Appendix 8

Ecological Impact Assessment

Rezoning S.12A application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, from "Agriculture" to "Government, Institution or Community (1)" [G/IC(1)] in various lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po
Response-to-comment Table for Ecological Impact Assessment Report (Dry and Wet Season) issue 1 dated 29th July 2026

Comments of the Director of Agriculture, Fisheries and Conservation [Contact person: Mr. Season SIT (Tel: 2150 6953)]

Item	Comment from AFCD	Response
Specific Comments:		
(1)	please replace the term "successional grassland" with "grassland" in the report.	Revised accordingly.
(2)	in Section 4.6, Lam Tsuen River and Pak Ngau Shek Stream were discussed together on their overall ecological value. Please consider separating the two watercourses in the discussion in view of their difference in nature and naturalness.	They are split into Table 14 & 15
(3)	in Figure 5, please confirm if the locations identified with Hong Kong Newts and majority of aquatic fauna were on the upper section of Pak Ngau Shek Stream and please discuss if this will be a factor affecting the impact of proposed development on the subject fauna, i.e. the indirect impact mentioned in Section 6.2.1.	Section 6.2.1 is further elaborated and expanded into 6.2.1 to 6.2.4. Despite the subject fauna is confirmed on the upper section of PNSS during our survey, this will not be a factor affecting the impact of proposed development on them; since the PNSS will be fenced off from the works boundary with a 5m buffer. Proposed mitigation measures remained the same as a precaution against the potential indirect impact.
(4)	please review if the mitigation measure suggested in Section 6.2.5 is necessary in view that there was no highly light-sensitive fauna identified in vicinity to the project site.	(as Section 6.2.8 in this issue 2) Various highly mobile and nocturnal bat species, which are protected species, were recorded over the assessment area. Baseline and literature record on other light-sensitive fauna (e.g. Firefly) are not comprehensive for the exact site. Therefore we'd better keep a higher standard of mitigation measure which mainly targeting outdoor lighting. This also reduce the potential impact to

Item	Comment from AFCD	Response
		residents of Shui Wo Village.

BeeXergy Consulting Limited

Ecological Impact Assessment Report (Dry and Wet Season)

Rezoning S.12A application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, from "Agriculture" to "Government, Institution or Community (1)" [G/IC(1)] in various lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po

Issue 2

18th September 2026



Prepared by:
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Ecologist
On behalf of Coalition for Research on Ecology & Wildlife Limited

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Rezoning S.12A application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, from "Agriculture" to "Government, Institution or Community (1)" [G/IC(1)] in various lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po –
Ecological Impact Assessment Report (Dry and Wet Season)

1 Introduction

1.1 *Background*

1.1.1 The Project Site is located at various lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po. Current application of rezoning aims to facilitate the development of a Residential Care Home for the Elderly (RCHE) and a Residential Care Home for Persons with Disabilities (RCHD) comprised of two conceptual 9-storey building footprints and associated facilities.

1.1.2 Since the Project Site is adjacent to a section of Lam Tsuen River, which is designated as an Ecologically Important Stream (EIS) by the Agriculture, Fisheries and Conservation Department (AFCD), an ecological impact assessment is required to obtain ecological baseline and verify the presence of any species of conservation importance in conflict with the proposed rezoning application. Such information helps assess works impacts and recommend necessary environmental mitigation measures before finalising the works design.

1.1.3 This Ecological Impact Assessment Report presents the findings of the ecological surveys carried out in the dry season 2025/26 and wet season 2026. The ecological impact assessment is undertaken based on the findings up-to-date.

1.2 *Objectives*

1.2.1 The main objectives of this ecological study are:

- to conduct ecological survey for the Project Site and the surrounding Assessment Area in order to obtain necessary information to facilitate the planning and design of the proposed development; and
- to identify and evaluate the potential ecological impacts associated with the construction and operational phase of the proposed development, and recommend the corresponding mitigation measures.

1.3 *Description of the Project Sites and the Assessment Area*

1.3.1 The Project Site is comprised of three adjoining portions along Tai Po Shui Wo Road, near Lam Kam Road, New Territories. It is situated in an agricultural area according to the Outline Zoning Plan as in **Figure 1**. The Assessment Area covers 300 m radius from the site boundaries of the Project Site.

2 Ecological Study Methodology

2.1 *Assessment Requirements*

2.1.1 The ecological survey and assessment followed the requirements of the pertinent of Annexes 8 and 16 of the Environmental Impact Assessment Ordinance (EIAO) Technical Memorandum. The methodology in carrying out the survey will also refer to the EIAO Guidance Notes No. GN 7/2023 "*Ecological Baseline Survey for Ecological Assessment*" and No. 10/2023 "*Methodologies for Terrestrial and Freshwater Ecological Baseline Survey*".

2.2 *Survey Programme*

2.2.1 The ecological survey covered a total of six months – three months in the dry season (December 2025 – February 2026) and three months in the wet season (April – June 2026). A summary table of ecological surveys is provided **Table 1**.

Table 1. Ecological Survey Programme.

Ecological Surveys	2025	2026					
	Dry Season				Wet Season		
	Dec	Jan	Feb	Mar	Apr	May	Jun
Habitat and vegetation survey	✓				✓		
Avifauna survey (daytime & night-time)	✓	✓	✓		✓	✓	✓
Terrestrial mammal survey (daytime & night-time)	✓	✓	✓		✓	✓	✓
Butterfly and odonate survey (daytime)	✓	✓	✓		✓	✓	✓
Herpetofauna survey (daytime & night-time)	✓	✓	✓		✓	✓	✓
Freshwater communities survey (daytime & night-time)	✓	✓	✓		✓	✓	✓

Ecological Surveys	2025	2026					
		Dry Season			Wet Season		
	Dec	Jan	Feb	Mar	Apr	May	Jun
Firefly Survey (night-time)	✓	✓	✓		✓	✓	✓

2.3 *Qualifications of Ecological Surveyors*

2.3.1 The ecological survey was conducted by a team of ecological surveyors from Coalition for Research on Ecology & Wildlife Limited. The qualifications of the ecological surveyors are provided in **Appendix 1**.

2.4 *Literature Review*

2.4.1 Relevant reports, studies, books, scientific papers and other available information regarding the ecological characteristics of the Assessment Area were reviewed and collated. The information collected was evaluated to identify any information gaps relating to the assessment of potential ecological impacts.

2.5 *Survey Transect*

2.5.1 Survey transects for vegetation and multi-fauna surveys, covering representative habitat types identified within the Project Site and Assessment Area, are shown in **Figure 2**.

2.6 *Survey Methodology of Habitat and Vegetation Surveys*

2.6.1 Habitats within the Project Site and Assessment Area were identified, sized and mapped. Ecological characteristics of each habitat type, including size, vegetation type, species present, dominant species found, species diversity and abundance, community structure, ecological value and inter-dependence of the habitats and species, and presence of any features of ecological importance were defined and characterized. Representative photographs of the habitat types and/or any important ecological features identified were taken. A habitat map of suitable scale showing types and locations of habitats was prepared from digital aerial photographs. The habitat map was then checked during habitat ground-truthing survey.

2.6.2 Vegetation surveys were conducted in both dry and wet season by direct observation to record diversity and dominance of plant species present in different habitat types. The locations of plant species of conservation importance were recorded.

Identification of flora species and status in Hong Kong was done with reference to Corlett et al. (2000), Hong Kong Herbarium and South China Botanical Gardens (2007, 2008, 2009, 2011) and HK Plant Database by Hong Kong Herbarium (2026). Conservation status follows AFCD (2003), IUCN (2026), List of State Key Protected Wild Plants and China Biodiversity Red List — Higher Plants Volume (2020).

2.7 *Survey Methodology of Fauna Surveys*

2.7.1 Species lists are provided and all species of conservation importance are marked on a map. Local distribution and conservation and protection status are referenced by Fellowes et al. (2002), AFCD (2026), IUCN (2026), List of State Key Protected Wild Animals, China Biodiversity Red List — Vertebrates Volume (2020), the State of Hong Kong Biodiversity 2025 (Or and Chan, 2025), Wild Animals Protection Ordinance (Cap. 170) and Protection of Endangered Species of Animals and Plants Ordinance (Cap.586), in conjunction with specific literature of each taxa group listed below.

2.7.2 The nomenclature of fauna generally follows the Hong Kong Biodiversity Information Hub (AFCD, 2026), unless otherwise specified.

2.7.3 Details of survey methodology of each fauna group are provided below.

Avifauna Survey

2.7.4 The presence and abundance of avifauna species at various habitats were recorded visually and aurally. Avifauna within the Project Site and Assessment Area was surveyed quantitatively using transect count method in early morning, i.e. before 9am, which is generally peak activity period of birds. Night-time survey was also arranged for the detection of nocturnal species. The locations of avifauna species of conservation importance encountered were recorded, along with notable behavior (e.g. breeding behavior such as nesting and presence of recently fledged juveniles, roosting, and feeding activities).

Terrestrial Mammal Survey

2.7.5 Surveys were conducted along transects and in areas which might potentially be utilized by terrestrial mammals. The surveys focused on searching for field signs such as droppings, footprints, diggings or burrows left by larger terrestrial mammals.

Mammal identification was made as accurate as possible from the field signs encountered. In addition, mammals directly observed during daytime and nighttime surveys were recorded.

2.7.6 Bat survey was also carried out using an ultrasonic bat detector along transects at potential roosting, commuting, foraging and drinking sites. Bat surveys were undertaken at dusk by an experienced surveyor equipped with an ultrasonic bat detector at potential roosting, commuting, foraging and drinking sites. A digital mobile device was also be employed to record all bat calls for later analysis using computer software. Bat species were identified and located through the detection of echolocation calls as well as by direct visual observation. Field observation (e.g. their behavior, such as flying pattern and height, size of bat species, nearby habitats, etc.) were recorded to aid in the identification of the bat species.

Odonate and Butterfly Survey

2.7.7 Odonates (dragonflies and damselflies) and butterflies and within the Project Site and Assessment Area were surveyed along transects. Attention was given to their potential habitats. Relative abundance of butterfly and odonate was recorded, while larvae and pupae encountered were also recorded.

2.7.8 Rarity of butterflies refers to Lee et al. (2026).

Herpetofauna Survey

2.7.9 Herpetofauna (amphibian and reptile) within the Project Site and Assessment Area was surveyed along transects during both daytime and night-time. Potential microhabitats (e.g. leaf litter, underneath of rotten logs) were searched.

2.7.10 Amphibian surveys focused on areas suitable for amphibians (e.g. forests, shrublands, grasslands, streams, catchwaters, fishponds and marshes, if any), especially near waterbodies. Records of calling amphibians formed the bulk of the data collected, but this was also supplemented by visual observation of eggs, tadpoles and adults.

2.7.11 During reptile surveys, careful searches of appropriate microhabitats and refugia (e.g. stones, pond bunds, crevices, leaf litter/debris, rotten log) were undertaken.

Freshwater Communities Survey

2.7.12 Direct bank side counting and active searching for aquatic communities, wherever applicable, were adopted in both daytime and nighttime at the designated freshwater sampling points (see **Figure 2**). To avoid driving organisms (e.g. fish and shrimps) away, direct observation from a suitable distance was conducted before active searching in which boulders were carefully overturned to detect any aquatic fauna beneath. After inspection, the boulders were returned to their original positions to minimize disturbance to the bottom substrate. Organisms encountered were recorded and identified to the lowest possible taxon level.

Firefly Survey

2.7.13 Firefly surveys were conducted during nighttime along transects. Fireflies were detected by direct observation. Lighting devices were switched off at sufficient intervals to allow detection of fireflies at suitable locations along the transect. Locations with less artificial lighting and potential habitats along the transects, such as aquatic habitats preferred by some of the firefly species, were prioritised. All fireflies observed, including adults and larvae, were identified to species level as far as possible.

3 Ecological Findings

3.1 *Literature Review*

3.1.1 A section of Lam Tsuen River (Upper) Ecologically Important Stream (EIS) is located within the eastern part of the Assessment Area (see **Figure 3**). Other sites of conservation importance in the Lam Tsuen Valley, including Lam Tsuen Country Park, Tai Om Fung Shui Woodland Site of Special Scientific Interest (SSSI), Ng Tung Chai SSSI and Conservation Area under OZP zoning, are situated more than 500 m from the Project Site.

3.1.2 Lam Tsuen River (Upper) EIS is recognised for its relatively unpolluted, riverine habitat that sustains a high biodiversity of aquatic and riparian wildlife. A review of relevant literature indicates that various fauna species of conservation importance were present in the upper watercourse sections connecting to the EIS. According to AECOM (2024), Lesser Spiny Frog was recorded in the upper connecting watercourses. Furthermore, baseline ecological data from the Drainage Services

Department (DSD, n.d.) and Mannings (Asia) Consultants Limited (2020) highlight a rich assemblage of herpetofauna and aquatic invertebrates in the Upper Lam Tsuen River. Key aquatic species present include the Hong Kong Cascade Frog, Chinese Bullfrog, Brown Wood Frog, Hong Kong Newt and the freshwater crab *Nanhaipotamon hongkongense*.

3.1.3 No ecological impact assessment findings have been recorded within the Assessment Area of the Project.

3.2 *Survey Findings on Habitat and Vegetation*

3.2.1 A total of six habitat types, namely watercourse, woodland, grassland, agricultural area, shrubland and developed area, were identified from the habitat survey. A habitat map is prepared in **Figure 2**. Photographic records of the Project Sites and habitats within the Assessment Area are provided in **Appendix 2**. A plant list showing all species recorded during the vegetation survey, as well as information on their growth form, rarity, origin, conservation status and relative abundance in each habitat, is provided in **Appendix 3.** The sizes of each habitat type within the Project Site and Assessment Area are summarized in **Table 2**.

Table 2 Sizes of each habitat type within the Project Site and the Assessment Area.

Habitat	Project Site	Assessment Area
Area (ha)		
Woodland	-	10.67
Agricultural Area	0.15	6.99
Grassland	0.27	5.69
Shrubland	-	0.34
Developed Area	-	12.60
Length of watercourse (m)		
Pak Ngau Shek Stream section	-	1524.5
Lam Tsuen River section	-	440.8

Project Site

3.2.2 The Project Site, covering an area of approximately 0.42 ha, is situated on land primarily zoned as "Agriculture" (AGR) under the Outline Zoning Plan (OZP). The site is broadly categorized into two habitat types: grassland (0.27 ha) and agricultural land (0.15 ha). Due to its immediate proximity to Tai Po Shui Wo Road,

near Lam Kam Road, as well as nearby villages, the Project Site is subject to a generally high level of human disturbance.

3.2.3 The agricultural land habitat (0.15 ha) within the Project Site consists of a few fields currently under farming practices. Given the active management and frequent human presence associated with cultivation, the natural plant diversity within this area is low. The habitat is highly modified, and no mature trees were identified within the project boundary.

3.2.4 The remaining portions of the Project Site comprise abandoned agricultural fields that have transitioned into grassland (0.27 ha). This habitat has been heavily disturbed historically. The vegetation structure is predominantly characterized by dominance of common weedy and exotic species. Dominant species includes *Microstegium ciliatum* (剛莠竹), *Mikania micrantha* (薇甘菊), *Solanum americanum* (少花龍葵), *Mimosa pudica* (含羞草) and *Wedelia trilobata* (三裂葉蟛蜞菊). The establishment of these opportunistic weeds further indicates the degraded condition of the site.

3.2.5 Despite the highly modified and disturbed nature of the Project Site itself, it is situated in close proximity to the Pak Ngau Shek Stream. This adjacent watercourse is considered to have moderate to high ecological importance. While the habitats within the Project Site lack significant ecological value or mature trees, their potential hydrological connectivity to this nearby sensitive receiver will be a key consideration in assessing potential indirect impacts.

