

## 8. Ecological Impact Assessment

### 8.1 Introduction

With reference to **Chapter 2**, there are three Re-provisioning Options, namely Option A, Option B, and Option C, being considered for the Project. This section presents ecological baseline condition of the Project site and assessments to identify any adverse ecological impacts associated with the carrying out of the Project under the three Re-provisioning Options, in accordance with the technical requirements stated in section 3.4.8 of the EIA Study Brief.

### 8.2 Environmental Legislation, Standards and Guidelines

The environmental legislations, standards and guidelines below are relevant to the ecological impact assessment for this Project.

- Environmental Impact Assessment Ordinance – Technical Memorandum (EIAO-TM), Annexes 8 and 16. Annex 8 recommends the criteria for evaluating ecological impacts. Annex 16 sets out the general approach and methodology for assessment of ecological impacts arising from a project or proposal, to allow a complete and objective identification, prediction and evaluation of the potential ecological impacts.
- Wild Animals Protection Ordinance (Cap. 170), which protects wild animals listed under the second schedule from being hunted, possession, sale or export, disturbance of their nest or egg without permission by authorized officer.
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586), which regulates the import, introduction from the sea, export, re-export, and possession of specimens of a scheduled species, including live, dead, parts or derivatives. The Ordinance applies to all activities involving endangered species which include the parties of traders, tourists and individuals.

### 8.3 Ecological Baseline Condition

The Project site is situated in an urban area with very high level of human disturbance. It involves predominantly paved grounds and urban buildings with only some urban landscape planting at the Cadogan Street Temporary Garden. This temporary garden is also developed in nature in that it has been modified from a public car park into a sitting out area since 1999. The Project site is not situated within any recognised sites of conservation importance or encroaching into any important habitats mentioned in Appendix A of the EIAO-TM Annex 16.

#### 8.3.1 Habitat and Vegetation

Referring to the site history, desktop study and ground truthing, the habitat of the whole Project site and the nearby area is identified as developed area which is heavily disturbed. Patches of trees are found within the Cadogan Street Temporary Garden while some individual trees are scattered over the remaining areas of the Project site. Photos taken during ground truthing are presented in **Appendix 8.1**. There is no registered Old and Valuable Tree within the Project site.

A survey of existing trees within the Project site was conducted between December 2012 and January 2013. A total number of 196 trees of 24 species were identified within the Project site. Data recorded is presented in **Appendix 8.2**. The dominant tree species were mainly common ornamental trees, composed of both exotic and native species. These trees included *Ficus microcarpa*, *Livistona chinensis*, *Terminalia catappa*, *Hibiscus tiliaceus* and *Syagrus romanzoffiana*.

Four individuals of *Aquilaria sinensis* were recorded during the tree survey in Cadogan Street Temporary Garden. They were planted during the modification of car park into the temporary garden. This species is scheduled under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586), which aims to control the import/export of the scheduled species. The wild plant is listed as near threatened under state protection (category II) and recorded in China Plan Red Data Book. *Aquilaria sinensis* is common and widely distributed in Hong Kong.

### 8.3.2 Fauna

A site reconnaissance survey within the Project site was conducted in March 2013. A total of 5 bird species and 2 butterfly species were recorded. Data recorded is presented in **Appendix 8.2**. All the bird and butterfly species recorded were common and widely distributed in Hong Kong.

Chinese Fan-palm *Livistona chinensis*, which was recorded at Cadogan Street Temporary Garden within the Project site, is commonly utilised by Short-nosed Fruit Bat as roost. Short-nosed Fruit Bat is listed as “Indeterminate” in the China Red Data Book, whilst all bats are protected under Cap. 170. This species is highly adaptive to urban areas and common and widespread in parks and gardens (Shek, 2006). The fronds of the Chinese Fan-palm were thus inspected for any presence of roosting Short-nosed Fruit, but no bat roost was found during the site reconnaissance survey.

### 8.3.3 Habitat Evaluation

Evaluation of the developed area is presented in **Table 8.1**. The developed area is a wholly artificial habitat, which is not supporting any significant population of wild fauna or species of conservation importance. The area is evaluated as of low ecological value.

Table 8.1: Ecological Evaluation of Developed Area

Criteria	Developed Area
Naturalness	Wholly man-made habitat
Size	Project site 3.2 ha
Diversity	Low in both fauna and flora species diversity
Rarity	Common habitat
Re-creatability	Readily re-creatable
Fragmentation	N/A
Ecological Linkage	N/A
Potential Value	Low potential value due to heavy disturbance by human activities
Nursery/Breeding Ground	Not nursery / breeding ground
Age	N/A
Abundance/Richness of Wildlife	Low

Criteria	Developed Area
Summary	Low ecological value

### 8.3.4 Species Evaluation

The protected species recorded was listed and tabulated in accordance with the criteria stated in Table (3) in Annex 8 in EIAO-TM. The evaluation is presented in **Table 8.2**.

