

Ecological and Conservation Importance of Six Sai Kung Country Park Enclaves

(1st Edition)

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Editors

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Abbreviations: PSO (Pak Sha O), PTA (Pak Tam Au), CK (Chek Keng), KT (Ko Tong)

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Executive Summary

Following the "Tai Long Sai Wan incident" in 2010 which saw the potential loss of an area of outstanding beauty to a private development and highlighted how vulnerable our local ecology and natural heritage have become, the Hong Kong Government made a promise to step up procedures to protect the Country Park (CP) enclaves not yet covered by statutory plans. In 2011, the Ombudsman also urged relevant departments and bureaux to cover those areas with statutory plans or incorporate them into the CP system.

At the time of writing, the Planning Department has been preparing Development Permission Area plans (DPA) or Outline Zoning Plans (OZP) for many of these areas, in consultation with the Town Planning Board. Meanwhile, the Agriculture, Fisheries and Conservation Department has incorporated several enclaves (including Tai Long Sai Wan) into the CP system (revised CP maps were gazetted in May 2013 for 3 enclaves), based on the advice from the Country and Marine Parks Board. There are still approximately 28 enclaves not yet appropriately protected (at time of writing).

With a view to facilitating future decisions regarding the conservation of the CP enclaves, KFBG and collaborators have carried out site visits and surveys of several enclave areas to obtain up-to-date ecological information, which can be shared with the public and authorities. It is hoped that more informed decisions can be developed based on the additional knowledge provided in this report. The present report covers six enclaves in Sai Kung: Pak Sha O and Pak Sha O Ha Yeung, Nam Shan Tung, Pak Tam Au, Ko Tong, To Kwa Peng and Chek Keng. We hope these findings can assist the relevant Government departments in making appropriate and informed decisions regarding the designated zoning plans for these areas, and support the incorporation of unprotected areas into the CP system.

Most natural and semi-natural habitats within the listed enclaves are of high conservation concern; indeed, from an ecological and conservation viewpoint, they are inseparable from the wider Sai Kung CP ecosystem. We urge that the government takes guidance from the Convention on Biological Diversity (extended to Hong Kong in 2011) in deliberating its planning decisions for the enclaves. Appropriate conservation zonings (under the CP system or the town planning system) and statutory control of these areas will help deter haphazard, unsustainable development and help to appropriately safeguard Hong Kong's important natural and built heritage for the wider community and future generations.



1. Background and Introduction

The "Tai Long Sai Wan incident" first came under the spotlight in mid 2010 (http://www.nshk.org.hk/pdf/c_awards/2010/010.pdf); the public reacted with great concern regarding the case and urged the Government to take immediate action to safeguard natural landscapes that are afforded no statutory protection (as in the case of Tai Long Sai Wan). The then Chief Executive announced in his Policy Address (in October 2010) that the Planning Department (PlanD) and the Agriculture, Fisheries and Conservation Department (AFCD) would protect the Country Park (CP) Enclaves not yet covered by statutory plans according to the local situations, either by incorporating them into the CPs or through statutory planning control; in September 2011 the Ombudsman also recommended that (a) DevB (Development Bureau) and EnB (Environment Bureau) should urge their executive departments to, as directed by the Chief Executive, expeditiously prepare statutory plans for those enclaves that are still unprotected or to incorporate them into country parks, in order to ensure that all enclaves are properly protected; and (b) AFCD should consider incorporating private lands that have conservation value into country parks in with the revised CMPB (Country and Marine Parks Board) criteria (http://www.ombudsman.hk/concluded/2011_09_02.pdf).

Also in 2011, the Convention on Biological Diversity (CBD) was extended to Hong Kong, and in the 2013 Policy Address, the Chief Executive Mr. C.Y. Leung reported that the Government would appropriately implement the requirement of this international Convention and a Biodiversity Strategy and Action Plan (BSAP) would be developed; Article 8 of this international Convention actions for in-situ lists necessary essential conservation (http://www.cbd.int/convention/articles/default.shtml?a=cbd-08), and some relevant items are documented below:

- (a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity
- (b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity
- (c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use
- (d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings
- (e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas
- (f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies
- (i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components
- (k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations



The present report was compiled with the above incidents and Government promises in mind. Six CP enclaves in Sai Kung were selected for documentation, partly due to the fact that some information on these sites was already available and also because these sites were considered of ecological importance: Pak Sha O (PSO; including Pak Sha O Ha Yeung (PSOHY)), Nam Shan Tung (NST), Pak Tam Au (PTA), Ko Tong (KT; including Ko Tong Ha Yeung (KTHY) and Tai Tan (TT)), To Kwa Peng (TKP) and Chek Keng (CK) (Figure 1). The aim of this report is to provide up-to-date ecological information for relevant authorities to ensure that the CP enclaves are afforded appropriate protection. The information was gathered by experts from Kadoorie Farm & Botanic Garden (KFBG) and experts from a local ecological consultant with more than ten years' experience in ecological survey and assessment work in Hong Kong, including Sai Kung. The survey was sponsored by KFBG.