Assessment Area

3.2.6 The Assessment Area for the ecological impact assessment covers a 300-meter radius from the Project Site boundary. Five habitat types were identified within the Assessment Area: woodland (10.67 ha), agricultural land (6.99 ha), grassland (5.69 ha), shrubland (0.34 ha) and developed area (12.6 ha). Overall, the plant species recorded across these different habitats are predominantly common and widespread in Hong Kong, representing a typical plant composition for disturbed lowland environments.

3.2.7 Woodland is the major natural habitat within the Assessment Area, mostly distributed around the fringes of the developed areas. The woodland canopy is moderately closed, ranging from approximately 6 to 12 meters in height. The

vegetation is characterized by common native trees and understorey shrubs, with dominant species including *Microcos nervosa* (破布葉), *Schefflera heptaphylla* (鵝掌柴), *Ficus hispida* (對葉榕), *Alangium chinense* (八角楓) and *Psychotria asiatica* (九節). In the northwestern part of the Assessment Area, a small patch of shrubland was identified. This habitat represents a successional stage transiting into woodland, dominated by shrubs and pioneer species such as *Microcos nervosa* (破布葉), *Desmos chinensis* (假鷹爪), *Macaranga tanarius* var. *tomentosa* (血桐), *Caesalpinia crista* (華南雲實) and the exotic climber *Mikania micrantha* (薇甘菊).

3.2.8 The Lam Tsuen Valley has a long history of farming activities. While agricultural land still occupies a notable portion of the Assessment Area, supporting active cultivation of crops (e.g., *Lactuca sativa* 萵苣, *Capsicum annuum* 辣椒, *Allium fistulosum* 蔥) and fruit trees (e.g., *Litchi chinensis* 荔枝, *Carica papaya* 番木瓜, *Prunus persica* 桃, *Artocarpus heterophyllus* 菠蘿蜜), a significant amount of historical farmland has been abandoned. These abandoned fields have gradually transformed into grassland. This habitat is heavily overgrown and dominated by opportunistic weeds and climbers, particularly *Microstegium ciliatum* (剛莠竹), *Mikania micrantha* (薇甘菊), *Pueraria lobata* (葛) and the pioneer small tree *Trema tomentosa* (山黃麻). Common field weeds such as *Bidens alba* (白花鬼針草) and *Oxalis corniculata* (酢漿草) are also abundant across both active and abandoned field margins.

3.2.9 Two major watercourses transverse the Assessment Area: several branches of the Pak Ngau Shek Stream (PNSS) and a section of the Lam Tsuen River (LTR). Notably, the Lam Tsuen River is designated as an Ecologically Important Stream (EIS) by the Agriculture, Fisheries and Conservation Department (AFCD) due to its rich freshwater biodiversity and the presence of species of conservation importance. Although sections of both watercourses within the Assessment Area have been subjected to partial modification or channelization and experience moderate levels of human disturbance from nearby villages, they continue to support a high diversity of aquatic and riparian-dependent fauna.

3.2.10 Developed area is the largest single habitat within the Assessment Area (12.6 ha), comprising villages, roads and associated infrastructure. Vegetation within this highly modified habitat is largely restricted to planted landscaping and weeds establishing along roadside verges and village fringes. Commonly recorded species

include *Wedelia trilobata* (三裂葉蟛蜞菊), *Spilanthes paniculata* (金鈕扣), *Microstegium ciliatum* (剛莠竹) and *Panicum maximum* (大黍).

3.3 *Survey Findings on Flora Species of Conservation Importance*

3.3.1 No plant species of conservation importance was recorded within the Project Site boundary during the ecological surveys.

3.3.2 Within the Assessment Area, a total of three plant species of conservation importance were recorded, namely *Aquilaria sinensis* (土沉香), *Aralia chinensis* (楤木), and *Pavetta hongkongensis* (香港大沙葉). The majority of these individuals were identified within the woodland habitat in the northwestern portion of the Assessment Area, which is separated from the Project Site. This included three individuals of *Pavetta hongkongensis*, three individuals of *Aralia chinensis* and four individuals of *Aquilaria sinensis*. Additionally, three saplings of *Aquilaria sinensis* were recorded in the Developed Area, located within small patches of natural vegetation.

3.3.3 *Aquilaria sinensis* is a species of conservation importance in Hong Kong. While it is still locally common, it faces ongoing threats from illegal felling and over-exploitation for its valuable agarwood (AFCD, 2003; Hong Kong Herbarium, 2026).

3.3.4 *Aralia chinensis* is also considered common in the local context but is listed as Vulnerable globally (IUCN, 2026).

3.3.5 *Pavetta hongkongensis* is a protected species under local regulations.

3.3.6 Given that all identified individuals are located outside the Project Site boundary, no direct impact on these species of conservation importance is anticipated arising from the proposed works. The indicative locations of these species are mapped in **Figure 4**, and representative photographs are provided in **Appendix 2**. The conservation status, commonness in Hong Kong, and recorded habitats of these species are summarized in **Table 3**.

Table 3 Summary on plant species of conservation importance recorded in the Assessment Area.

Scientific Name	Chinese Name	Conservation and Protection status[1]	Rarity[2]	Assessment Area[3]	
				WL	DA
Aquilaria sinensis	土沉香	VU (IUCN), NT and under State protection (Category II) in China (AFCD 2003), V (CPRDB), Cap.586	Common	✓	✓
Aralia chinensis	楤木	VU (IUCN)	Common	✓	
Pavetta hongkongensis	香港大沙葉	Cap.96A	Common	✓	

Remarks:

1 Conservation and Protection Status refers to:
IUCN Red List (IUCN, 2026): VU = Vulnerable;
China Plant Red Data Book (CPRDB): V = Vulnerable;
Rare and Precious Plants of Hong Kong (AFCD, 2003): VU = Vulnerable, NT = Near Threatened;
Cap. 96A Forestry Regulations;
Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.

2 Rarity refers to Corlett et al. (2000) and Flora of Hong Kong (AFCD, 2007, 2008, 2009, 2011).

3 Habitat: DA = Developed area, WL = Woodland.

3.4 *Surveys Findings on Fauna*

3.4.1 Full lists of fauna species recorded during the survey are provided in **Appendix 3**. The indicative locations of fauna species of conservation importance are mapped in **Figure 5** and those for bat species are mapped in **Figure 6**. The representative species photographs are provided in **Appendix 2**.

Avifauna

3.4.2 A total of 20 and 55 bird species were recorded in the Project Site and Assessment Area, respectively. Among the species identified in the Assessment Area, 14 are of conservation importance (see **Table 4**). No bird species of conservation importance were recorded within the Project Site boundary.

3.4.3 The recorded bird species of conservation importance represent various ecological guilds. Wetland-associated species identified along the watercourses included Striated Heron, Chinese Pond Heron, Great Egret and Little Egret. Raptors included Crested Serpent Eagle, Crested Goshawk, Collared Scops Owl and Black Kite.

Several species typically found in woodland or shrubland were also recorded, namely Speckled Piculet, Rufous-capped Babbler, Silver-eared Mesia and Black-throated Laughingthrush. Furthermore, Greater Coucal and Long-tailed Shrike were identified within the agricultural and grassland habitats. All recorded bird species are protected under the Wild Animals Protection Ordinance (Cap. 170).

Table 4 Summary of bird species of conservation importance recorded in the Assessment Area. in dry season 2025/26 and wet season 2026. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	G	WC	WL
Milvus migrans	Black Kite	(RC); Class II Protected Species in China; Cap.586; CITES(II)			1		2
Pterorhinus chinensis	Black-throated Laughingthrush	Class II Protected Species in China					4
Ardeola bacchus	Chinese Pond Heron	PRC (RC)				1	1
Otus lettia	Collared Scops Owl	Class II Protected Species in China; Cap.586; CITES(II)					2
Accipiter trivirgatus	Crested Goshawk	Class II Protected Species in China; Cap.586; CITES(II)					1
Spilornis cheela	Crested Serpent Eagle	(LC); Class II Protected Species in China; Cap.586; CITES(II)					1
Ardea alba	Great Egret	PRC (RC)				2	
Centropus sinensis	Greater Coucal	Class II Protected Species in China	2		1		3
Egretta garzetta	Little Egret	PRC (RC)				2	
Lanius schach	Long-tailed Shrike	MR			1		
Cyanoderma ruficeps	Rufous-capped Babbler	LC					1
Leiothrix argentauris	Silver-eared Mesia	Class II Protected Species in China; Cap.586; CITES(II)					2
Picumnus	Speckled Piculet	LC		1			

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	G	WC	WL
innominatus							
Butorides striata	Striated Heron	(LC)				2	

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): LC = Local Concern; RC = Regional Concern; PRC = Potential Regional Concern; GC = Global Concern; PGC = Potential Global Concern, Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.;
- China Biodiversity Red List: NT = Near Threatened; VU = Vulnerable; EN = Endangered;
- List of State Key Protected Wild Animals (LSKPWA): II = Class II Protected Animal in China;
- IUCN (2026): EN = Endangered; VU = Vulnerable; NT = Near Threatened;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices I to III;
- All birds are protected under Cap. 170 Wild Animals Protection Ordinance; therefore, this is not regarded as a criteria for species evaluation; and
- Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.
- WWF (2025) The State of Hong Kong Biodiversity 2025: MR = Moderate Risk

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, G = Grassland, WC = Watercourse, WL = Woodland.

Mammal

3.4.4 No mammal species were recorded within the Project Site. A total of 12 mammal species were identified in the Assessment Area including 9 bat species (**Appendix 3**). Among them 11 of which are of conservation importance. The two terrestrial species, namely Pallas's Squirrel and Masked Palm Civet, were recorded within the woodland habitat (see **Table 5** and **Figure 5**). The 9 bat species were recorded across various habitats (**Table 5**). All of them are protected under the Wild Animals Protection Ordinance (Cap. 170).

Table 5 Summary of mammal species of conservation importance recorded in the Assessment Area. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	G	WC	WL
Callosciurus erythraeus	Pallas's Squirrel	Cap.170					1
Paguma larvata	Masked Palm Civet	PRC; Cap.170; Cap.586 ; CITES(III)					1
Cynopterus sphinx	Short-nosed Fruit Bat	Cap.170		1			
Hipposideros armiger	Himalayan Leaf-nosed Bat	(LC); Cap.170		1			2
Hypsugo pulveratus	Chinese Pipistrelle	(LC); Cap.170				1	
Miniopterus pusillus	Lesser Bent-winged Bat	(LC); Cap.170					1
Myotis chinensis	Chinese Myotis	(LC); Cap.170					1
Nyctalus plancyi	Chinese Noctule	PRC (RC); Cap.170		1			
Pipistrellus abramus	Japanese Pipistrelle	Cap.170	1	6		3	3
Rhinolophus sinicus	Chinese Horseshoe Bat	Cap.170				1	
Tylonycteris fulvida	Lesser Bamboo Bat	(LC); Cap.170					2

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): LC = Local Concern; RC = Regional Concern; PRC = Potential Regional Concern; GC = Global Concern; PGC = Potential Global Concern, Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.;
- China Biodiversity Red List: NT = Near Threatened; VU = Vulnerable; EN = Endangered;
- List of State Key Protected Wild Animals (LSKPWA): II = Class II Protected Animal in China;
- IUCN (2026): EN = Endangered; VU = Vulnerable; NT = Near Threatened;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices I to III;
- Cap. 170 Wild Animals Protection Ordinance; and
- Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, G = Grassland, WC = Watercourse, WL = Woodland.

Reptiles

3.4.5 No reptile species were recorded within the Project Site. A total of 5 reptile species were identified in the Assessment Area, none of which are of conservation importance (**Appendix 3**). Four species, namely Changeable Lizard, Long-tailed Skink, Chinese Gecko and Bowring's Gecko, were recorded within the developed area, with Changeable Lizard also recorded within the shrubland habitat. The Chinese Striped Terrapin was recorded along the watercourse; however, this species is considered to have been artificially introduced/released into the habitat and is therefore not regarded as a species of conservation importance.

Amphibians

3.4.6 No amphibian species of conservation importance were recorded within the Project Site boundary, with five common species being recorded. A total of 10 amphibian species were identified in the Assessment Area, among which three are of conservation importance, namely Hong Kong Cascade Frog, Short-legged Toad and Hong Kong Newt (see **Table 6**). All three species were recorded within the watercourse habitat. Hong Kong Newt was recorded in both PNSS and LTR watercourses with a peak count of 65 individuals. This relatively high number is typical for the species and is indicative of their winter breeding activities, during which adults migrate from surrounding woodlands to aggregate in stream pools for reproduction (Karsen et al., 1998).

3.4.7 Hong Kong Newt is a native species of conservation importance due to its reliance on unpolluted streams. It is listed as a Class II Protected Animal in China and is assessed as Near Threatened by the IUCN. Locally, it is protected under the Wild Animals Protection Ordinance (Cap. 170) and the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).

3.4.8 Hong Kong Cascade Frog and Short-legged Toad are also species of conservation importance recorded in the watercourses within the Assessment Area. Both species are assessed as Potential Global Concern by Fellowes et al. (2002) and are protected under the Wild Animals Protection Ordinance (Cap. 170). Hong Kong Cascade Frog is further assessed as Endangered by the IUCN and is listed as a Class II Protected Species in China, while Short-legged Toad is assessed as Vulnerable by the IUCN.

Table 6 Summary of amphibian species of conservation importance recorded in the Assessment Area. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	G	WC	WL
Paramesotriton hongkongensis	Hong Kong Newt	PGC; RLCV(NT); IUCN(NT); CITES(II); LSKPWA(II); Cap.170; Cap. 586				65	
Amolops hongkongensis	Hong Kong Cascade Frog	PGC; RLCV(EN); IUCN(EN); Class II Protected Species in China; Cap.170				1	
Megophrys brachykolos	Short-legged Toad	PGC; RLCV(VU); IUCN(EN)				1	

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): LC = Local Concern; RC = Regional Concern; PRC = Potential Regional Concern; GC = Global Concern; PGC = Potential Global Concern.
- China Biodiversity Red List: NT = Near Threatened; VU = Vulnerable; EN = Endangered;
- List of State Key Protected Wild Animals (LSKPWA): II = Class II Protected Animal in China;
- IUCN (2026): EN = Endangered; VU = Vulnerable; NT = Near Threatened;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices I to III;
- Cap. 170 Wild Animals Protection Ordinance; and
- Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, G = Grassland, WC = Watercourse, WL = Woodland.

Butterflies

3.4.9 A total of 13 butterfly species were recorded in the Project Site, all of which are common or very common in Hong Kong. In the Assessment Area, 54 butterfly species were identified, including potentially two taxa of conservation importance, the Common Birdwing (*Troides helena*) and an unidentified Common/Golden Birdwing (*Troides* sp., either *T. helena* or *T. aeacus*) (see **Table 7**). Both are listed as Class II Protected Animals in China and are protected under Cap. 170 (Common Birdwing) and Cap. 586. The Common Birdwing was recorded within the grassland habitat while the *Troides* sp. was recorded in the woodland.

Table 7 Summary of butterflies species of conservation importance recorded in the Assessment Area. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Local Restrictedness (Lee et al., 2026)	Conservation and Protection Status[1]	Assessment Area[2]				
				AG	DA	G	WC	WL
Troides helena/ T. aeacus	Common/Golden Birdwing	Uncommon for Common Birdwing; Rare for Golden Birdwing	Class II Protected Species in China, Cap.586, CITES(II) for both species; Cap. 170 for Common Birdwing; LC for Golden Birdwing					1
Troides helena	Common Birdwing	Uncommon	Class II Protected Species in China; Cap. 170; Cap.586; CITES(II)			1		

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): LC = Local Concern;
- List of State Key Protected Wild Animals (LSKPWA);
- IUCN (2026);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora;
- Cap. 170 Wild Animals Protection Ordinance; and
- Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, G = Grassland, WC = Watercourse, WL = Woodland.