Table 8.2: Ecological Evaluation of Protected Species

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Aquilaria sinensis</i>	Cadogan Street Temporary Garden	Listed under Protection of Endangered Species of Animals and Plants Ordinance (Cap.586) in Hong Kong; listed as near threatened in mainland China <sup>(1)</sup> ; Category II protected species in Mainland China	Widely distributed in Hong Kong <sup>(1)</sup>	The species is common in Hong Kong <sup>(2)</sup>

Reference source:

(1) Rare and Precious Plants of Hong Kong (AFCD 2003)

(2) Hong Kong Vascular Plants: Distribution and Status (Corlett *et al.* 2000)

## 8.4 Identification and Evaluation of Ecological Impact

The Project involves mainly ground decontamination works. Habitat loss would only be limited to the developed area within the Project site for all the three Re-provisioning Options. Although four individuals of the protected plant species *Aquilaria sinensis* were recorded within the Project site, they were not naturally occurring but instead being planted on a contaminated site. Transplantation of the four individuals is not recommended, as this may cause cross contamination to the recipient site. No adverse ecological impact is therefore anticipated for the felling of this small number of planted *Aquilaria sinensis* and other planting in the developed area.

Owing to the low ecological value of habitat (i.e. developed area) within the Project site and the commonness of the recorded fauna which are adaptive to similar developed habitats in the vicinity, no potential adverse ecological impact is identified for all the three Re-provisioning Options. Therefore, no specific ecological mitigation measure is required. Nonetheless, compensatory tree planting will be included in the landscape design, so that the felled trees will be compensated by tree planting within / outside the Project site.

Following the procedure outlined in Appendix A of the EIAO-TM Annex 16, it is identified that the Project is not situated inside any recognised sites of conservation importance, or affecting any important habitats. Moreover, good site practices and housekeeping measures will be implemented during the demolition and ground decontamination works to avoid localised nuisance to the surrounding environment.

In view of the above, detailed ecological impact assessment is deemed not necessary for the Project.

## 8.5 Ecological Precautionary Measure

Although no ecological-specific mitigation measure is required as no adverse ecological impact resulting from the Project is anticipated, it is possible that some common bird species inhabiting the urban open

areas such as Red-whiskered Bulbul may form an active nest on tree present within the Project site during the breeding season. All wild birds, including their nests and eggs, are protected by the Wild Animals Protection Ordinance (Cap. 170). Therefore, it is recommended as precautionary measure that before conducting site clearance works, the Project site should be inspected to confirm no active nest is present. If any active bird nest is observed, suitably sized buffer area should be established around the tree to minimise human or machinery disturbance until the nest is abandoned.

It is also possible that some Short-nosed Fruit Bats may utilise Chinese Fan-palms within the Project site as roost. Therefore, it is recommended as precautionary measure that before conducting site clearance works, daytime inspection should be carried out to confirm no Short-nosed Fruit Bat is present on the fronds of Chinese Fan-palms within the Project site. If any Short-nosed Fruit Bat is observed roosting on tree, suitably sized buffer area should be established around the tree to minimise human or machinery disturbance until the bat has left.

## **8.6 Cumulative Impact**

Planned concurrent and interfacing projects have been identified for the Project, at the Residential Development at the Ka Wai Man Road and Ex-Mount Davis Cottage Area, Reprovisioning of Kennedy Town Saltwater Pumping Station and potential development within the Kennedy Town CDA site, as detailed in Section 2.7 of this report.

Residential development at the Ka Wai Man Road and ex-Mount Davies Cottage Area, and the reprovisioning of Kennedy Town Saltwater Pumping Station are outside the Kennedy Town site, and are not expected to lead to increased ecological impacts at the Project site. Potential development is planned within the Kennedy Town CDA site after land is released to LandsD following the completion of works on decontaminated and developed areas only. The ecological value of these developed areas is considered to be very low. The potential ecological impact of these projects is therefore also expected to be very low. As such, no significant cumulative impacts on ecology are anticipated at the Project site from these concurrent and interfacing projects.

## **8.7 Environmental Monitoring and Audit**

No specific ecological mitigation measure is required; however precautionary measure for site inspection of active bird nest and bat roost is recommended to be carried out prior to site clearance works as mentioned in **Section 8.5**. The recommended precautionary measure to avoid impacts on active bird nest and bat roost should be checked as part of the environmental monitoring and audit programme for the Project.

The implementation, monitoring and audit of the precautionary measure mentioned in **Section 8.5** should be conducted as presented in the standalone Environmental Monitoring and Audit (EM&A) Manual. In addition, the mitigation measures for air, noise, water and landscape aspects proposed in respective sections which are indirectly beneficial to the local ecology shall be checked as part of the environmental monitoring and audit procedures as presented in the standalone EM&A Manual.

## **8.8 Residual Impact**

Given that no significant ecological impact is identified for the Project, no residual impact is identified.

## **8.9 Summary**

Evaluations of ecological impacts addressed have confirmed there are no adverse ecological impacts resulting from the Project under any of the three assessed Re-provisioning Options. According to EIAO-TM and clause 3.4.8.1 of the EIA Study Brief, detailed ecological impact assessment is deemed not necessary for the Project. Nevertheless, recommendation concerning the inspection of the possibility of active bird nest and bat roost present within the Project site prior to site clearance works has been made as ecological precautionary measure.

## **8.10 References**

- AFCD. (2003). Rare and Precious Plants of Hong Kong. Hong Kong: Friends of the Country Parks: Cosmos Books Ltd.
- Corlett, R.T., Xing, F.W., Ng, S.C., Chau, L.K.C. and Wong, L.M.Y. (2000). Hong Kong Vascular Plants: Distribution and Status. *Memoirs of the Hong Kong Natural History Society* 23:1-157.
- Shek, C.T. (2006). A Field Guide to the Terrestrial Mammals of Hong Kong. Hong Kong: Friends of the Country Parks: Cosmos Books Ltd. Agriculture, Fisheries and Conservation Department.