2. Methods

2.1 Surveys

Aquatic fauna were surveyed by direct observation and snorkelling during the wet season of 2012. From October to December 2012, botanists and ornithologists from the consultant carried out habitat, vegetation and bird surveys; for each enclave, the study area constitutes the enclave itself and accessible areas within 50m from the boundary. Habitat mapping was conducted by comparing aerial photographs and later through ground-truthing; vegetation surveys were conducted at the same time as the ground-truthing. Bird surveys were carried out on foot, beginning within 40 minutes of sunrise and continuing until around 10.30 am. Two surveys of each enclave were conducted, with the exception of PSO, for which more or less weekly surveys were conducted during the study period (October to December 2012). Results of the survey work were supplemented with data collected from occasional ad hoc surveys undertaken over the past seven years at PSO. Data collated from this longer and more intense period of observation were used to inform assessments of other enclaves in view of their close proximity (maximum 4 km between the two most distant) to each other.

2.2 Data from Other Sources

Personal observations by KFBG staff regarding the herpetofauna recorded at the enclaves were gathered to supplement the findings in this report. These observations were made in recent years (e.g., after 2000). Unpublished and published data from AFCD (e.g., AFCD newsletter Hong Kong Biodiversity) and other sources (e.g., Hong Kong Bird Watching Society) and scientific literature were reviewed and useful information related to the enclaves was extracted.

The general status of different habitats was assessed based on site observation, relative biological diversity and the presence or absence of species of conservation interest. Status of species mainly follows Fellowes et al. (2002), Hu et al. (2003), IUCN Red List, AFCD's database and other documented sources.



3. Results

3.1 Habitats and Vegetation

The area of habitat in each studied enclave (including the area 50 m from the boundary) is provided in **Table 1**. A complete plant list is provided in **Appendix 1**.

Table 1. Habitats in each study area (%)

Habitat type	PSO	NST	PTA	KT	TKP	CK
Channelized watercourse			0.27			
Backshore vegetation				0.36	1.43	3.83
Developed/ Village area	4.99	0.84	4.82	9.17	1.31	1.94
Dry agricultural land	0.83			0.14		
Fung shui Woodland	4.76	4.97	3.64	2.62	6.96	
Grassland	0.41	7.65	5.00			1.60
Shrubby grassland	0.88		7.65	0.99	6.25	
Mangrove				1.21	6.14	3.11
Marsh	0.92		0.95	0.41		
Natural watercourse	2.82	1.99	0.85	2.62	0.88	3.42
Plantation			1.26			
Pond			0.31	0.61		
Ruderal area*	0.06			0.18	1.04	0.19
Sea				4.49	14.09	11.00
Seasonally wet grassland	0.12		0.91	0.36		
Secondary woodland	84.21	84.55	72.71	76.84	61.47	74.91
Waste ground			1.63		0.43	
Total %	100.00	100.00	100.00	100.00	100.00	100.00
Total area (ha)	48.16	9.23	22.40	97.20	17.11	56.23

^{*} waste ground with sparce vegetation cover (often invasive plants)

3.1.1 *Pak Sha O*

Ten habitats were identified within the PSO study area, comprising native secondary woodland, fung shui woodland, marsh, developed/village area, seasonally wet grassland, dry agricultural land, natural watercourse, grassland, shrubby grassland and ruderal area. Figure 2 shows the habitat map of PSO and PSOHY.

Native secondary woodland is the dominant habitat type within this enclave. The lowland woodland seems to have evolved from abandoned agricultural land through natural succession, while the remaining woodland located on the hillside is relatively mature. The woodland is extensively covered by climbers such as Byttneria aspera. The overstorey of this woodland habitat mainly consists of tree species Cratoxylum cochinchinense, Alangium chinense, Viburnum odoratissimum and Mallotus paniculatus of young age. Dominant species underneath the overstorey include common shrubs and trees (such as Psychotria asiatica, Ardisia quinquegona and Daphniphyllum calycinum). A total of 100 floral species were identified. Five floral species of conservation concern were identified, including the herb Houttuynia cordata, fern Cibotium barometz, climber Gnetum luofuense, shrub Pavetta hongkongensis and tree Aquilaria sinensis.



A specimen of *Ludisia discolor* is present in the woodland at PSO. This species is regarded as infrequent but widespread in HK by Barretto *et al.* (2011), who note that most of Hong Kong's subpopulations are now feared extinct. They assign it a Red Data status of EN in Hong Kong.