Odonates

3.4.10 A total of 2 Odonate species were recorded in the Project Site, both of which are common or very common in Hong Kong. In the Assessment Area, 14 Odonate species were identified, including one species of conservation importance, the Emerald Cascader (*Zygonyx iris*), which is assessed as Potential Global Concern by Fellowes et al. (2002) (see **Table 8**). This species was recorded within the watercourse and shrubland habitats. The remaining 13 species recorded in the Assessment Area are common or abundant locally and were predominantly associated with the watercourse habitat.

Table 8 Summary of odonates species of conservation importance recorded in the Assessment Area. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	SL	WC	WL
Zygonyx iris	Emerald Cascader	PGC			1	3	

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): PGC = Potential Global Concern

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, SL = Shrubland, WC = Watercourse, WL = Woodland.

Aquatic communities

3.4.11 No aquatic fauna were recorded within the Project Site. A total of 19 aquatic species were identified within the Assessment Area, among which three are of conservation importance (see **Table 9**). These comprise two fish species, the Beijiang Thick-lipped Barb (*Acrossocheilus beijiangensis*) and Small Snakehead (*Channa asiatica*), and one crustacean, *Cryptopotamon anacoluthon*.

3.4.12 Beijiang Thick-lipped Barb is assessed as Global Concern by Fellowes et al. (2002), is listed as Endangered by KFBG (2019) and High Risk of local extinction by WWF (2025). Small Snakehead is assessed as Local Concern by Fellowes et al. (2002) and is of Moderate Risk of local extinction by WWF (2025). The Freshwater Crab *Cryptopotamon anacoluthon* is assessed as Potential Global Concern by Fellowes et al. (2002) and as Vulnerable by the IUCN (2026).

Table 9 Summary of freshwater fish and macroinvertebrate species of conservation importance recorded in the Assessment Area. Numbers are peak count of the species among the six surveys in the dry season 2025/26 and wet season 2026.

Scientific Name	Common Name	Conservation and Protection Status[1]	Assessment Area[2]				
			AG	DA	G	WC	WL
Acrossocheilus beijiangensis	Beijiang Thick-lipped Barb	GC; KFBG(EN); HR				50	
Channa asiatica	Small Snakehead	LC; MR				2	
Cryptopotamon anacoluthon	Freshwater Crab	PGC; IUCN(VU)				12	

Remarks

1 Conservation and Protection Status by:

- Fellowes *et al*. (2002): LC = Local Concern; RC = Regional Concern; PRC = Potential Regional Concern; GC = Global Concern; PGC = Potential Global Concern.
- IUCN (2026): VU = Vulnerable;
- KFBG (2019): EN = Endangered;
- WWF (2025) The State of Hong Kong Biodiversity 2025: MR = Moderate Risk; HR = High Risk

2 Maximum number recorded in each habitat: AG = Agricultural area, DA = Developed area, G = Grassland, WC = Watercourse, WL = Woodland.

Fireflies

3.4.13 No firefly species were recorded within the Project Site or Assessment Area during the survey period.

4 Ecological Evaluation

4.1 *Evaluation Requirements*

4.1.1 The ecological value of the habitats identified within the Project Site and Assessment Area is evaluated against the criteria recommended in Annex 8 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) and presented in **Tables 10 - 16**.

4.2 *Woodland*

Table 10 Ecological Evaluation of Woodland within the Assessment Area.

Criteria	Woodland within the Assessment Area
Naturalness	A semi-natural habitat formed by natural succession, though patches of mixed woodland contain previously planted exotic species (e.g., *Acacia confusa*).
Size	Absent within the Project Site; 10.67 ha within the Assessment Area.
Diversity	Moderate to high flora and fauna diversity.
Rarity	Habitat is common in Hong Kong, but some patches containing old trees may hold historical *Fung-shui* significance. It supports a high number of CI species: *Aquilaria sinensis*, *Aralia chinensis*, *Pavetta hongkongensis*, Crested Serpent Eagle, Crested Goshawk, Black Kite, Rufous-capped Babbler, Collared Scops Owl, Silver-eared Mesia, Black-throated Laughingthrush, Pallas's Squirrel, Masked Palm Civet and Common/Golden

Criteria	Woodland within the Assessment Area
	Birdwing etc.
Re-creatability	Re-creatable, but takes decades to reach current maturity and structural complexity.
Fragmentation	Relatively patchy near the Project Site and around the villages.
Ecological linkage	Ecologically linked to the Lam Tsuen Country Park in the north and the adjacent watercourses.
Potential value	Limited, as the woodland is already maturing and structurally complex.
Nursery/breeding ground	Provides general nesting and breeding opportunities for woodland-dependent avifauna and mammals.
Age	Estimated to be approximately 40 to 60 years.
Abundance/ Richness of wildlife	Moderate to High
Overall ecological value	**Moderate to High**

4.3 *Agricultural Land*

Table 11 Ecological Evaluation of Agricultural Land within the Project Site and the Assessment Area.

Criteria	Project Site	Assessment Area
Naturalness	Highly modified, man-made habitat subject to human management and active farming practices.	
Size	0.15 ha	6.99 ha
Diversity	Low plant diversity (dominated by exotic crops and weeds); low to moderate fauna diversity.	
Rarity	Habitat is common but gradually decreasing in Hong Kong.	Habitat is common but gradually decreasing in Hong Kong. Greater Coucal, a bird species of conservation importance, was recorded in the agricultural land within the Assessment Area but is a highly

Criteria	Project Site	Assessment Area
		mobile species that could occur in nearby areas.
Re-creatability	Easily re-creatable.	
Fragmentation	Scattered in discrete patches among abandoned fields and developed areas.	
Ecological linkage	Linked to surrounding watercourses, grassland and developed areas.	
Potential value	Low. It would quickly succeed into grassland when abandoned.	
Nursery/breeding ground	No significant records.	
Age	Active for more than 50 years based on the agricultural history of the Lam Tsuen Valley.	
Abundance/ Richness of wildlife	Low to Moderate (mainly generalist or open-country dependent species).	
Overall ecological value	**Low**	

4.4 *Grassland*

Table 12 Ecological Evaluation of Grassland within the Project Site and the Assessment Area.

Criteria	Project Site	Assessment Area
Naturalness	Habitat resulting from the natural succession of abandoned agricultural land.	
Size	0.27 ha	5.69 ha
Diversity	Low to moderate in both flora and fauna diversity.	
Rarity	While common, lowland grassland is becoming a scarcer habitat in Hong Kong.	While common, lowland grassland is becoming a scarcer habitat in Hong Kong. It provides foraging grounds for open-country dependent species of conservation importance, including Greater Coucal and Long-tailed Shrike.

Criteria	Project Site	Assessment Area
Re-creatability	Easily re-creatable.	
Fragmentation	High. The habitat consists of scattered, discontinuous patches across the Assessment Area, reflecting the fragmented nature of historical farmland abandonment.	
Ecological linkage	Linked to adjacent agricultural land and watercourses, though continuity is frequently interrupted by villages and roads.	
Potential value	Naturally succeed into shrubland and eventually secondary woodland if left undisturbed.	
Nursery/breeding ground	No significant records.	
Age	Approximately 10 to 20 years since agricultural abandonment.	
Abundance/ Richness of wildlife	Moderate	
Overall ecological value	**Low**	**Low to Moderate**

4.5 *Shrubland*

Table 13 Ecological Evaluation of Shrubland within the Assessment Area.

Criteria	Shrubland within the Assessment Area
Naturalness	A semi-natural habitat resulting from natural succession.
Size	Absent within the Project Site; small size (0.34 ha) within the Assessment Area.
Diversity	Low flora and fauna diversity due to its small size.
Rarity	A very common transitional habitat in Hong Kong. No species of conservation importance was recorded in this small patch during the surveys.
Re-creatability	Re-creatable within 10 to 20 years.
Fragmentation	High. Present only as a small, isolated patch in the northwestern part of the Assessment Area.

Criteria	Shrubland within the Assessment Area
Ecological linkage	A transitional habitat linked to the adjacent woodland.
Potential value	High potential to mature into secondary woodland.
Nursery/breeding ground	No significant records.
Age	Approximately 20 to 30 years.
Abundance/ Richness of wildlife	Low
Overall ecological value	**Low**

4.6 *Watercourse*

Table 14 Ecological Evaluation of Watercourse (Pak Ngau Shek Stream) within the Assessment Area.

Criteria	Pak Ngau Shek Stream
Naturalness	Highly natural aquatic habitat, although some sections have been partially modified.
Size	Excluded from the Project Site boundary to avoid direct impacts. Within the Assessment Area: PNSS is approx. 1,524.5 m long (2-4 m wide)
Diversity	Low plant diversity but high bird and aquatic fauna diversity.
Rarity	Natural lowland streams are increasingly rare. PNSS shares the same hydrology with LTR and support numerous species of conservation importance: Striated Heron, Chinese Pond Heron, Great Egret, Little Egret, Emerald Cascader, Hong Kong Newt, Short-legged Toad, Beijiang Thick-lipped Barb, Small Snakehead, Emerald Cascader and Freshwater Crab (*Cryptopotamon anacoluthon*).
Re-creatability	Very difficult to recreate the complex hydrology and microhabitats.
Fragmentation	Low. Continuous hydrological linkage.
Ecological linkage	Highly linked to riparian habitats and downstream aquatic ecosystems.
Potential value	Low
Nursery/breeding	Serves as a critical winter breeding aggregation site for the Hong Kong

Criteria	Pak Ngau Shek Stream
ground	Newt and a nursery/breeding ground for native fish and freshwater crabs.
Age	Natural and historically long-standing.
Abundance/ Richness of wildlife	High for aquatic fauna and amphibians; moderate for wetland-dependent bird species.
Overall ecological value	**High**

Table 15 Ecological Evaluation of Watercourse (Lam Tsuen River) within the Assessment Area.

Criteria	Lam Tsuen River
Naturalness	Highly natural aquatic habitat, although some sections have been partially modified or channelized.
Size	Excluded from the Project Site boundary to avoid direct impacts. Within the Assessment Area: LTR is approx. 440.8 m long (4-8 m wide).
Diversity	Low plant diversity but high bird and aquatic fauna diversity.
Rarity	Natural lowland streams are increasingly rare. The LTR is a designated Ecologically Important Stream (EIS). LTR shares the same hydrology with PNSS and support numerous species of conservation importance: Striated Heron, Little Egret, Hong Kong Newt, Hong Kong Cascade Frog and Beijiang Thick-lipped Barb
Re-creatability	Very difficult to recreate the complex hydrology and microhabitats.
Fragmentation	Low. Continuous hydrological linkage.
Ecological linkage	Highly linked to riparian habitats and downstream aquatic ecosystems.
Potential value	Low
Nursery/breeding ground	Serves as a critical winter breeding aggregation site for the Hong Kong Newt and a nursery/breeding ground for native fish.
Age	Natural and historically long-standing.
Abundance/ Richness of	High for aquatic fauna and amphibians; moderate for wetland-dependent bird species.

Criteria	Lam Tsuen River
wildlife	
Overall ecological value	**High**

4.7 *Developed Area*

Table 16 Ecological Evaluation of Developed Area within the Assessment Area.

Criteria	Developed Area within the Assessment Area
Naturalness	Very low. Highly disturbed and man-made.
Size	Absent or negligible within the Project Site; 12.6 ha within the Assessment Area.
Diversity	Very low. Dominated by exotic landscaping species.
Rarity	A very common habitat. A few species of conservation importance (*Aquilaria sinensis*, Speckled Piculet) were recorded utilizing the fringes/natural vegetation patches within this area.
Re-creatability	Easily re-creatable.
Fragmentation	N/A
Ecological linkage	Not known to have important ecological linkage.
Potential value	Potential for enhancement via eco-friendly landscaping etc.
Nursery/breeding ground	Not known.
Age	Several decades.
Abundance/ Richness of wildlife	Low
Overall ecological value	**Very low**

5 Identification and Evaluation on Ecological Impacts

5.1 *Direct Impact*

5.1.1 The proposed rezoning aims to facilitate the development of a Residential Care Home for the Elderly (RCHE) and a Residential Care Home for Persons with Disabilities (RCHD), comprised of two conceptual 9-storey building footprints and associated facilities. Direct habitat loss resulting from the proposed construction will be confined to the Project Site, comprising 0.27 ha of grassland and 0.15 ha of agricultural land (0.42 ha in total).

5.1.2 Both habitats proposed for clearance are evaluated as having Low ecological value within the Project Site boundary, resulting from historical disturbance and active human management. Furthermore, no flora or fauna species of conservation importance were recorded within the Project Site. Consequently, the direct ecological impact arising from the habitat loss is considered minor and acceptable.

5.2 *Indirect Impact*

Construction Phase

5.2.1 Indirect impacts during the construction phase may occur in the form of site runoff, noise, dust, and human disturbance.

5.2.2 The most significant potential indirect impact is water pollution arising from construction site runoff. The Pak Ngau Shek Stream (PNSS) is situated immediately adjacent to the Project Site. This watercourse is of high ecological value and supports sensitive aquatic fauna, notably the Beijiang Thick-lipped Barb, the Hong Kong Newt and the freshwater crab *Cryptopotamon anacoluthon*, where the stream section probably serves as breeding grounds for these species. Without proper mitigation, unregulated discharge of silt or chemical contaminants into the PNSS could cause severe deterioration of water quality and mortality of these species of conservation importance. Therefore, this unmitigated impact is evaluated as of moderate to high significance.

5.2.3 Construction noise and human disturbance will inevitably increase during the works period. However, given the lack of highly sensitive terrestrial fauna (e.g. breeding bird colonies or roosting bats) within the immediate works footprint, and considering that the mobile wildlife in the surrounding Assessment Area can

temporarily move away from the impacted areas, the indirect impacts of noise and human disturbance are considered temporary and minor.

Operation Phase

5.2.4 An RCHE is generally a quiet facility, generating low human disturbance and traffic. The operational boundary will be clearly delineated, limiting uncontrolled disturbance to the surrounding natural habitats.

5.2.5 Sewage generated during the operation of the RCHE and RCHD will be properly treated and connected to a closed-system sewage treatment plant, ensuring no discharge into the PNSS. Therefore, operational water quality impacts are not anticipated.

5.2.6 The 9-storey RCHE and RCHD building will introduce new artificial lighting to the currently unlit area. Uncontrolled glare could potentially disturb nocturnal wildlife (e.g., Masked Palm Civet and nocturnal avifauna) inhabiting the adjacent woodlands. Appropriate lighting design can help minimise potential light impacts on wildlife.

6 Recommendation on mitigation measures

6.1 *Direct Impact*

6.1.1 Given that the habitats to be directly lost are of Low ecological value and devoid of species of conservation importance, no specific ecological mitigation measures are deemed strictly necessary for the site clearance within the Project boundary. Standard good construction site practices are considered sufficient.

6.1.2 Additional positive impact to local wildlife will be boosted by a landscape design along the walkway and green area of the RCHE adopting various forms of native plants. A list of native plant species is suggested in **Table 16** below. Initial exposed site condition, space constraint, and provision of flowers and fruits that are attractive to local wildlife has been considered in the selection.

