countryside areas throughout Hong Kong.	-	✓	✓
Eurasian Wild Pig	*Sus scrofa*	Very widely distributed in countryside areas throughout Hong Kong.	-	✓	✓
Red Muntjac	***Muntiacus muntjak***	**Very widely distributed in countryside areas throughout Hong Kong.**	**Fellowes *et al.* (2002): PRC**		✓
Small Indian Civet	***Viverricula indica***	**Widely distributed in countryside areas throughout Hong Kong, except for Lantau Island and northwestern New Territories.**	**Cap. 170; List of Wild Animals under State Priority Conservation: Class I; Red List of China's Vertebrates: VU**		✓
Total number of mammal species recorded within the Application Site & Ecological Study Area by Infrared Camera Trap				3	5

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
4. Jiang, Z. G., Jiang, J. P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L. L., ... & Dong, L. (2016). Red list of China's vertebrates.
5. List of Wild Animals under State Priority Conservation (2021).
6. **Species in bold are considered of conservation importance.**

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: VU = Vulnerable

Appendix I Freshwater Community species recorded within the Ecological Study Area

Common Name	Species Name	Rarity and Distribution in Hong Kong[1 6]	Conservation Status[2 3 4 5]	Relative Abundance			
				Application Site	Ecological Study Area		
				-	Pond (Artificial Pond)	Natural Watercourse	Modified Watercourse
Fish							
-	*Rhinogobius duospilus*	Common. Probably the commonest goby in Hong Kong and is widely distributed in upper and middle course of streams, sometimes occurs in lowland streams.	-			+	
Common Carp	*Cyprinus carpio*	Not common in streams but occurs in many reservoirs and cultivated in fishponds as food fish.	IUCN Red List Status: VU		+++		
Flat-headed Loach	*Oreonectes platycephalus*	Common. It can be found in upper streams throughout Hong Kong.	-			+	
Goldfish	*Carassius auratus*	Not common in streams but occurs in many reservoirs and cultivated in fishponds.	-		+++		
Mosquito Fish	*Gambusia affinis*	Introduced as a mosquito-control agent, widespread in local freshwater bodies.	-			++	
Typical Pleco	*Hypostomus sp.*	-	-		++		
Typical Tilapia	*Tilapia sp.*	-	-		+++	+++	
Invertebrate							
-	*Anax* sp.	-	-			+	
-	Gomphidae sp.1	-	-			+	
-	Gomphidae sp.2	-	-			+	
-	*Macrobrachium venustum*	-	-			+	
-	*Orthetrum* sp.	-	-			+	
-	***Somanniathelphusa zanklon***	**Distributed quite widely in the northern and western New Territories and Lantau Island of Hong Kong**	**Fellowes et al. (2002): GC; IUCN Red List Status: EN; Endemic to Hong Kong**			**+**	
Canton Bee Shrimp	*Caridina cantonensis*	-	-			+++	

Common Name	Species Name	Rarity and Distribution in Hong Kong[1 6]	Conservation Status[2 3 4 5]	Relative Abundance			
				Application Site	Ecological Study Area		
				-	Pond (Artificial Pond)	Natural Watercourse	Modified Watercourse
#Emerald Cascader	***Zygonyx iris***	**Abundant. Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong.**	**Fellowes et al. (2002): PGC**			**+**	
Flatheaded Mayfly	Heptageniidae	-	-			**+**	
Large Stream Snail	*Sulcospira hainanensis*	-	-			+	
Long-armed Swamp Shrimp	*Macrobrachium vietnamense*	-	-			++	
#Small Dragonhunter	***Sieboldius alexanderi***	**Uncommon. Found in woodland streams. Found mainly in the Northeast New Territories, including Sha Lo Tung, Tai Lam Country Park, Pat Sin Leng etc.**	**Reels (2019): Dragonfly species of conservation interest**			**+**	
Number of freshwater community species recorded within the Application Site & Ecological Study Area				-	4	16	0
Total number of freshwater community species recorded within the Application Site & Ecological Study Area				-	19		

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
3. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
4. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
5. Stanton & Leven. (2016). Distribution, habitat utilisation and conservation status of the freshwater crab, Somanniathelphusa zanklon Ng & Dudgeon, 1992 (Crustacea: Brachyura: Gecarcinucidae) endemic to Hong Kong.
6. Tam *et al.* (2011). The Dragonflies of Hong Kong.
7. **Species in bold are considered of conservation importance.**

- * Common Carp, *Cyprinus carpio*, is listed as "Vulnerable" in the IUCN Red List Status. However, Common Carp is not common in streams but occurs in many reservoirs and cultivated in fishponds as food fish. This recorded individual is believed to be released into the Pond (Artificial Pond). Thus, it is not considered of conservation importance.
- # Emerald Cascader *Zygonyx iris* and Small Dragonhunter *Sieboldius alexanderi* were recorded in larva stage inside watercourses.

Abbreviations:
- Relative abundance: + = scarce, ++ = occasional, +++ = abundant
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern

- Conservation Status: EN = Endangered; VU = Vulnerable