Two areas of *fung shui* woodland are present; these are located behind the village areas at PSO and at PSOHY, respectively. PSO *fung shui* woodland is located in the south of the enclave and PSOHY *fung shui* woodland is located in the north (see **Figure 2**). The vegetation compositions of the two woodlands are similar and mainly consist of a closed canopy of common *fung shui* woodland native tree species such as *Aporusa dioica*, *Schefflera heptaphylla* and *Cinnamomum parthenoxylon*, with a well-developed understorey dominated by *Byttneria aspera*, *Maesa perlarius* and *Psychotria asiatica*. The presence of mature trees with average Diameter at Breast Height (DBH) of 30-60cm and well-developed woody climbers (*Byttneria aspera* and *Gnetum luofuense*) indicates that they are old-growth woodlands with limited human disturbance. Both *fung shui* woodlands support a moderate plant diversity (77 and 66 floral species were identified within PSO and PSOHY, respectively), with four plant species of conservation concern recorded, including the fern *Cibotium barometz*, climber *Gnetum luofuense*, shrub *Pavetta hongkongensis* and tree *Aquilaria sinensis*.

Four significant areas of natural freshwater marsh are present within the enclave. One of these is at PSOHY, while the remaining three are at PSO. The marshes evolved from abandoned agricultural land through natural succession. They have been utilized and maintained by feral cattle and are mainly dominated by wetland- or marsh-associated plant species including Geissapis cristata, Ischaemum barbatum, Floscopa scandens, Philydrum lanuginosum, Impatiens chinensis and Cyclosorus interruptus. This habitat supports moderate plant diversity (53 floral species) compared with similar habitat elsewhere in Hong Kong. Three species of conservation concern were identified, including the herbs Houttuynia cordata and Geissapis cristata, and one orchid species, Liparis ferruginea. Although the orchid species was only recorded in the marsh of PSOHY, the close proximity (< 500m) to the other three marshes in PSO and the fact that the growth environments of these marshes are similar to that of PSOHY, might suggest the likelihood that the same orchid species occurs at all three marshes. This orchid species is considered to be scarce and restricted in Hong Kong, and the local population has been estimated to be less than 50 individuals (Barretto et al. 2011); therefore it is considered to be locally Endangered (Barretto et al. 2011). Since this species is highly habitat-specific (wet lowland grassland) and this habitat type is under threat in Hong Kong, Barretto et al. (2011) have urged that conservation action should be undertaken to protect this species and its habitat.

An area of dry agricultural land is present at PSO. This was originally a natural freshwater marsh (**Figure 3**) evolved from abandoned agricultural land. During the second half of 2012, it was reprofiled and converted into active agricultural land (**Figure 4**). Remnants of wetland- or marsh-associated plant species such as *Impatiens chinensis*, *Floscopa scandens*, *Ludwigia adscendens* and *Polygonum glabrum* are present in the marshy area surrounding the existing agricultural land. The vegetation coverage of this habitat is low and most of the plant species were recorded from the surrounding marshy area only. A total of 36 plant species were recorded with one species of conservation concern, the herb *Geissapis cristata*, identified.

One small piece of seasonally wet grassland is present at the southwest of the enclave. Although the grassland was dry during the survey, the presence of several patches of wetland-associated plants (such as *Polygonum* spp.) suggests that the area is able to retain sufficient water for their growth during the wet season. Dominant species within this habitat include wetland herbs (*Polygonum pubescens* and *Geissapis cristata*) and subshrubs (*Urena procumbens* and *Urena lobata*). Twenty-two plant species were recorded with one species of conservation concern, the herb *Geissapis cristata*.

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Several watercourses were discovered to run through the whole enclave, mainly under the canopy of the native secondary woodland. These watercourses are semi-natural (with a natural bottom covered with boulder, gravel and sand). Plant species such as Acorus gramineus, Saurauia tristyla and Adina pilulifera were commonly recorded along the bank. A total of 26 plant species were recorded with three species of conservation concern identified including the fern Cibotium barometz, the woody climber Gnetum luofuense and the shrub Pavetta hongkongensis.

The developed/village area includes access roads and a number village houses. Plant coverage and diversity were low in this habitat. Plant species such as the climbers *Ipomoea cairica*, *Ficus pumila* and Bougainvillea spectabilis were commonly recorded. Fifteen species were recorded with no species of conservation concern identified.

A small ruderal area (sparcely vegetated waste ground) is present behind the PSO village area. Species such as Aporusa dioica, Pavetta hongkongensis and Maesa perlarius were recorded. Fifteen plant species were recorded with one shrub species of conservation concern, Pavetta hongkongensis, identified.

3.1.2 Nam Shan Tung

Five habitats were identified within the NST study area, including native secondary woodland, fung shui woodland, developed/village area, natural watercourse and grassland. A habitat map is shown in **Figure 5**.