Table 16 List of native plant species

Scientific Name	Chinese Name	Growth Form	Origin	Rationale	Chinese Name
Uvaria macrophylla	紫玉盤	Climber	Native	*Food/ nectar plant for Graphium agamemnon, Graphium doson*	統帥青鳳蝶, 木蘭青鳳蝶
Jasminum lanceolarium	清香藤	Climber	Native	General nectar plant	
Desmos chinensis	假鷹爪	Climber	Native	Food/ nectar plant for *Graphium agamemnon, Graphium doson*	統帥青鳳蝶, 木蘭青鳳蝶
Bauhinia glauca	羊蹄甲藤	Climber	Native	Readily available in market, general nectar plant	
Diospyros vaccinioides	小果柿	Shrub	Native	Readily available in market, exposed site condition	
Antirhea chinensis	毛茶	Shrub	Native	Exposed site condition, space constraint	
Eurya nitida	細齒葉柃	Shrub	Native	Exposed site condition, space constraint	
Maesa perlarius	鯽魚膽	Shrub	Native	Food/ nectar plant for *Zemeros flegyas*	波蜆蝶
Syzygium buxifolium	赤楠	Shrub	Native	Nectar plant for butterflies	
Vitex negundo	黃荊	Shrub	Native	Nectar plant, exposed site condition	
Psychotria asiatica	九節	Shrub	Native	Food plant for *Neopithecops zalmora*, readily available	一點灰蝶
Ardisia hanceana	郎傘樹	Shrub	Native	Suitable for stream bank	
Rhaphiolepis indica	石斑木	Shrub	Native	Exposed site condition, readily available in market, attract Papilionidae and Pieridae	鳳蝶科, 粉蝶科
Fraxinus griffithii	光蠟樹	Small tree	Native	Exposed site condition	
Photinia benthamiana	閩粵石楠	Small tree	Native	Exposed site condition, food/ nectar plant for *Acytolepis puspa, Rapala manea*	紐灰蝶, 麻燕灰蝶
Carallia brachiata	竹節樹	Small tree	Native	Exposed site condition, general	

				nectar plant	
Daphniphyllum calycinum	牛耳楓	Small tree	Native	Exposed site condition	
Camellia oleifera	油茶	Small tree	Native	Exposed site condition, high amenity value with large flowers	
Antidesma bunius	五月茶	Tree	Native	Exposed site condition	
Ilex cinerea	灰冬青	Tree	Native	Readily available in market, exposed site condition	
Elaeocarpus dubius	顯脈杜英	Tree	Native	Exposed site condition	

6.2 *Indirect Impact*

6.2.1 Despite locations identified with Hong Kong Newts and majority of aquatic fauna during our surveys were on the upper section of PNSS (**Figure 5)**, it was just a snapshot over time and space; while the whole hydrology network was not surveyed entirely. It can be assumed that the connected hydrology allows aquatic wildlife including the Hong Kong Newts or other fauna species of conservation importance would move freely for their suitable microhabitats.

6.2.2 To mitigate the moderate-to-high risk of construction runoff impacting the adjacent PNSS and its sensitive aquatic communities—specifically the Beijiang Thick-lipped Barb, the Hong Kong Newt, and the freshwater crab *Cryptopotamon anacoluthon*—strict physical isolation of construction materials and runoff from the PNSS must be implemented during the entire construction phase.

6.2.3 Prior to the commencement of any site formation works, physical barriers (e.g. continuous hoarding, sandbag barriers) and comprehensive peripheral drainage systems equipped with adequately sized silt traps must be erected along the boundary (**Figure 7**).

6.2.4 Since LTR is in distant from the project site (**Figure 3)**, species of conservation importance recorded along LTR within the assessment area will not be affected by the proposed work during construction phase and operation phase.

6.2.5 No works, temporary storage of materials, or parking of machinery shall be allowed within a 5m designated buffer riparian zone next to the stream. All the riparian

vegetations, existing substrates and structures, stream hydrology should be kept intact and unchanged throughout the construction phase and operation phase. During construction and operation phase, unintentional dispersal of invasive plants (especially *Mikania micrantha* (薇甘菊), *Leucaena leucocephala* (銀合歡) and *Bidens alba* (白花鬼針草)) may happen. Regular selective weeding of invasive species should be carried out as a routine landscape maintenance mitigation measures. Whole plant of the removed invasive flora, including root, seeds and flowers, should be packed properly for waste treatment.

6.2.6 Because the Hong Kong Newt breeds in the watercourses during the dry/winter season, standard mitigation restricting works to the dry season is not applicable and would put the breeding population at risk. Therefore, the physical barriers and site drainage systems mentioned above must be maintained and inspected regularly, regardless of the season, to ensure no discharge into the PNSS. Site workers should be briefed specifically on the ecological sensitivity of the stream and the aquatic species of conservation importance it supports.

6.2.7 The 5m buffer zone along the streams help preserving the native riparian vegetation, which is critical for the breeding behavior for Hong Kong Newts and other stream associated Odonates.

6.2.8 To minimize light spill and glare affecting the adjacent habitats during the operation phase, the scale and intensity of outdoor artificial lighting used at the RCHE and RCHD should be kept to the minimum required for safety and security. All outdoor lighting fixtures should be directional, shielded, and pointed downward to prevent light pollution from degrading the surrounding natural environment. With appropriate lighting design, this potential impact is evaluated as minor and acceptable.

7 Conclusion

7.1 A six-month ecological survey was conducted during the dry season 2025/26 (December to February) and wet season 2026 (April to June) to establish the ecological baseline of the Project Site and its 300-meter Assessment Area, providing robust data to support the rezoning application for the proposed Residential Care Home for the Elderly (RCHE) and Residential Care Home for Persons with Disabilities (RCHD).

7.2 The proposed development will result in the direct loss of 0.42 ha of highly modified and disturbed habitats (grassland and agricultural land). Given their low ecological value and the absence of species of conservation importance within the Project Site, the direct ecological impacts are evaluated as minor and acceptable.

7.2.1 Additional positive impact to local wildlife will be boosted by a landscape design along the walkway and green area of the RCHE adopting various forms of native plants. Regular selective weeding of invasive plant species should be carried out as a routine landscape maintenance mitigation measures. Whole plant of the removed invasive flora, including root, seeds and flowers, should be packed properly for waste treatment.

7.3 The adjacent Pak Ngau Shek Stream (PNSS) and Lam Tsuen River section were identified as high value habitats supporting significant populations of aquatic species of conservation importance, particularly the Beijiang Thick-lipped Barb, the Hong Kong Newt and the freshwater crab *Cryptopotamon anacoluthon*. The project design should avoid any environmental impacts into these watercourses.

7.4 Potential indirect impacts, primarily construction site runoff into the PNSS and operational artificial lighting, were identified. Comprehensive mitigation measures, including physical isolation of the stream to protect water quality and winter-breeding amphibians, works design with a 5m designated buffer riparian zone next to the stream, as well as directional lighting designs, have been recommended.

7.5 With the effective implementation of the recommended avoidance design and mitigation measures, no unacceptable residual ecological impacts on the environment, flora or fauna are anticipated during the construction and operation phases of the Project.

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Appendix 1 Qualifications of the ecological surveyors

Name of ecological surveyor, Education	**No. of years of conducting ecological surveys**	**Relevant project experience (selected)**
Mr. WAN Pak Ho *MPhil in Terrestrial Ecology and Mammalogy, The University of Hong Kong*	> 22 years	- Agreement No. CE33/2021 (CE) Land Use Review Study for Ngau Tam Mei Area – Feasibility Study: responsible for multi-fauna survey, habitat and vegetation survey - Contract No. GE/2022/14 Joint Cavern Development at Anderson Road Quarry Site: responsible for terrestrial fauna and flora survey - Agreement No. CE CE8/2022(CE) – Site Formation and Infrastructure Works for Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long - Investigation, Design and Construction: responsible for ecological survey
Dr. PANG Chun Chiu *PhD in Ecology, The University of Hong Kong*	> 20 years	- Agreement No. CE33/2021 (CE) – Land Use Review Study for Ngau Tam Mei Area – Feasibility Study: responsible for multi-fauna survey - AFCD/SQ/62/22 Provision of Consultancy Services to Conduct a Study on Setting up of Glamping Facilities in the Country Parks of Hong Kong: responsible for multi-fauna and flora surveys
Mr. WAN Chun Hin *BSc (Hons), Ecology and Biodiversity, The University of Hong Kong.*	> 13 years	- Agreement No. CE33/2021 (CE) Land Use Review Study for Ngau Tam Mei Area – Feasibility Study: responsible for multi-fauna survey, habitat and vegetation survey - Agreement No. CE CE8/2022(CE) – Site Formation and Infrastructure Works for Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long - Investigation, Design and Construction: responsible for ecological survey - DSD Contract PWP No. 4112CD - Drainage Improvement at Northern New Territories - Drainage Improvement Works in San Tin - Remaining Works: responsible for multi-fauna survey.

Appendix 2 Photographic Records

Representative photos of Project Site and habitats





Project Site





Project Site





Project Site

	
Woodland	Woodland
	
Shrubland	Shrubland
	
Developed Area	Developed Area

	
Watercourses	Watercourses
	
Grassland	Grassland
	
Agricultural Area	Agricultural Area

Photographic records of species of conservation importance



Aralia chinensis (楤木)



Pavetta hongkongensis (香港大沙葉)



Seedling of *Aquilaria sinensis* (土沉香)



Mature tree of *Aquilaria sinensis* (土沉香)

	
Striated Heron (綠鷺)	Little Egret (小白鷺)
	
Crested Serpent Eagle (蛇鵰)	Crested Goshawk (鳳頭鷹)
	
Black Kite (黑鳶)	Black-throated Laughingthrush (黑喉噪鶥)

	
Hong Kong Newt (香港瘰螈)	Hong Kong Cascade Frog (香港湍蛙)
	
Small Snakehead (月鱧)	Beijiang Thick-lipped Barb (北江光唇魚)
	
Emerald Cascader (彩虹蜻)	*Cryptopotamon anacoluthon* (鰓刺溪蟹)

Appendix 3A Plant species recorded in the Project Site and the Assessment Area.

Scientific name	Chinese name	Origin	Growth form	Commonness	Conservation Status	Project Site	Developed Area	Water-courses	Successional Grassland	Shrubland	Woodland	Agricultural area
Solanum americanum	少花龍葵	Exotic	Herb	Very common	No	++						
Mimosa pudica	含羞草	Exotic	Herb	Very common	No	++						
Wedelia trilobata	三裂葉蟛蜞菊	Exotic	Herb	Common	No	++	+++					
Dichanthium annulatum	雙花草	Native	Herb	Restricted	No	+						
Leucaena leucocephala	銀合歡	Exotic	Tree	Common	No	+	+					
Solanum torvum	水茄	Exotic	Shrub	Common	No	+						
Scoparia dulcis	野甘草	Exotic	Herb	Common	No	++						
Microstegium ciliatum	剛莠竹	Native	Herb	Very common	No	+++	++	++	+++			++
Macaranga tanarius var. tomentosa	血桐	Native	Tree	Common	No	+	+	+		+		
Pueraria lobata	葛	Native	Climber	Very common	No	++	+	+	+			
Archontophoenix alexandrae	假檳榔	Exotic	Tree	N.A.	No	+						
Spilanthes paniculata	金鈕扣	Native	Herb	Common	No	++	+++					
Trema tomentosa	山黃麻	Native	Tree	Common	No	+		+	+			
Colocasia esculenta	芋	Native	Herb	N.A.	No	+		+				
Capsicum annuum	辣椒	Exotic	Herb	N.A.	No	+						+
Lactuca sativa	萵苣	Exotic	Herb	N.A.	No	+						+
Abelmoschus esculentus	咖啡黃葵	Exotic	Shrub	N.A.	No	+						+
Allium fistulosum	蔥	Exotic	Herb	N.A.	No	+						+
Dactyloctenium aegyptium	龍爪茅	Native	Herb	Common	No	+						+
Lagenaria siceraria	葫蘆	Exotic	Climber	N.A.	No	+						
Ludwigia hyssopifolia	草龍	Native	Herb	N.A.	No	++						
Mikania micrantha	薇甘菊	Exotic	Climber	Very common	No	+++			++	++		+
Nasturtium officinale	西洋菜	Exotic	N.A.	N.A.	No	+		+				+
Cyperus difformis	異型莎草	Native	Herb	Very common	No	+						
Kyllinga nemoralis	單穗水蜈蚣	Native	Herb	Very common	No	+						
Boehmeria nivea	苧麻	Exotic	Shrub	Restricted	No	+		+				
Lindernia crustacea	母草	Native	Herb	Restricted	No	+						
Ageratum houstonianum	熊耳草	Exotic	Herb	Common	No	++						
Musa × paradisiaca	大蕉	Exotic	Herb	N.A.	No	+	+					
Ficus hispida	對葉榕	Native	Tree	Very common	No	+				+	+	
Alocasia macrorrhizos	海芋	Native	Herb	Very common	No	+	+	+				
Dimocarpus longan	龍眼	Exotic	Tree	Restricted	No	+	+	+				
Alangium chinense	八角楓	Native	Tree	Common	No	+				+	+	
Panicum maximum	大黍	Exotic	Herb	Very common	No	+	++					
Bauhinia × blakeana	洋紫荊	Native	Tree	N.A.	No		+					
Bischofia javanica	秋楓	Native	Tree	Common	No	+	+	+				
Lemmaphyllum microphyllum	伏石蕨	Native	Herb	Common	No	+						
Pennisetum purpureum	象草	Exotic	Herb	Very common	No	+	+	+	+			
Bidens alba	白花鬼針草	Exotic	Herb	Very common	No	+					+	+
Calliandra haematocephala	朱纓花	Exotic	Shrub	N.A.	No		+					
Spermacoce stricta	豐花草	Native	Herb	Restricted	No	+	+					
Cyperus involucratus	風車草	Exotic	Herb	Restricted	No			+				

Ricinus communis	蓖麻	Exotic	Shrub	Restricted	No			+				
Cleistocalyx nervosum	水翁	Native	Tree	Common	No			+				
Lagerstroemia speciosa	大花紫薇	Exotic	Tree	N.A.	No		+					
Euphorbia hirta	飛揚草	Exotic	Herb	Very common	No		+					
Cynodon dactylon	狗牙根	Native	Herb	Very common	No		+					
Pilea microphylla	小葉冷水花	Exotic	Herb	Very common	No		+					
Pteris vittata	蜈蚣草	Native	Herb	Very common	No		+					
Schefflera arboricola var.	花葉鵝掌藤	Exotic	Climber	N.A.	No		+					
Sansevieria trifasciata	虎尾蘭	Exotic	Herb	N.A.	No		+					
Talinum paniculatum	土人參	Exotic	Herb	Very rare	No		+					
Paederia scandens	雞矢藤	Native	Climber	Very common	No		+					
Kalanchoe pinnata	落地生根	Exotic	Herb	Common	No		+					
Lantana camara	馬纓丹	Exotic	Shrub	Very common	No		+	+				
Platycladus orientalis	側柏	Exotic	Tree	N.A.	No		+					
Mangifera indica	杧果	Exotic	Tree	N.A.	No		+					
Desmos chinensis	假鷹爪	Native	Shrub	Common	No		+		+	+	+	
Chlorophytum comosum	吊蘭	Exotic	Herb	N.A.	No		+					
Ixora chinensis	龍船花	Native	Shrub	Restricted	No		+					
Microcos nervosa	破布葉	Native	Tree	Common	No		+			++	+++	
Citrus maxima	柚	Exotic	Tree	N.A.	No		+					
Hibiscus rosa-sinensis	朱槿	Exotic	Shrub	N.A.	No		+					
Celtis sinensis	朴樹	Native	Tree	N.A.	No		+					
Clausena lansium	黃皮	Exotic	Tree	N.A.	No		+					
Citrus reticulata	柑橘	Exotic	Tree	N.A.	No		+					+
Caesalpinia crista	華南雲實	Native	Climber	Very common	No				+	+		
Uvaria macrophylla	紫玉盤	Native	Climber	Common	No					+	+	
Aporosa dioica	銀柴	Native	Tree	Very common	No					+	+	
Psychotria asiatica	九節	Native	Shrub	Very common	No					+	++	
Dalbergia benthamii	兩廣黃檀	Native	Climber	Common	No					+	+	
Tetradium glabrifolium	楝葉吳茱萸	Native	Tree	Common	No						+	
Abrus precatorius	相思子	Native	Climber	Common	No					+		
Acronychia pedunculata	山油柑	Native	Tree	Very common	No					+	+	
Oroxylum indicum	木蝴蝶	Native	Tree	Restricted	No						+	
Tetracera asiatica	錫葉藤	Native	Climber	Very common	No					+	+	
Rubus reflexus	鏽毛莓	Native	Climber	Very common	No					+		
Glochidion eriocarpum	毛果算盤子	Native	Shrub	Very common	No						+	
Syzygium jambos	蒲桃	Exotic	Tree	Common	No						+	
Syzygium hancei	韓氏蒲桃	Native	Tree	Common	No						+	
Schefflera heptaphylla	鵝掌柴	Native	Tree	Very common	No						++	
Blechnum orientale	烏毛蕨	Native	Herb	Very common	No						+	
Pavetta hongkongensis	香港大沙葉	Native	Shrub	Common	Cap.96						+	
Gnetum luofuense	羅浮買麻藤	Native	Climber	Very common	No						+	
Syzygium levinei	山蒲桃	Native	Tree	Common	No						+	
Sarcandra glabra	草珊瑚	Native	Shrub	Common	No						+	
Aralia chinensis	楤木	Native	Tree	N.A.	VU (IUCN)						+	
Claoxylon indicum	白桐樹	Native	Tree	Common	No						+	