Native secondary woodland is the dominant habitat within this enclave, but the woodland in the lowland area is relatively young. It is believed that the lowland woodland evolved from abandoned farmland through natural succession. The remaining part of the woodland is located on the hillside and is relatively mature. The canopy of this habitat mainly consists of native tree species Schefflera heptaphylla, Aporusa dioica, Cratoxylum cochinchinense and Cinnamomum parthenoxylon. Dominant species in the understory include common shrubs (Psychotria asiatica and Ardisia crenata), ferns (Blechnum orientale and Cyclosorus parasiticus) and climbers (Byttneria aspera). A total of 60 flora species were identified. Two flora species of conservation concern were identified, comprising the fern Cibotium barometz and the climber Gnetum luofuense.

A fung shui woodland is present in the middle of the enclave and behind the village. It consists of a closed canopy of common fung shui woodland tree species such as Aporusa dioica and Schefflera heptaphylla, and other native trees such as Mallotus paniculatus, with a well-developed understory dominated by the fern Blechnum orientale, the climber Dalbergia benthamii and the shrub Psychotria asiatica. The presence of mature trees with an average DBH (Diameter at Breast Height) of 30-60cm and well-developed woody climbers indicates that the habitat represents old-growth woodland with limited human disturbance. This fung shui woodland supports moderate plant diversity (58 species) with two species of conservation concern identified, including the tree Aquilaria sinensis and the woody climber Gnetum luofuense.

Several watercourses were found running through the enclave, mainly under the canopy of the secondary woodland. These watercourses are largely natural (i.e. with a natural bottom). Plant species such as the riparian herb Acorus gramineus and the trees Saurauia tristyla and Adina pilulifera were commonly recorded along the watercourses. A total of 17 plant species were recorded with one species of conservation concern, the fern Cibotium barometz, identified.

The developed/village area is located in the middle of this enclave. Some abandoned village houses are overgrown with vegetation. Plant coverage and diversity are low in this habitat. Plant species such as the trees Mallotus paniculatus and Ficus hispida and exotic climber Bougainvillea



spectabilis were commonly recorded. Eighteen species were recorded with no species of conservation concern.

3.1.3 Pak Tam Au

Twelve habitats were identified within the PTA study area, including native secondary woodland, fung shui woodland, plantation, grassland, seasonally wet grassland, marsh, natural watercourse, channelized watercourse, pond, shrubby grassland, waste ground and developed/village area. A habitat map is shown in **Figure 6**.

The area surrounding the enclave comprises predominantly young secondary woodland. The mixed canopy consists mainly of Alangium chinense, Bischofia javanica, Cleistocalyx operculatus, Machilus chekiangensis, Mallotus paniculatus and Viburnum odoratissimum. The woodland supports moderate to high plant diversity, with a total of 103 flora species identified. Two species of conservation concern were identified, including the tree Aquilaria sinensis and the shrub Pavetta hongkongensis.

Fung shui woodland is located to the north and behind the village. The overstorey is dominated by a closed canopy of common fung shui woodland tree species such as Aporusa dioica, Alangium chinense and Schefflera heptaphylla. The understorey is well-developed and dominated by the shrubs Ardisia crenata, Uvaria macrophylla and Psychotria asiatica. The presence of mature trees with an average height of 12-16 m indicates that the habitat consists of old-growth woodland. The fung shui woodland supports moderate plant diversity (60 floral species identified) with one species of conservation concern, the tree Aquilaria sinensis, present.

Two patches of plantation are present in the middle of the enclave. They comprise mainly exotic plantation tree species such as Acacia confusa, together with common native but planted tree species (i.e., Ficus microcarpa). The understory consists of common shrubs (such as Melastoma malabathricum, Urena lobata and Rhodomyrtus tomentosa). A total of 44 floral species were recorded with one species of conservation concern, the tree Aquilaria sinensis, identified.

Grassland is present in the middle of the enclave, and this area is maintained by feral cattle. Dominant species include herbs (Ischaemum barbatum, Axonopus compressus and Chrysopogon aciculatus) and shrubs (Melastoma malabathricum). The grassland supports moderate plant diversity (80 plant species), with one species of conservation concern, the herb Geissapis cristata, identified.

One small area of seasonally wet grassland was identified at the edge of the grassland habitat (on the northeastern side). Although the area was dry during the survey period, the presence of several patches of wetland-associated plants such as Philydrum lanuginosum suggested that water accumulates during the wet season. Dominant species within this habitat include wetland herbs (Philydrum lanuginosum, Paspalum scrobiculatum var. orbiculare and Pycreus polystachyus). Eleven plant species were recorded with one species of conservation concern, the herb Geissapis cristata, identified.

Marsh is present at the edge of the grassland (also on the northeastern side), next to the seasonally wet grassland. It is maintained by feral cattle and appears wet enough for the establishment of some common wetland plant species, including Paspalum orbiculare, Pycreus polystachyus and Eriocaulon sp. The habitat supports limited plant diversity (21 flora species) with two species of conservation concern, the herb Geissapis cristata and the scarce and restricted orchid Liparis ferruginea. This orchid species is considered to be locally Endangered (Barretto et al. 2011).