Sapium discolor	山烏桕	Native	Tree	Very common	No						+	
Miscanthus floridulus	五節芒	Native	Herb	Common	No					+		
Aquilaria sinensis	土沉香	Native	Tree	Common	Cap.586; AFCD (2003); Cat II; EN in China Red List; VU (IUCN)						+	
Embelia ribes	白花酸藤子	Native	Climber	Common	No						+	
Ficus variegata	青果榕	Native	Tree	Common	No						+	
Dioscorea cirrhosa	薯莨	Native	Climber	Common	No					+	+	
Adenanthera microsperma	海紅豆	Native	Tree	N.A.	No						+	
Daphniphyllum calycinum	牛耳楓	Native	Tree	Common	No						+	
Aphananthe cuspidata	滇糙葉樹	Native	Tree	Common	No						+	
Glochidion lanceolarium	艾膠算盤子	Native	Shrub	Common	No						+	
Ampelopsis cantoniensis	廣東蛇葡萄	Native	Climber	Very common	No						+	
Diospyros morrisiana	羅浮柿	Native	Tree	Very common	No						+	
Cinnamomum camphora	樟	Native	Tree	Common	No						+	
Antidesma bunius	五月茶	Native	Tree	Common	No						+	
Liriope spicata	山麥冬	Native	Herb	Very common	No						+	
Zanthoxylum nitidum	兩面針	Native	Climber	Very common	No						+	
Sida rhombifolia	白背黃花稔	Native	Shrub	Common	No						+	
Melicope pteleifolia	蜜茱萸	Native	Tree	Common	No					+	+	
Phyllanthus reticulatus	小果葉下珠	Native	Shrub	Common	No					+		
Cyclosorus parasiticus	華南毛蕨	Native	Herb	Very common	No					+	+	
Asystasia micrantha	小花十萬錯	Exotic	Herb	N.A.	No					+	+	
Carmona microphylla	基及樹	Exotic	Shrub	N.A.	No		+					
Isachne globosa	柳葉箬	Native	Herb	Very common	No			+				
Thunbergia grandiflora	大花老鴉嘴	Native	Climber	Common	No				+			
Emilia sonchifolia	一點紅	Native	Herb	Very common	No				+			
Maesa perlarius	鯽魚膽	Native	Shrub	Common	No				+	+		
Litsea monopetala	假柿木薑子	Native	Tree	Restricted	No						+	
Litsea glutinosa	潺槁樹	Native	Tree	Very common	No						+	
Anisomeles indica	廣防風	Native	Herb	Common	No		+					
Psidium guajava	番石榴	Exotic	Tree	Common	No		+		+			
Murraya paniculata	九里香	Exotic	Shrub	N.A.	No		+					
Ficus microcarpa	榕樹	Native	Tree	Common	No		+					
Bridelia tomentosa	土蜜樹	Native	Tree	Very common	No		+					
Carica papaya	番木瓜	Exotic	Tree	N.A.	No		+					+
Millettia nitida	亮葉崖豆藤	Native	Climber	Very common	No		+					
Melaleuca cajuputi subsp. cumingiana	白千層	Exotic	Tree	N.A.	No		+				+	
Ficus religiosa	菩提樹	Exotic	Tree	Restricted	No		+					
Celosia argentea	青葙	Native	Herb	Very common	No		+					
Bauhinia variegata	宮粉羊蹄甲	Exotic	Tree	N.A.	No		+					
Terminalia catappa	欖仁樹	Exotic	Tree	Very rare	No		+					
Bauhinia championii	缺葉藤	Native	Climber	Common	No			+			+	

Sterculia lanceolata	假蘋婆	Native	Tree	Very common	No						+	
Dracaena fragrans	巴西鐵樹	Exotic	Tree	N.A.	No						+	
Vitex negundo	黃荊	Native	Shrub	N.A.	No						+	
Celtis timorensis	假玉桂	Native	Tree	Restricted	No						+	
Pothos chinensis	石柑	Native	Climber	Very common	No						+	
Celastrus hindsii	青江藤	Native	Climber	Very common	No						+	
Ardisia quinquegona	羅傘樹	Native	Tree	Very common	No						+	
Parthenocissus dalzielii	爬牆虎	Exotic	Climber	Rare	No			+			+	
Opuntia stricta var. dillenii	仙人掌	Exotic	Herb	Common	No		+					
Aloe vera	蘆薈	Exotic	Herb	N.A.	No		+					
Schefflera arboricola	鵝掌藤	Exotic	Climber	N.A.	No		+					
Oxalis corniculata	酢漿草	Native	Herb	Very common	No		+					+
Araucaria columnaris	柱狀南洋杉	Exotic	Tree	N.A.	No		+					
Youngia japonica	黃鵪菜	Native	Herb	Very common	No		+					+
Prunus persica	桃	Exotic	Tree	N.A.	No							++
Radermachera hainanensis	海南菜豆樹	Exotic	Tree	N.A.	No		+					
Sapindus saponaria	無患子	Native	Tree	N.A.	No		+					
Acorus gramineus	金錢蒲	Native	Herb	N.A.	No			+				
Neyraudia reynaudiana	類蘆	Native	Herb	N.A.	No			+				
Oxalis debilis subsp. corymbosa	紅花酢漿草	Exotic	Herb	Common	No		+					+
Delonix regia	鳳凰木	Exotic	Tree	N.A.	No			+				
Ficus pumila	薜荔	Native	Climber	Very common	No		+					
Hedychium coronarium	薑花	Exotic	Herb	N.A.	No		+					+
Artocarpus heterophyllus	菠蘿蜜	Exotic	Tree	N.A.	No		+					+
Saccharum officinarum	甘蔗	Exotic	Herb	N.A.	No							+
Telosma cordata	夜來香	Exotic	Climber	N.A.	No		+					
Michelia × alba	白蘭	Exotic	Tree	N.A.	No		+					
Sterculia monosperma	蘋婆	Exotic	Tree	N.A.	No		+					+
Malvastrum coromandelianum	賽葵	Native	Shrub	Common	No		+					
Hylocereus undatus	量天尺	Exotic	Climber	N.A.	No		+					
Pteris multifida	井欄邊草	Native	Herb	Very common	No							+
Dracaena sanderiana	辛氏龍樹	Exotic	Herb	N.A.	No		+					+
Acacia confusa	台灣相思	Exotic	Tree	N.A.	No		+				+	
Mallotus paniculatus	白楸	Native	Tree	Very common	No						+	
Lygodium japonicum	海金沙	Native	Climber	Very common	No						+	
Strychnos angustiflora	牛眼馬錢	Native	Climber	Common	No						+	
Centotheca lappacea	假淡竹葉	Native	Herb	Common	No		+					
Mimosa diplotricha	巴西含羞草	Exotic	Climber	Rare	No		+					
Litchi chinensis	荔枝	Exotic	Tree	Restricted	No		+					+
Melinis repens	紅毛草	Exotic	Herb	Very common	No		+					
Conyza sumatrensis	蘇門白酒草	Exotic	Herb	N.A.	No		+					
Morus alba	桑	Native	Tree	Common	No		+					
Codiaeum variegatum	變葉木	Exotic	Shrub	N.A.	No		+					
Bougainvillea spectabilis	葉子花	Exotic	Climber	N.A.	No		+					
Asparagus setaceus	文竹	Exotic	Herb	N.A.	No		+					
Tridax procumbens	羽芒菊	Exotic	Herb	Very common	No		+					

Gnaphalium affine	鼠麴草	Native	Herb	Common	No		+					
Eriobotrya japonica	枇杷	Exotic	Tree	N.A.	No		+					
Leonurus japonicus	益母草	Native	Herb	Restricted	No		+					
Ipomoea nil	牽牛	Exotic	Climber	Common	No		+					
Solanum erianthum	假煙葉樹	Exotic	Shrub	Common	No						+	
Amaranthus viridis	綠莧	Native	Herb	Very common	No		+					
Physalis angulata	苦蘵	Native	Herb	Restricted	No		+					
Momordica charantia var. abbreviata	短角苦瓜	Exotic	Climber	N.A.	No		+					
Podocarpus macrophyllus	羅漢松	Native	Tree	Restricted	No		+					

Appendix 3B Fauna recorded in the Project Site and the Assessment Area.

Period	Taxa	Common Name	Scientific Name	Conservation status	Distribution	Assessment Area						Project Site	
						Agricultural Area	Developed Area	Successional Grassland	Watercourse	Shrubland	Woodland	Agricultural Area	Successional Grassland
Dry season	Amphibian	Hong Kong Newt	*Paramesotriton hongkongensis*	PGC; Class II Protected Species in China; Cap.170; Cap.586; CITES(II)	Widely distributed in mountain streams throughout New Territories, Lantau Island and Hong Kong Island.				65				
Dry season	Bird	Greater Coucal	*Centropus sinensis*	Class II Protected Species in China	Widespread and common resident typically present in mangroves and shrub dominated closed and open-canopy habitats, usually in lowland areas.	2		1					
Dry season	Bird	Asian Koel	*Eudynamys scolopaceus*	-	Very common resident, with increased numbers in autumn suggesting the presence of passage migrants.		1				1		
Dry season	Bird	Spotted Dove	*Spilopelia chinensis*	-	Common and conspicuous resident in all anthropogenic habitats.	2	3	2		2	2	1	1
Dry season	Bird	White-breasted Waterhen	*Amaurornis phoenicurus*	-	Common resident in a variety of freshwater and brackish wetland habitats, though numbers are declining probably due to urbanisation of the New Territories.				1				
Dry season	Bird	Common Sandpiper	*Actitis hypoleucos*	-	Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.				1				
Dry season	Bird	Green Sandpiper	*Tringa ochropus*	-	Uncommon passage migrant and winter visitor, rare in summer; occurs in a wide variety of freshwater wetlands.				1				
Dry season	Bird	Striated Heron	*Butorides striata*	(LC)	Present all year, locally uncommon in summer and scarce in winter. Number have declined in both summer and winter since the mid-1990s.				2				
Dry season	Bird	Chinese Pond Heron	*Ardeola bacchus*	PRC (RC)	Common at a variety of freshwater and brackish wetlands across HK throughout the year; both migratory and resident populations occur.				1				
Dry season	Bird	Great Egret	*Ardea alba*	PRC (RC)	Present all year in larger and more open brackish and freshwater wetlands. Most numerous in late autumn and least in April. Migrants pass through mainly in autumn, and a large breeding population has established in Deep Bay in recent years.				2				
Dry season	Bird	Little Egret	*Egretta garzetta*	PRC (RC)	Present all year in a wide variety of fresh and non-freshwater wetland habitats. An influx of birds occurs in the winter months.				2				
Dry season	Bird	Crested Serpent Eagle	*Spilornis cheela*	(LC); Class II Protected Species in China; Cap.586; CITES(II)	Present all year in forested habitat or adjacent areas. Some evidence of passage.						1		
Dry season	Bird	Crested Goshawk	*Accipiter trivirgatus*	Class II Protected Species in China; Cap.586; CITES(II)	Common resident in forest areas, but also hunts in open country.						1		
Dry season	Bird	Black Kite	*Milvus migrans*	(RC); Class II Protected Species in China; Cap.586; CITES(II)	Present all year throughout Hong Kong, numbers lowest in summer and highest during autumn migration.			1			2		

Dry season	Bird	Common Kingfisher	*Alcedo atthis*	-	Common in autumn and winter, scarce in spring and summer; frequents a wide variety of lowland, largely freshwater wetlands, though also forages at the coast. The migrant population is probably much declined.				1				
Dry season	Bird	Great Barbet	*Psilopogon virens*	-	Probably a 20th century colonist; now an uncommon, but fairly widespread, resident in fung shui woods and mature secondary forest, largely in the central and east New Territories.						1		
Dry season	Bird	Speckled Piculet	*Picumnus innominatus*	LC	Uncommon but increasing resident in forest and other wooded habitats in the New Territories; a 21st centry colonist.		1						
Dry season	Bird	Scarlet Minivet	*Pericrocotus speciosus*	-	Common resident, mostly in woodland and forest margins but may also occur in urban edge areas; possibly some immigration in winter.		2				5		
Dry season	Bird	Black-winged Cuckooshrike	*Lalage melaschistos*	-	Scarce winter visitor and passage migrant, with one breeding record in the 1930s; mainly occurs in wooded habitats.						1		
Dry season	Bird	Long-tailed Shrike	*Lanius schach*	MR	Common breeding resident in open-canopy shrubland and open-country with sufficient perches and nest sites.			1					
Dry season	Bird	Red-billed Blue Magpie	*Urocissa erythroryncha*	-	Common resident, particulary in shrubland, forest edge, large parks and the urban fringe.		3				3		
Dry season	Bird	Japanese Tit	*Parus minor*	-	Abudant resident in diverse wooded and lightly-wooded habitats.	1	6			2	4		1
Dry season	Bird	Chinese Bulbul	*Pycnonotus sinensis*	-	Abundant resident in nearly all habitats; HK's most widespread bird. Also occurs as a passage migrant and winter visitor.	2	5	2		3	4	2	3
Dry season	Bird	Red-whiskered Bulbul	*Pycnonotus jocosus*	-	Abundant or comon resident in nearly all habitats; HK;s second most widespread bird.	4	10	3		4	6	2	4
Dry season	Bird	Mountain Tailorbird	*Phyllergates cucullatus*	-	Fairly common resident in forest and closed canopy shrubland; also a more widespread winter visitor. A recent colonist, first recorded in 1999.						1		
Dry season	Bird	Yellow-browed Warbler	*Phylloscopus inornatus*	-	Common and widespread winter visitor and passage migrant.	1	3	1		1	2		1
Dry season	Bird	Dusky Warbler	*Phylloscopus fuscatus*	-	Common passage migrant and winter visitor to open country areas with shrubs.	1		1				1	
Dry season	Bird	Yellow-bellied Prinia	*Prinia flaviventris*	-	Common resident in grassland, reed marsh and rank or herbaceous vegetation, and thus highest densities occur in the northwest New Territories.	3		3		1			1
Dry season	Bird	Common Tailorbird	*Orthotomus sutorius*	-	Common widespread resident in diverse habitats of forest, shrubby grassland and landscaped urban areas.	1	5	2		1	3	1	
Dry season	Bird	Swinhoe's White-eye	*Zosterops simplex*	-	Widespread abundant resident.	6	10	5		2	10		4