Watercourses that are predominantly natural are located in the south and east of the enclave; some sections of the streams are bounded by retaining walls, and there are weirs present along several sections. At the time of the habitat survey, water was fairly shallow covering rocky substrate and with some deep pools. The surrounding habitat type along the natural watercourses is secondary woodland. A total of 20 plant species were recorded with no species of conservation concern identified.

The natural sections of the watercourse system are connected by a concrete channel in the middle of the enclave. However, the channel still functions as a corridor between two natural stream sections.

Two ponds are present in the north and in the centre of the enclave. They are located under the canopy of the secondary woodland and are overgrown with wetland-associated plants such as the fern *Cyclosorus interruptus*, the grass *Leersia hexandra*, the herb *Commelina diffusa* and the floating herb *Eichhornia crassipes*. The ponds are linked with the watercourses.

Shrubby grassland is located in the south of the enclave. Dominant species include shrubs such as *Melastoma malabathricum*, *Rhodomyrtus tomentosa* and *Glochidion lanceolarium* and the fern *Dicranopteris pedata*. The shrubby grassland supports limited plant diversity (36 plant species were recorded).

An area of waste ground is present in the southwest of the enclave. Most of the area is still bare exposed ground. Fifteen plant species were recorded.

Plant coverage and diversity in the developed/village area are low. Plant species such as the herb *Ageratum conyzoides*, and planted trees *Psidium guajava* and *Ficus microcarpa* were recorded.

3.1.4 *Ko Tong*

Thirteen habitat types were identified within the KT study area, including native secondary woodland, *fung shui* woodland, marsh, developed/village area, seasonally wet grassland, dry agricultural land, natural watercourse, ruderal area, marine area, mangrove, backshore vegetation, shrubby grassland and pond habitat. A habitat map is shown in **Figure 7**.

The enclave area comprises mainly native secondary woodland. The woodland in the lowland area appears to represent succession from abandoned farmland, and is considered to be fairly young. The remaining woodland on the hillside is relatively mature. The canopy of this habitat consists mainly of native tree species such as *Alangium chinense*, *Mallotus paniculatus*, *Viburnum odoratissimum* and *Machilus chekiangensis*. Dominant species below the canopy include common shrubs and trees such as *Psychotria asiatica*, *Uvaria macrophylla* and *Daphniphyllum calycinum*. A total of 86 flora species were identified. Two species of conservation concern, the tree *Aquilaria sinensis* and the shrub *Pavetta hongkongensis*, were identified.

Two stands of *fung shui* woodland are located behind the villages at KT and KTHY. Vegetation compositions of these two *fung shui* woodlands are similar and mainly consist of common *fung shui* woodland tree species such as *Dimocarpus longan*, *Alangium chinense*, *Aporusa dioica* and *Schefflera heptaphylla*. Understorey vegetation is well-developed, and includes the climber *Byttneria aspera* and shrubs *Psychotria asiatica* and *Maesa perlarius*. The presence of mature trees with an average height of 12-15 m and woody climbers indicates that the woodland is old and has had limited human disturbance. Since it is not easy to access the *fung shui* woodlands because of the difficult site conditions, surveys were conducted using binoculars from a distance and thus plant species recorded were limited (46 and 18 flora species were identified within the KT *fung shui* woodland and KTHY *fung shui* woodland respectively). Three species of conservation concern



were identified including the woody climber Gnetum luofuense, the shrub Pavetta hongkongensis and the tree Aquilaria sinensis.

Several natural watercourses run through the enclave, and under the native secondary woodland canopy. Plant species such as the trees Cleistocalyx nervosum, Viburnum odoratissimum, Hibiscus tiliaceus and the invasive climber Mikania micrantha are common along the stream banks. A total of 16 plant species were recorded with no species of conservation concern identified.

An area of mangrove is present along the seashore at TT (to the northeast of the enclave). Dominant species include common mangrove species such as Kandelia obovata, Excoecaria agallocha and Aegiceras corniculatum. A total of 12 plant species were recorded with no species of conservation concern identified.

Backshore vegetation is present behind the mangrove, and forms a transition between the mangrove and the secondary woodland and/ or shrubland. Vegetation found in this area is a mix of mangrove, shrubs and secondary forest species dominated by woody plants with an average height of 2-3 m. Dominant species include the trees Hibiscus tiliaceus and Viburnum odoratissimum, and the shrubs Paliurus ramosissimus and Pandanus tectorius. A total of 23 plant species were recorded with no species of conservation concern identified.

One small and one large freshwater pond were identified in the enclave. The area adjacent to the small pond was fenced off and no survey could be carried out. The large pond is located within the secondary woodland. With regard to the existing topography and location of this large pond, it appears that the pond connects to and collects water from seasonal streams flowing from the adjacent hillside. Vegetation surrounding the pond was mainly composed of woody plants such as the shrubs *Rhodomyrtus tomentosa* and *Glochidion zeylanicum*, and the tree *Mallotus paniculatus*.

Two areas of freshwater marsh were identified. One marsh is directly connected with the large pond; another marsh is located in the south of the enclave and near the village area. It is believed that these marshes have been utilized and maintained by feral cattle, and are mainly dominated by wetland- or marsh-associated plant species including the grasses Ischaemum barbatum, Ischaemum ciliare and Panicum dichotomiflorum, and other herbs Geissapis cristata and Philydrum lanuginosum. This habitat supports moderate plant diversity (40 species) compared with other similar freshwater habitats in Hong Kong, and one species of conservation concern, the herb Geissapis cristata, was identified.

Three small areas of dry agricultural land were identified in the middle, south and east of the enclave respectively. Common fruit tree species such as Citrus reticulata, Citrus maxima and Carica papaya and crop species, Ipomoea batatas, were recorded.

One small area of seasonally wet grassland was identified in front of the KTHY village. Although the area was dry during the survey period, the presence of several patches of wetland-associated plants such as *Polygonium* spp. suggests the area would be inundated during the wet season. Dominant species in this habitat include wetland herbs (Geissapis cristata, Polygonum pubescens and Philydrum lanuginosum) and shrubs (Melastoma malabathricum and Glochidion zeylanicum). Nineteen plant species were recorded, with one species of conservation concern, Geissapis cristata, identified.

Two areas of shrubby grassland were identified in the enclave, probably developed through the natural succession of the abandoned farmland. Dominant species include the shrubs (Lantana camara, Senna tora and Urena lobata) and herbs (Axonopus compressus and Mimosa pudica).

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The developed/village area in this enclave comprises roads, village houses, a barbecue site and an open storage area. In general, plant coverage is low in this habitat type except for the barbecue site in the north of the enclave. Plant species such as the grass *Axonopus compressus*, the weedy climber *Mikania micrantha* and the weedy shrub *Lantana camara* were commonly recorded. This habitat supports limited plant diversity with 34 species recorded. One species of conservation concern, the tree *Aquilaria sinensis*, was identified near the barbecue site.

Three small areas of ruderal habitat are located at TT (north of the enclave) and KT (south of the enclave). Species such as the grass *Axonopus compressus*, the sub-shrubby herb *Urena lobata*, and the shrubs/small trees *Ardisia quinquegona* and *Rhus hypoleuca* were common. Thirty-four plant species were recorded, with one species of conservation concern identified, the shrub *Pavetta hongkongensis*.

3.1.5 To Kwa Peng

Ten habitats were identified within the TKP study area, including native secondary woodland, *fung shui* woodland, developed/village area, waste ground, shrubby grassland, ruderal area, mangrove, backshore vegetation area, marine area and natural watercourse. A habitat map is shown in **Figure 8**.

Native secondary woodland is the dominant habitat type within this enclave. The woodland is mainly composed of a closed canopy of common native tree species such as *Aporusa dioica*, *Machilus chekiangensis*, *Schefflera heptaphylla* and *Sterculia lanceolata*. The understorey is well developed, dominated by the fern *Blechnum orientale*, the herb *Microstegium ciliatum* and the shrubs *Maesa perlarius* and *Sarcandra glabra*. A total of 57 flora species were identified, with two species of conservation concern, the fern *Cibotium barometz* and the shrub *Pavetta hongkongensis*.

A small *fung shui* woodland is present behind the village area. It is composed of a closed canopy of common *fung shui* woodland tree species such as *Aporusa dioica* and *Antidesma bunius*, and other native trees such as *Mallotus paniculatus*. Its understorey is dominated by shrubs *Lasianthus attenuatus*, *Sarcandra glabra* and *Psychotria asiatica*. The presence of mature trees with an average height of 12-16 m suggests that the habitat represents old woodland with limited human disturbance. The *fung shui* woodland supports moderate plant diversity (64 floral species), including three species of conservation concern, the tree *Aquilaria sinensis*, the shrub *Pavetta hongkongensis* and the woody climber *Gnetum luofuense*.

Two natural watercourses are present in the east and the west of the enclave, predominantly covered by the canopy of the secondary woodland. The watercourses have natural stream beds. Plant species such as the common grass *Ischaemum barbatum*, the shrub *Pandanus tectorius* and the tree *Hibiscus tiliaceus* are common along the streamside. A total of eight plant species were recorded with no species of conservation concern identified.

An area of undisturbed mangrove is present along the shore. Dominant plants include common mangrove species such as *Kandelia obovata, Excoecaria agallocha* and *Avicennia marina*. During the survey, a total of 15 plant species were recorded with no species of conservation concern identified; however, Kwok *et al.* (2005) recorded a seagrass *Halophila minor* at the TKP mudflat, adjacent to the mangrove area.