Dry season	Bird	Rufous-capped Babbler	*Cyanoderma ruficeps*	LC	Common and increasing resident in forest and more mature shrubland, largely in the mainland New Territories. Population considered to be captive origin, but species likely to have been present in HK prior to anthropogenic habitat changes.						1		
Dry season	Bird	Streak-breasted Scimitar Babbler	*Pomatorhinus ruficollis*	-	Widespread, moderately common resident of forest and shrubland on HK Island and the mainland New Territories, population considered to be derived from ex-captive birds.					1	1		
Dry season	Bird	Silver-eared Mesia	*Leiothrix argentauris*	Class II Protected Species in China; Cap.586; CITES(II)	A locally common and increasing resident of forest, largely in the central New Territories; population derived from ex-captive birds.						2		
Dry season	Bird	Black-throated Laughingthrush	*Pterorhinus chinensis*	Class II Protected Species in China	The nominate taxon is a widespread and locally common resident in forest and shrubland in both HK Island and the New Territories, where it has much increased and spread this century. Individuals showing characters of P. c. monachus were first recorded in 2006 and appear to be increasing and breeding with the local form.						1		
Dry season	Bird	Masked Laughingthrush	*Pterorhinus perspicillatus*	-	A common resident of anthropogenic and disturbed habitats throughout HK.	5	5	4		3	3	3	3
Dry season	Bird	Crested Myna	*Acridotheres cristatellus*	-	Abundant and widespread resident in diverse lowland habitats.	6	15	5			5	4	3
Dry season	Bird	Black-collared Starling	*Gracupica nigricollis*	-	Common, widespread resident of lowland open-country , villlage and urban habitats.	4	6	3			2	1	2
Dry season	Bird	Oriental Magpie Robin	*Copsychus saularis*	-	Abundant, widespread resident over a wide range of habitats.	1	5	2		1	2	1	
Dry season	Bird	Daurian Redstart	*Phoenicurus auroreus*	-	Common winter visitor to lightly wooded areas.	1	2	1					1
Dry season	Bird	Amur Stonechat	*Saxicola stejnegeri*	-	Common passage migrant and winter visitor to open country areas.	2		1				1	
Dry season	Bird	Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	-	Common resident.		2				3		
Dry season	Bird	Fork-tailed Sunbird	*Aethopyga christinae*	-	Abundant resident species in diverse wooded habitats.		2				2		
Dry season	Bird	Eurasian Tree Sparrow	*Passer montanus*	-	An abundant resident, commensal with humans and found in all lowland anthropogenic habitats, especially in active farmland, around fish ponds and in city parks.	10	15	5				3	4
Dry season	Bird	Scaly-breasted Munia	*Lonchura punctulata*	-	Locally common resident in open country grassland, farmland, wetland and waste ground. Largely restricted to the lowland northern New Territories.	5		3				2	
Dry season	Bird	Grey Wagtail	*Motacilla cinerea*	-	Common winter visitor and passage migrant, usually associated with wetland habitats.		1		2				
Dry season	Bird	White Wagtail	*Motacilla alba*	-	Common passge migrant and winter visitor	2	4		2			1	

Dry season	Bird	Olive-backed Pipit	*Anthus hodgsoni*	-	Common winter visitor and passage migrant to wooded, semi-wooded and open-country habitats with wooded areas nearby.	3					3		
Dry season	Butterfly	Forest Hopper	*Astictopterus jama*	-	Common		1	1					
Dry season	Butterfly	Purple Sapphire	*Heliophorus epicles*	-	Common			2	1				
Dry season	Butterfly	Transparent 6-line Blue	*Nacaduba kurava*	-	Common					1	1		1
Dry season	Butterfly	Dark Cerulean	*Jamides bochus*	-	Common					2	5		
Dry season	Butterfly	Common Cerulean	*Jamides celeno*	-	Uncommon	2	3	2	1			1	
Dry season	Butterfly	Gram Blue	*Euchrysops cnejus*	-	Uncommon					1			
Dry season	Butterfly	Dark Grass Blue	*Zizeeria karsandra*	-	Uncommon					1			
Dry season	Butterfly	Plum Judy	*Abisara echerius*	-	Very Common			1		1	1		
Dry season	Butterfly	Punchinello	*Zemeros flegyas*	-	Common	1		1					1
Dry season	Butterfly	Dark Evening Brown	*Melanitis phedima*	-	Common						1		
Dry season	Butterfly	Banded Tree Brown	*Lethe confusa*	-	Common						1		
Dry season	Butterfly	Dark-brand Bush Brown	*Mycalesis mineus*	-	Very Common			1		1	2		
Dry season	Butterfly	South China Bush Brown	*Mycalesis mucianus*	-	Common					1	1		
Dry season	Butterfly	Common Five-ring	*Ypthima baldus*	-	Very Common					1	1		
Dry season	Butterfly	Common Tiger	*Danaus genutia*	-	Very Common		2						
Dry season	Butterfly	Blue Tiger	*Tirumala limniace*	-	Common		1	1					
Dry season	Butterfly	Rustic	*Cupha erymanthis*	-	Very Common					1	2		
Dry season	Butterfly	Great Egg-fly	*Hypolimnas bolina*	-	Very Common	1	2	1		1	1	1	1
Dry season	Butterfly	Indian Red Admiral	*Vanessa indica*	-	Uncommon	1							
Dry season	Butterfly	Common Jester	*Symbrenthia lilaea*	-	Common						1		
Dry season	Butterfly	Angled Castor	*Ariadne ariadne*	-	Common	1		1					
Dry season	Butterfly	Common Sailer	*Neptis hylas*	-	Very Common	2	1	2		1	2	1	
Dry season	Butterfly	Short-banded Sailer	*Phaedyma columella*	-	Common						1		
Dry season	Butterfly	Common Lascar	*Pantoporia hordonia*	-	Common					1			
Dry season	Butterfly	Common/Golden Birdwing	*Troides sp.*	Class II Protected Species in China, Cap.586, CITES(II) for both species; Cap. 170 for Common Birdwing; LC for Golden Birdwing	Uncommon for Common Birdwing; Rare for Golden Birdwing						1		
Dry season	Butterfly	Common Mormon	*Papilio polytes*	-	Very Common	1	1	1			1		1
Dry season	Butterfly	Red Helen	*Papilio helenus*	-	Very Common					1			
Dry season	Butterfly	Spangle	*Papilio protenor*	-	Very Common	1	1	1		1	1		
Dry season	Butterfly	Great Mormon	*Papilio memnon*	-	Very Common		1	1			1		
Dry season	Butterfly	Paris Peacock	*Papilio paris*	-	Very Common		1						
Dry season	Butterfly	Common Bluebottle	*Graphium sarpedon*	-	Very Common					1			
Dry season	Butterfly	Lemon Emigrant	*Catopsilia pomona*	-	Very Common	2	2	2		1	1	1	
Dry season	Butterfly	Tailed Sulphur	*Dercas verhuelli*	-	Uncommon						1		
Dry season	Butterfly	Common Grass Yellow	*Eurema hecabe*	-	Very Common	3	2	2	2			1	1
Dry season	Butterfly	Red-base Jezebel	*Delias pasithoe*	-	Very Common	1	2	1	1	1	1		1
Dry season	Butterfly	Painted Jezebel	*Delias hyparete*	-	Common		1	1			1		
Dry season	Butterfly	Small Cabbage White	*Pieris rapae*	-	Common	1							
Dry season	Butterfly	Indian Cabbage White	*Pieris canidia*	-	Very Common	4	5	3	3	1		1	1

Dry season	Fish	Beijiang Thick-lipped Barb	*Acrossocheilus beijiangensis*	GC; KFBG(EN); HR	Records from reservoir catchments on Hong Kong Island and a few streams on Lantau Island and central New Territories.				30				
Dry season	Fish	Longifn Banded Hill Trout	*Opsariichthys cf. evolans*	-	Found in streams with good water quaility in North District, Tai Mo Shan, Tai Po, Sai Kung, and catchment of some reservoirs				14				
Dry season	Fish	Predaceous Chub	*Parazacco spilurus*	-	A widespread species occurring in most unpolluted hill streams in both upper and lower courses.				60				
Dry season	Fish	Broken-band Hillstream Loach	*Liniparhomaloptera disparis*	-	It occurs in most upper stream courses.				5				
Dry season	Fish	Sucker-belly Loach	*Pseudogastromyzon myersi*	-	Widely distributed in reservoir catchments and upland streams.				30				
Dry season	Fish	Striped Loach	*Schistura fasciolata*	-	Widespread in reservoir catchments and upland streams.				3				
Dry season	Fish	Suckermouth Catfish	*Pterygoplichthys sp.*	-	-				1				
Dry season	Fish	Nim	*Pterocryptis anomala*	-	North District, Tai Po, Tsuen Wan, Sai Kung, and on Lantau Island				2				
Dry season	Fish	White-cheeked Goby	*Rhinogobius duospilus*	-	Probably the commonest goby in Hong Kong and is widely distributed in upper and middle course of streams, sometimes occurs in lowland streams.				9				
Dry season	Fish	Guppy	*Poecilia reticulata*	-	Occurs in large number in many local streams and ponds.				9				
Dry season	Fish	Swordtail	*Xiphophorus hellerii*	-	Occurs in large numbers in many local freshwater streams, rivers and ponds.				15				
Dry season	Fish	Variable Platyfish	*Xiphophorus variatus*	-	Found in large numbers in many local freshwater streams, rivers and ponds.				3				
Dry season	Fish	Small Snakehead	*Channa asiatica*	LC; MR	Uncommon in the wild. Records from a few streams in North district and on Lantau Island. The fish is also cultivated in some fish farms and are available from fish market.				1				
Dry season	Freshwater Invertebrate	Freshwater Shrimp	*Neocaridina palmata*	-	-				30				
Dry season	Freshwater Invertebrate	Freshwater Prawn	*Macrobrachium laevis*	-	-				1				
Dry season	Freshwater Invertebrate	Freshwater Crab	*Cryptopotamon anacoluthon*	PGC; IUCN(VU)	-				12				
Dry season	Freshwater Invertebrate	Freshwater Snail	*Angulyagra polyzonata*	-	-				6				
Dry season	Freshwater Invertebrate	Freshwater Snail	*Sulcospira hainanensis*	-	-				100				
Dry season	Freshwater Invertebrate	Freshwater Clam	*Corbicula fluminea*	-	-				1				

Dry season	Mammal	Pallas's Squirrel	*Callosciurus erythraeus*	Cap.170	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).						1		
Dry season	Mammal	Masked Palm Civet	*Paguma larvata*	PRC; Cap.170; Cap.586 ; CITES(III)	Widely distributed in countryside areas throughout Hong Kong, except for Lantau Island and northwestern New Territories.						1		
Dry season	Mammal	Domestic Cat	*Felis catus*	-	Widely distributed in urban and countryside areas throughout Hong Kong.		1						
Dry season	Odonate	Russet Percher	*Neurothemis fulvia*	-	Common				1				
Dry season	Odonate	Common Blue Skimmer	*Orthetrum glaucum*	-	Abundant	1		1	1	1		1	
Dry season	Reptile	Chinese Striped Terrapin	*Mauremys sinensis*	-	Exotic species				2				
Dry season	Reptile	Changeable Lizard	*Calotes wangii*	-	Widely distributed throughout Hong Kong.		1			1			
Dry season	Reptile	Long-tailed Skink	*Eutropis longicaudata*	-	Widely distributed throughout Hong Kong.		1						
Wet season	Amphibian	Hong Kong Cascade Frog	*Amolops hongkongensis*	PGC; RLCB(EN); IUCN(EN); Class II Protected Species in China; Cap.170	Widely distributed in mountain streams in Hong Kong, except Lantau Island.				1				
Wet season	Amphibian	Asian Common Toad	*Duttaphrynus melanostictus*	-	Widely distributed in Hong Kong.	8	2	2		1	1	1	
Wet season	Amphibian	Greenhouse Frog	*Eleutherodactylus planirostris*	-	Widely distributed throughout Hong Kong.	9	1	1				1	
Wet season	Amphibian	Paddy Frog	*Fejervarya multistriata*	-	Widely distributed throughout Hong Kong.	13	1						
Wet season	Amphibian	Asiatic Painted Frog	*Kaloula pulchra*	-	Widely distributed in Hong Kong.	2		1	1				
Wet season	Amphibian	Short-legged Toad	*Megophrys brachykolos*	PGC; RLCB(VU); IUCN(EN)	Widely distributed in upland forest streams throughout Hong Kong.				1				
Wet season	Amphibian	Butler's Pigmy Frog	*Microhyla butleri*	-	Widely distributed in Hong Kong.							1	
Wet season	Amphibian	Brown Tree Frog	*Polypedates megacephalus*	-	Widely distributed throughout Hong Kong.	15		6				1	
Wet season	Amphibian	Günther's Frog	*Sylvirana guentheri*	-	Widely distributed throughout Hong Kong.	20		10	10			1	
Wet season	Bird	Crested Myna	*Acridotheres cristatellus*	-	Abundant and widespread resident in diverse lowland habitats.	6	15						2
Wet season	Bird	Common Myna	*Acridotheres tristis*	-	Locally common resident population considered to derive from ex-captive birds.	1							
Wet season	Bird	Common Sandpiper	*Actitis hypoleucos*	-	Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.				1				
Wet season	Bird	Fork-tailed Sunbird	*Aethopyga christinae*	-	Abundant resident species in diverse wooded habitats.		1				2		
Wet season	Bird	Common Kingfisher	*Alcedo atthis*	-	Common in autumn and winter, scarce in spring and summer; frequents a wide variety of lowland, largely freshwater wetlands, though also forages at the coast. The migrant population is probably much declined.				1				
Wet season	Bird	White-breasted Waterhen	*Amaurornis phoenicurus*	-	Common resident in a variety of freshwater and brackish wetland habitats, though numbers are declining probably due to urbanisation of the New Territories.	3						1	
Wet season	Bird	Chinese Pond Heron	*Ardeola bacchus*	PRC (RC)							1		

Wet season	Bird	Striated Heron	*Butorides striata*	(LC)	Present all year, locally uncommon in summer and scarce in winter. Number have declined in both summer and winter since the mid-1990s.				1				
Wet season	Bird	Plaintive Cuckoo	*Cacomantis merulinus*	-	Locally fairly common summer visitor, scarce passage migrant and winter visitor, with some individuals likely to be resident. Occurs in lowland rural areas of mixed habitats, often in agricultural areas.		1				1		
Wet season	Bird	Greater Coucal	*Centropus sinensis*	Class II Protected Species in China	Widespread and common resident typically present in mangroves and shrub dominated closed and open-canopy habitats, usually in lowland areas.			1			3		
Wet season	Bird	Oriental Magpie Robin	*Copsychus saularis*	-	Abundant, widespread resident over a wide range of habitats.		5		2		2		
Wet season	Bird	Large-billed Crow	*Corvus macrorhynchos*	-	Largely resident, occurs throughout HK.		2				1		
Wet season	Bird	Rufous-capped Babbler	*Cyanoderma ruficeps*	LC	Common and increasing resident in forest and more mature shrubland, largely in the mainland New Territories. Population considered to be captive origin, but species likely to have been present in HK prior to anthropogenic habitat changes.						1		
Wet season	Bird	Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	-	Common resident.						3		
Wet season	Bird	Little Egret	*Egretta garzetta*	PRC (RC)					1				
Wet season	Bird	Asian Koel	*Eudynamys scolopaceus*	-	Very common resident, with increased numbers in autumn suggesting the presence of passage migrants.						4		
Wet season	Bird	Black-collared Starling	*Gracupica nigricollis*	-	Common, widespread resident of lowland open-country , villlage and urban habitats.	8	3						
Wet season	Bird	Large Hawk-cuckoo	*Hierococcyx sparverioides*	-	Common summer visitor		1			1	3		
Wet season	Bird	Barn Swallow	*Hirundo rustica*	-	Widespread and common.	5	4						
Wet season	Bird	Black Kite	*Milvus migrans*	(RC); Class II Protected Species in China; Cap.586; CITES(II)	Present all year throughout Hong Kong, numbers lowest in summer and highest during autumn migration.			1					
Wet season	Bird	White Wagtail	*Motacilla alba*	-	Common passge migrant and winter visitor	2	1	1					
Wet season	Bird	Blue Whistling Thrush	*Myophonus caeruleus*	-	Common and widespread resident in woodland and closed-canopy shrubland, often close to streams.		1				2		
Wet season	Bird	Common Tailorbird	*Orthotomus sutorius*	-	Common widespread resident in diverse habitats of forest, shrubby grassland and landscaped urban areas.		1	1	1	2	9	1	1
Wet season	Bird	Collared Scops Owl	*Otus lettia*	Class II Protected Species in China; Cap.586; CITES(II)	Common and widespread resident in closed-canopy woodland and mature shrubland.						2		
Wet season	Bird	Japanese Tit	*Parus minor*	-	Abudant resident in diverse wooded and lightly-wooded habitats.		1			1	5		
Wet season	Bird	Eurasian Tree Sparrow	*Passer montanus*	-	An abundant resident, commensal with humans and found in all lowland anthropogenic habitats, especially in active farmland, around fish ponds and in city parks.		14	2				6	