Backshore vegetation is present behind the mangrove in the landward direction, forming a transition zone between the mangrove and the secondary woodland/shrubland. This habitat comprises a mix of mangrove, shrubs and secondary forest species, mainly dominated by woody plants with an average height of 2-3 m. Dominant species include the tree *Hibiscus tiliaceus*, the tree palm

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Phoenix loureiroi, and the shrubs *Pandanus tectorius* and *Paliurus ramosissimus*. A total of 12 plant species were recorded with no species of conservation concern identified.

The developed/village area is located in the middle of the enclave. Plant coverage and diversity are low in this habitat. Weedy plant species recorded include climbers *Ipomoea cairica*, *Mikania micrantha* and the exotic shrub *Solanum torvum*. Sixteen species were recorded with no species of conservation concern identified.

A small waste ground area was identified in the west, close to the enclave boundary. It appears to be the remains of a village area. Grasses (*Neyraudia reynaudiana* and *Microstegium ciliatum*) and weedy climbers (*Mikania micrantha* and *Pueraria lobata*) were recorded. A total of 25 plant species were recorded with no species of conservation concern identified.

A shrubby grassland area is located in front of the village area, in the middle of the enclave. Dominant species include shrubs (*Melastoma malabathricum*, *Lantana camara* and *Glochidion zeylanicum*), herbs (*Axonopus compressus* and *Praxelis clematidea*) and climbers (*Mikania micrantha*). This habitat supports low to moderate plant diversity (41 species) with two species of conservation concern identified, the shrub *Pavetta hongkongensis* and the tree *Zanthoxylum ailanthoides*.

A ruderal area is present within the shrubby grassland. Plant diversity is low with only 12 species recorded. No species of conservation concern was identified and all species recorded are common and widespread in Hong Kong.

3.1.6 Chek Keng

Eight habitats were identified within the CK study area, including native secondary woodland, developed/village area, natural watercourse, ruderal area, mangrove, backshore vegetation area, grassland and marine area. A habitat map is shown in **Figure 9**.

Native secondary woodland is the dominant habitat type. The secondary woodland in the low-lying areas appears to have developed from abandoned farmland through natural succession. The remaining woodland on the hillside is considered to be relatively mature, and is covered to a significant extent by climbers such as *Bauhinia glauca*. The canopy of this habitat mainly consists of the native tree species *Schefflera heptaphylla*, *Aporusa dioica*, *Alangium chinense* and *Glochidion zeylanicum*. The understorey is dominated by common shrubs and trees (*Psychotria asiatica*, *Ilex pubescens* and *Cratoxylum cochinchinense*). The woodland supports moderately high plant diversity with a total of 164 flora species identified. Five flora species of conservation concern were recorded including the fern *Cibotium barometz*, the woody climber *Gnetum luofuense*, the shrubs *Pavetta hongkongensis* and *Diospyros vaccinioides* and the tree *Aquilaria sinensis*.

Several watercourses run through the enclave and mostly within the native secondary woodland. The watercourses are largely natural with natural stream bed retained. Most of the hillside streams at the western end were dry and are expected to be seasonally wet only. The two large stream systems in the middle and in the east of the enclave are permanent. Plant species such as the trees *Cleistocalyx nervosum*, *Viburnum odoratissimum* and the woody vine *Gymnanthera oblonga* were common at the location. A total of 42 plant species were recorded, with one species of conservation concern identified, the shrub *Diospyros vaccinioides*.

The developed/village area includes village houses and a pier. Plant coverage is low and plant diversity is limited in this habitat type. Orchard trees *Psidium guajava* and *Dimocarpus longan* were recorded. Thirty-nine species were recorded with one species of conservation concern identified, the tree *Zanthoxylum ailanthoides*.

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A small area of ruderal habitat is present in front of the village area. The area appears to be abandoned farmland invaded by the ruderal vegetation such as the weedy climbers *Mikania micrantha* and *Wedelia trilobata* and the shrub *Lantana camara*. Some woody plants such as the tree *Viburnum odoratissimum* and *Daphniphyllum calycinum* were also recorded. Most of this habitat has been encroached by climbers ten plant species were recorded with no species of conservation concern.

An area of undisturbed mangrove is present along the shore. Common mangrove species *Kandelia obovata*, *Avicennia marina*, *Aegiceras corniculatum* and *Excoecaria agallocha* are dominant. A total of eight plant species were recorded with no species of conservation concern identified.

Backshore vegetation is present behind the mangrove in the landward direction, and forms a transition zone between the mangrove and the secondary woodland. Dominant species include the shrub *Paliurus ramosissimus*, and the trees *Hibiscus tiliaceus* and *Cerbera manghas*, which are often regarded as mangrove-associates. A total of 16 plant species were recorded with no species of conservation concern identified.