Wet season	Bird	Scarlet Minivet	*Pericrocotus speciosus*	-	Common resident, mostly in woodland and forest margins but may also occur in urban edge areas; possibly some immigration in winter.						4		
Wet season	Bird	Streak-breasted Scimitar Babbler	*Pomatorhinus ruficollis*	-	Widespread, moderately common resident of forest and shrubland on HK Island and the mainland New Territories, population considered to be derived from ex-captive birds.					1			
Wet season	Bird	Yellow-bellied Prinia	*Prinia flaviventris*	-	Common resident in grassland, reed marsh and rank or herbaceous vegetation, and thus highest densities occur in the northwest New Territories.			4				1	
Wet season	Bird	Plain Prinia	*Prinia inornata*	-	Locally common resident in grassy habitat mainly in the northwest New Territories.	1						1	
Wet season	Bird	Great Barbet	*Psilopogon virens*	-	Probably a 20th century colonist; now an uncommon, but fairly widespread, resident in fung shui woods and mature secondary forest, largely in the central and east New Territories.						3		
Wet season	Bird	Black-throated Laughingthrush	*Pterorhinus chinensis*	Class II Protected Species in China	The nominate taxon is a widespread and locally common resident in forest and shrubland in both HK Island and the New Territories, where it has much increased and spread this century. Individuals showing characters of P. c. monachus were first recorded in 2006 and appear to be increasing and breeding with the local form.						4		
Wet season	Bird	Masked Laughingthrush	*Pterorhinus perspicillatus*	-	A common resident of anthropogenic and disturbed habitats throughout HK.						6		
Wet season	Bird	Red-whiskered Bulbul	*Pycnonotus jocosus*	-	Abundant or comon resident in nearly all habitats; HK;s second most widespread bird.	20	5				4	6	
Wet season	Bird	Chinese Bulbul	*Pycnonotus sinensis*	-	Abundant resident in nearly all habitats; HK's most widespread bird. Also occurs as a passage migrant and winter visitor.		6						
Wet season	Bird	Velvet-fronted Nuthatch	*Sitta frontalis*	-	Locally common resident.						4		
Wet season	Bird	Spotted Dove	*Spilopelia chinensis*	-	Common and conspicuous resident in all anthropogenic habitats.	2	5	1		1		1	
Wet season	Bird	Swinhoe's White-eye	*Zosterops simplex*	-	Widespread abundant resident.				3	2	10		
Wet season	Butterfly	Common Hedge Blue	*Acytolepis puspa*	-	Common	2							
Wet season	Butterfly	Angled Castor	*Ariadne ariadne*	-	Common			1		2	3	1	
Wet season	Butterfly	Colour Sergeant	*Athyma nefte*	-	Common	2							
Wet season	Butterfly	Common Tiger	*Danaus genutia*	-	Very Common	5							
Wet season	Butterfly	Common Duffer	*Discophora sondaica*	-	Uncommon	1							
Wet season	Butterfly	Common Palmfly	*Elymnias hypermnestra*	-	Common	1							
Wet season	Butterfly	Common Indian Crow	*Euploea core*	-	Common			1	1	1	2		
Wet season	Butterfly	Blue-spotted Crow	*Euploea midamus*	-	Very Common	3	1		2				
Wet season	Butterfly	Three-spot Grass Yellow	*Eurema blanda*	-	Common	1			1				

Wet season	Butterfly	Common Grass Yellow	*Eurema hecabe*	-	Very Common	3	2			1	1	2	1
Wet season	Butterfly	Five-bar Swordtail	*Graphium antiphates*	-	Common	1							
Wet season	Butterfly	Common Bluebottle	*Graphium sarpedon*	-	Very Common	1							
Wet season	Butterfly	Purple Sapphire	*Heliophorus epicles*	-	Common	1							
Wet season	Butterfly	Great Egg-fly	*Hypolimnas bolina*	-	Very Common	4	1	2		1		1	
Wet season	Butterfly	Ceylon Blue Glassy Tiger	*Ideopsis similis*	-	Very Common	1		1					
Wet season	Butterfly	Lemon Pansy	*Junonia lemonias*	-	Common			1					
Wet season	Butterfly	Dark Evening Brown	*Melanitis phedima*	-	Common	6							
Wet season	Butterfly	Dark-brand Bush Brown	*Mycalesis mineus*	-	Very Common	1		2				1	
Wet season	Butterfly	South China Bush Brown	*Mycalesis mucianus*	-	Common	3		1	1				
Wet season	Butterfly	Common Sailer	*Neptis hylas*	-	Very Common	1	1	1	2		2	1	
Wet season	Butterfly	Red Helen	*Papilio helenus*	-	Very Common	2	1						
Wet season	Butterfly	Great Mormon	*Papilio memnon*	-	Very Common	1	2	1	1				
Wet season	Butterfly	Paris Peacock	*Papilio paris*	-	Very Common						2		
Wet season	Butterfly	Common Mormon	*Papilio polytes*	-	Very Common	5	1	1	1		1		1
Wet season	Butterfly	Spangle	*Papilio protenor*	-	Very Common	1		1			1		
Wet season	Butterfly	Glassy Tiger	*Parantica aglea*	-	Common	1			1				
Wet season	Butterfly	Short-banded Sailer	*Phaedyma columella*	-	Common	1		1					
Wet season	Butterfly	Indian Cabbage White	*Pieris canidia*	-	Very Common	6						1	
Wet season	Butterfly	Small Cabbage White	*Pieris rapae*	-	Common	4							
Wet season	Butterfly	Common Jester	*Symbrenthia lilaea*	-	Common	1		1	1				
Wet season	Butterfly	Water Snow Flat	*Tagiades litigiosus*	-	Common				1				
Wet season	Butterfly	Common Birdwing	*Troides helena*	Class II Protected Species in China; Cap. 170; Cap.586; CITES(II)	Uncommon			1					
Wet season	Butterfly	Grass Demon	*Udaspes folus*	-	Uncommon	1							
Wet season	Butterfly	Common Five-ring	*Ypthima baldus*	-	Very Common	5	1		1				
Wet season	Butterfly	Punchinello	*Zemeros flegyas*	-	Common	1					2		
Wet season	Butterfly	Dark Grass Blue	*Zizeeria karsandra*	-	Uncommon	1							
Wet season	Butterfly	Pale Grass Blue	*Zizeeria maha*	-	Very Common	3	3					3	
Wet season	Butterfly	Lesser Grass Blue	*Zizina otis*	-	Common	1							
Wet season	Fish	Beijiang Thick-lipped Barb	*Acrossocheilus beijiangensis*	GC; KFBG(EN); HR	Records from reservoir catchments on Hong Kong Island and a few streams on Lantau Island and central New Territories.				50				
Wet season	Fish	Broken-band Hillstream Loach	*Liniparhomaloptera disparis*	-	It occurs in most upper stream courses.				50				
Wet season	Fish	Longifn Banded Hill Trout	*Opsariichthys cf. evolans*	-	Found in streams with good water quaility in North District, Tai Mo Shan, Tai Po, Sai Kung, and catchment of some reservoirs				50				
Wet season	Fish	Predaceous Chub	*Parazacco spilurus*	-	A widespread species occurring in most unpolluted hill streams in both upper and lower courses.				100				
Wet season	Fish	Small Snakehead	*Channa asiatica*	LC; MR	Uncommon in the wild. Records from a few streams in North district and on Lantau Island. The fish is also cultivated in some fish farms and are available from fish market.				2				

Wet season	Fish	Striped Loach	*Schistura fasciolata*	-	Widespread in reservoir catchments and upland streams.				1				
Wet season	Fish	Sucker-belly Loach	*Pseudogastromyzon myersi*	-	Widely distributed in reservoir catchments and upland streams.				50				
Wet season	Fish	Swordtail	*Xiphophorus hellerii*	-	Occurs in large numbers in many local freshwater streams, rivers and ponds.				100				
Wet season	Fish	White-cheeked Goby	*Rhinogobius duospilus*	-	Probably the commonest goby in Hong Kong and is widely distributed in upper and middle course of streams, sometimes occurs in lowland streams.				18				
Wet season	Freshwater Invertebrate	Freshwater Crab	*Cryptopotamon anacoluthon*	PGC; IUCN(VU)	-				3				
Wet season	Freshwater Invertebrate	Freshwater Shrimp	*Neocaridina palmata*	-	-				50				
Wet season	Freshwater Invertebrate	Freshwater Snail	*Angulyagra polyzonata*	-	-				3				
Wet season	Freshwater Invertebrate	Freshwater Snail	*Sulcospira hainanensis*	-	-				100				
Wet season	Mammal	Short-nosed Fruit Bat	*Cynopterus sphinx*	Cap.170	Very widely distributed in urban and countryside areas throughout Hong Kong.		1						
Wet season	Mammal	Himalayan Leaf-nosed Bat	*Hipposideros armiger*	(LC); Cap.170	Widely distributed in countryside areas throughout Hong Kong.		1				2		
Wet season	Mammal	Chinese Pipistrelle	*Hypsugo pulveratus*	(LC); Cap.170	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.				1				
Wet season	Mammal	Lesser Bent-winged Bat	*Miniopterus pusillus*	(LC); Cap.170	Fairly widely distributed in countryside areas throughout Hong Kong.						1		
Wet season	Mammal	Chinese Myotis	*Myotis chinensis*	(LC); Cap.170	Fairly widely distributed in countryside areas throughout Hong Kong.						1		
Wet season	Mammal	Chinese Noctule	*Nyctalus plancyi*	PRC (RC); Cap.170	Fairly widely distributed in countryside areas throughout Hong Kong.		1						
Wet season	Mammal	Japanese Pipistrelle	*Pipistrellus abramus*	Cap.170	Widely distributed throughout Hong Kong.	1	6		3		3		
Wet season	Mammal	Chinese Horseshoe Bat	*Rhinolophus sinicus*	Cap.170	Widely distributed in countryside areas throughout Hong Kong.				1				
Wet season	Mammal	Lesser Bamboo Bat	*Tylonycteris fulvida*	(LC); Cap.170	Fairly widely distributed in countryside areas throughout Hong Kong.						2		
Wet season	Odonate	Yellow Featherlegs	*Copera marginipes*	-	Abundant				1				
Wet season	Odonate	Black-banded Gossamerwing	*Euphaea decorata*	-	Abundant				10				
Wet season	Odonate	Common Blue Jewel	*Heliocypha perforata*	-	Abundant				5				
Wet season	Odonate	Common Shadow-emerald	*Macromidia rapida*	-	Common				1				
Wet season	Odonate	Chinese Greenwing	*Neurobasis chinensis*	-	Common				7				
Wet season	Odonate	Common Blue Skimmer	*Orthetrum glaucum*	-	Abundant				2				
Wet season	Odonate	Common Red Skimmer	*Orthetrum pruinosum neglectum*	-	Abundant				1				
Wet season	Odonate	Wandering Glider	*Pantala flavescens*	-	Abundant		5		5			1	

Wet season	Odonate	Black Threadtail	*Prodasineura autumnalis*	-	Abundant	4			4				
Wet season	Odonate	Ferruginous-faced Sprite	*Pseudagrion pruinosum*	-	Common				1				
Wet season	Odonate	Crimson Dropwing	*Trithemis aurora*	-	Abundant				1				
Wet season	Odonate	Indigo Dropwing	*Trithemis festiva*	-	Abundant				5				
Wet season	Odonate	Emerald Cascader	*Zygonyx iris*	PGC	Abundant				3	1			
Wet season	Reptile	Long-tailed Skink	*Eutropis longicaudata*	-	Widely distributed throughout Hong Kong.		2						
Wet season	Reptile	Chinese Gecko	*Gekko chinensis*	-	Widely distributed throughout Hong Kong.		2						
Wet season	Reptile	Bowring's Gecko	*Hemidactylus bowringii*	-	Distributed throughout Hong Kong.		3						

Figure 1. The zoning plan at and near the Project Site (marked in red) according to the Outline Zoning Plan.

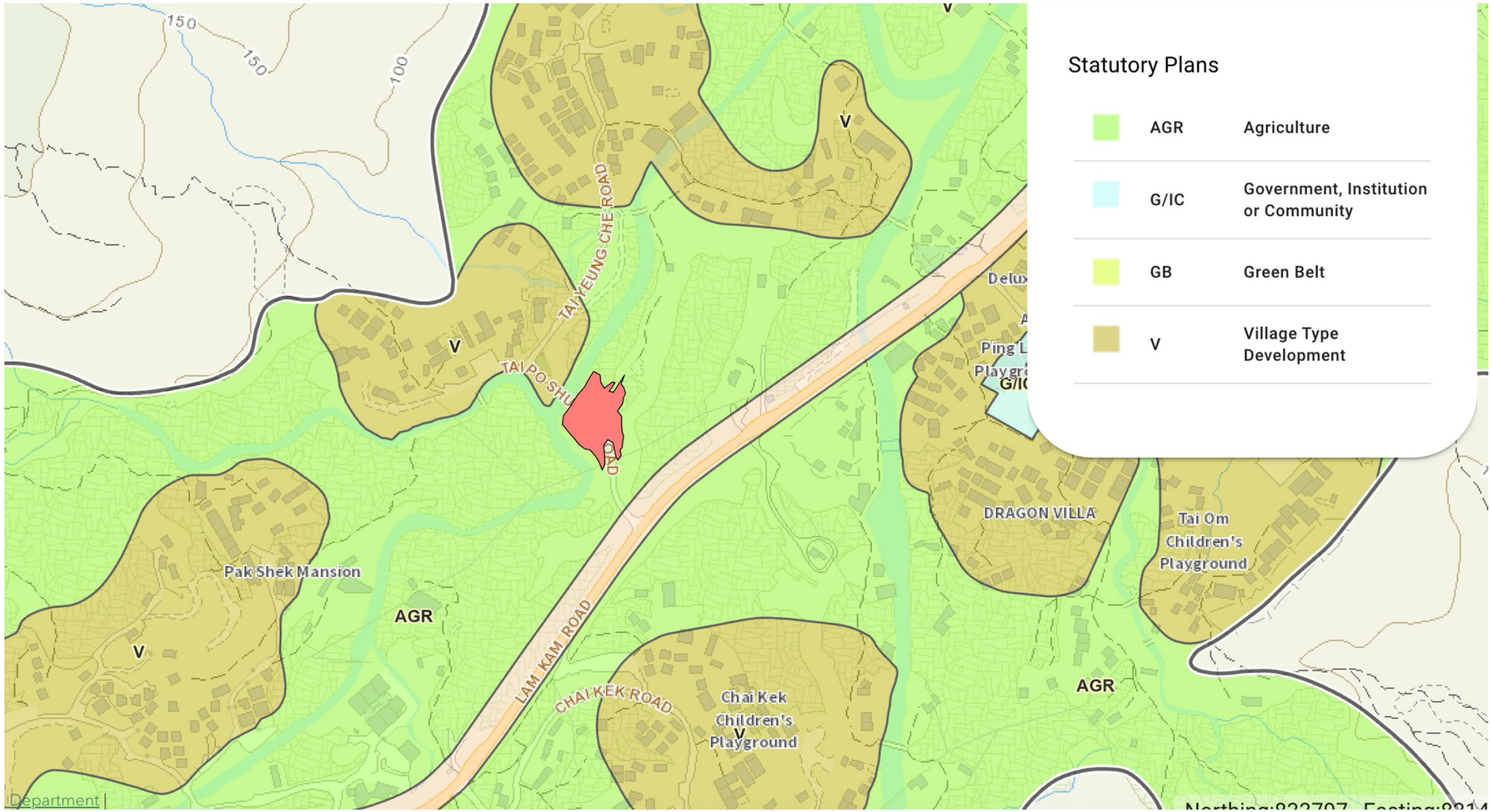


Figure 2. The habitats at the Project Site and the surrounding Assessment Area (300 m extent). The ecological survey transect lines are indicated in purple.

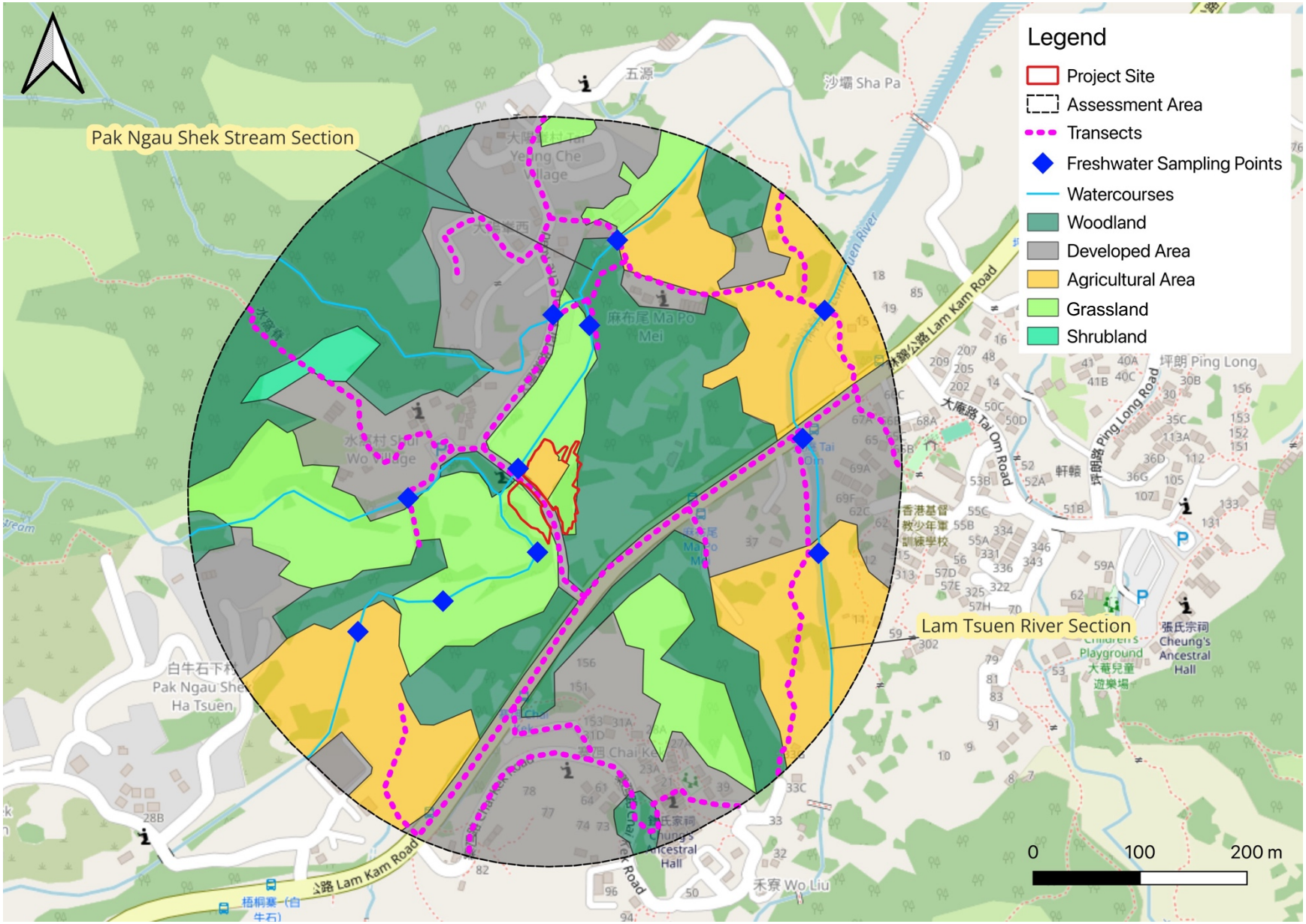


Figure 3. - Location of Lam Tsuen River (Upper) Ecologically Important Stream



Figure 4. Locations of flora species of conservation importance recorded during the survey.

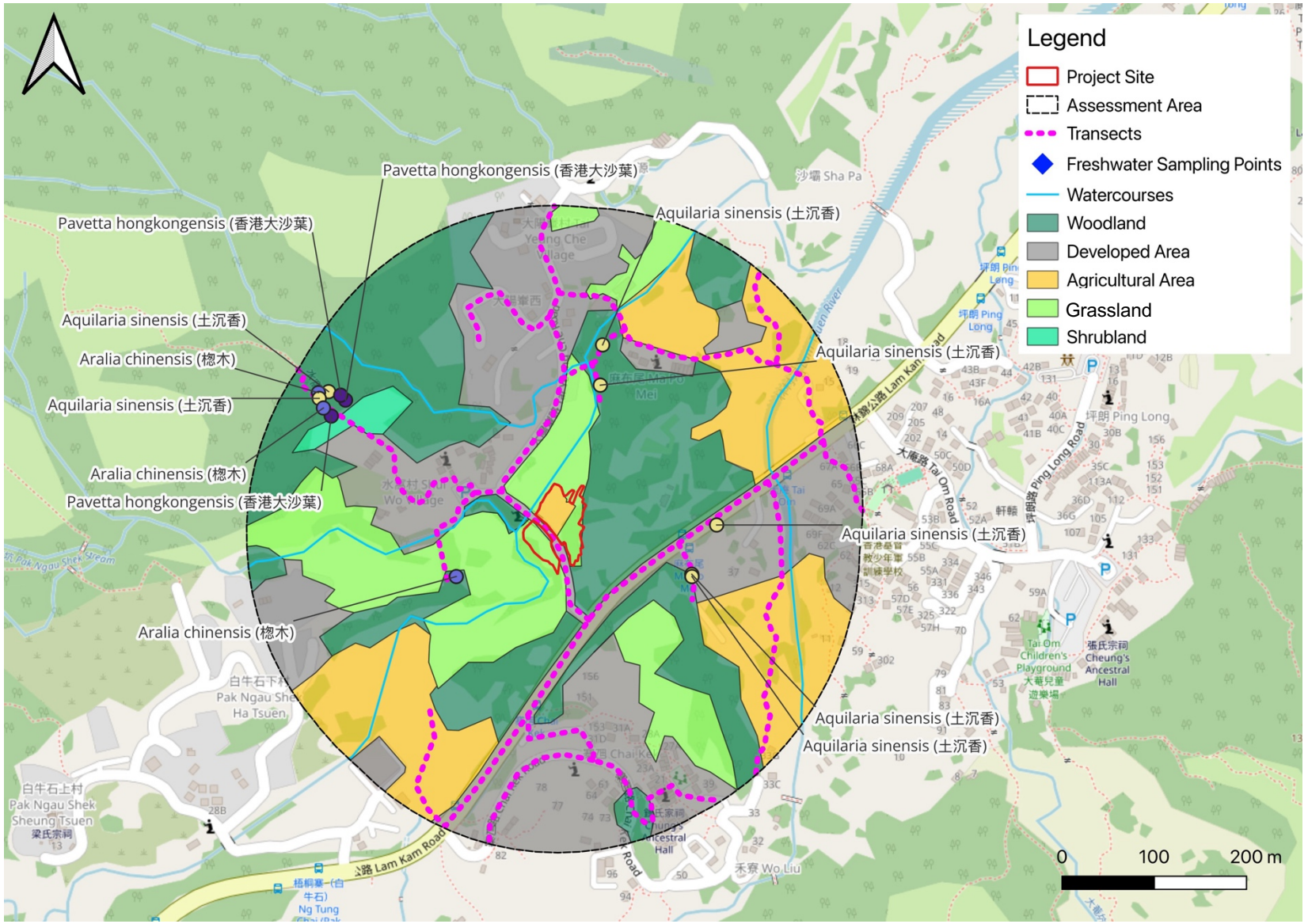


Figure 5. Locations of fauna species (except bats) of conservation importance recorded during the survey.

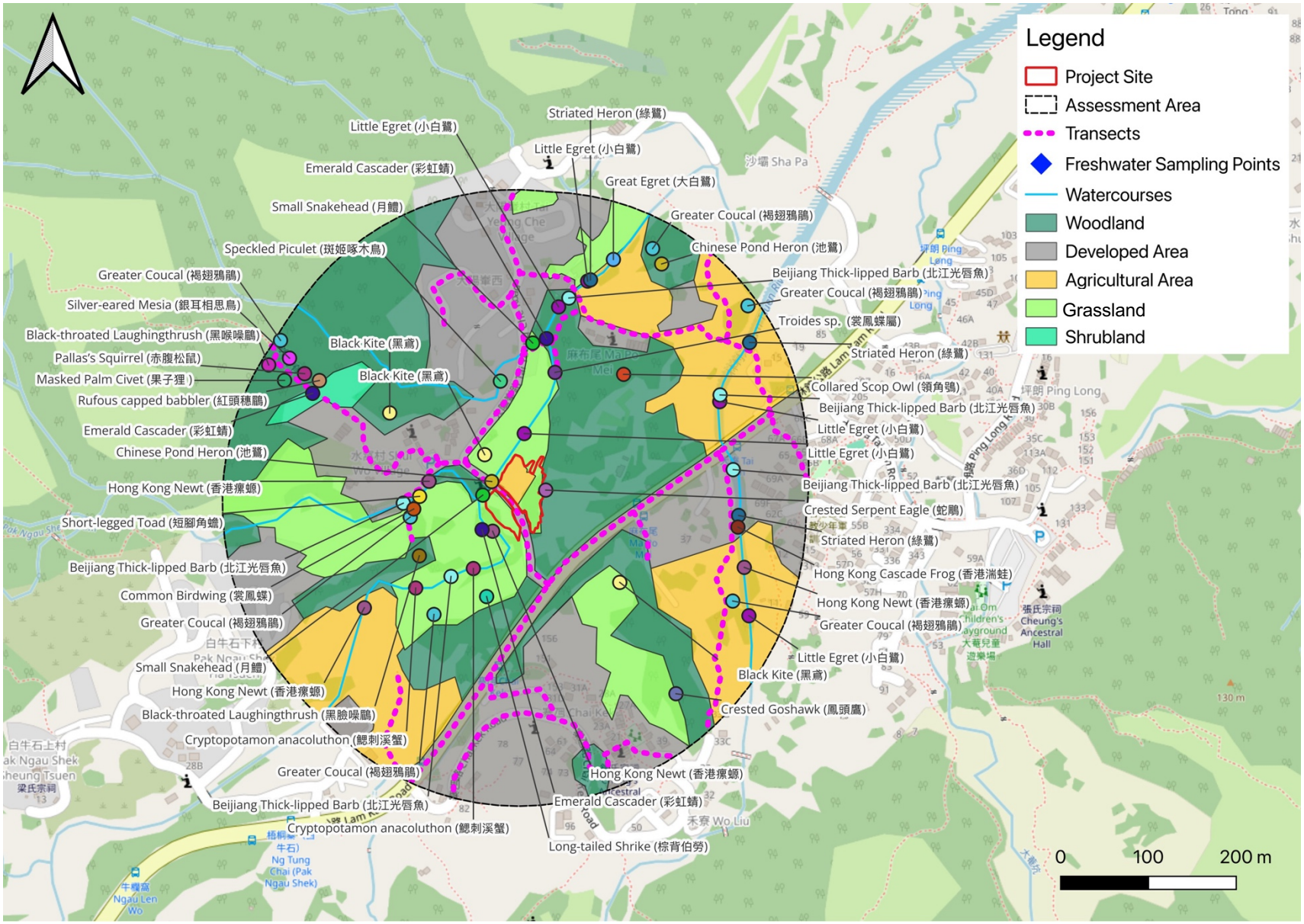


Figure 6. Locations of bat species of conservation importance recorded during the survey.

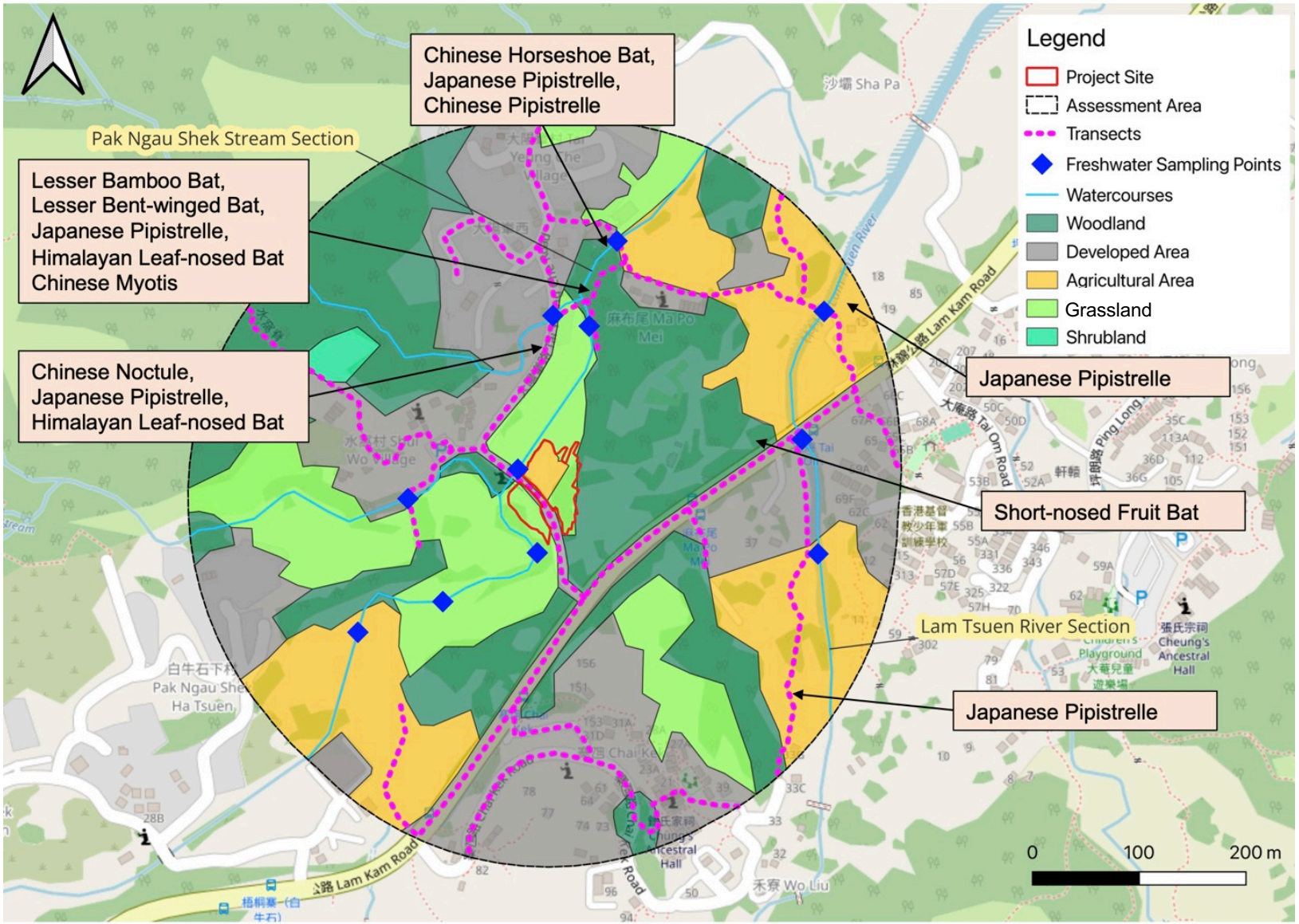


Figure 7. Indicative illustration of site hoarding and perimeter runoff protection adjacent to watercourse (Pak Ngau Shek Stream).