Grassland is present in the middle of the enclave. This area is constantly maintained by feral cattle and disturbed by human activities (e.g., camping). Dominant species include the herbs (*Axonopus compressus*, *Chrysopogon aciculatus* and *Elephantopus scaber*) and the small tree (*Paliurus ramosissimus*). The grassland supports moderate plant diversity (60 plant species) with one species of conservation concern identified, the tree *Zanthoxylum ailanthoides*.

3.2 Plant Species of Conservation Concern

The tree *Aquilaria sinensis* was recorded within all study areas. Topping and cut wounds were observed on some mature specimens with an average DBH of around 20-40 cm. This species is subject to illegal damage and removal at an unsustainable level. Populations may also be affected by destruction of suitable habitats locally. The species is listed as Near Threatened (NT) in the China Red Data Book and is under State protection (Category II) in China (Hu *et al.* 2003). It is also classified as Globally Vulnerable in the IUCN Red List of Threatened Species (IUCN 2013). In Hong Kong, this species is provided legal protection (Cap. 586).

The fern *Cibotium barometz* was recorded at CK, NST, TKP and PSO. This species is listed as Vulnerable (VU) in the China Red Data Book and is under State protection (Category II) in China (Hu *et al.* 2003). This species is protected under Cap. 586 in Hong Kong, but is suffering from overexploitation for traditional medicine.

The shrub *Pavetta hongkongensis* was recorded in all study areas except NST. The height of the individuals recorded range from 0.3-2.5 m. *P. hongkongensis* is a common shrub species found in tall thickets and forest in Hong Kong (AFCD 2009). The wild population of this species is protected under Forestry Regulation (Cap. 96A) in Hong Kong.

The orchid *Liparis ferruginea* was recorded at the marsh in PSOHY and PTA only. This species is regarded as scarce and restricted, and is Endangered in Hong Kong (Barretto *et al.* 2011). This species is highly habitat-specific, and the suitable habitats (mainly boggy, lowland grassland) are at greater risk of loss or degradation than most other local habitat types (Barretto *et al.* 2011). This species is protected under Cap. 96A and Cap. 586 in Hong Kong.

A specimen of the orchid *Ludisia discolor* is present in the woodland at PSO. This species is regarded as infrequent but widespread in Hong Kong by Barretto *et al.* (2011), who note that most of the local subpopulations are now feared extinct. They assign it a Red Data status of EN in Hong Kong.

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The shrub Diospyros vaccinioides was recorded only in CK. All individuals recorded were in seedling or sapling form, with a height of around 0.3-1.5 m. This species is classified as Globally Critically Endangered on the IUCN Red List of Threatened Species (IUCN 2013). According to the IUCN Red List, the wild population of D. vaccinioides has been heavily-exploited and collected as an ornamental species in Taiwan, leading to the complete absence of mature trees in the wild.

The herb Geissapis cristata, which was recorded in the KT, PTA and PSO study areas only, is a locally rare species according to Xing et al. (2000). According to AFCD (2008), it is restricted to several locations in Hong Kong including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island.

The woody climber *Gnetum luofuense* was recorded in all study areas except PTA. This species is listed as Globally Near Threatened on the IUCN Red list due to threats caused by habitat loss.

The herb Houttuynia cordata, which was recorded at PSO only, is locally a very rare species according to Xing et al. (2000). According to AFCD (2007), it is restricted to several locations in Hong Kong, including Lam Tsuen and Sha Lo Tung.

The tree Zanthoxylum ailanthoides was recorded in TKP and CK. A locally rare species (Xing et al. 2000), according to AFCD (2008), it is restricted to several locations in Hong Kong such as Chek Keng and Tai Long Sai Wan.

3.3 Amphibians and Reptiles

Most amphibian and reptile (herpetofauna) species are highly mobile and many are habitatgeneralists. As the CP enclaves are close to each other and their habitats are linked by intervening secondary woodland, it is expected that the herpetofauna communities in these enclaves would be similar to each other. Surveys have, however, recorded more species of conservation concern in certain enclaves; this could be due to the relatively higher habitat diversity of those enclaves, or simply due to unequal survey effort.

Herpetofauna species recorded from the enclaves, based on the personal observations of KFBG staff during the last decade, are listed in the table below.

Table 2. Herpetofauna species recorded

Species Name & Common Name	Conservation Status*	Habitat Requirement	PSO	NST	PTA	KT	ТКР	СК
Bufo melanostictus Asian Common Toad	Nil	Generalist	+		+	+		
Fejerarya limnocharis Paddy Frog	Nil	Marsh, agricultural land	+					
Hoplobatrachus chinensis Chinese Bull Frog	1. Potential Regional Concern	Marsh, agricultural land, slow-flowing stream, pond	+					
Paa exilispinosa Lesser Spiny Frog	 Potential Global Concern Vulnerable 	Watercourse	+					
Rana chloronata Green Cascade Frog	Nil	Watercourse	+					
Rana guentheri Gunther's Frog	Nil	Marsh, slow-flowing stream, pond, agricultural land	+		+	+		
Rana latouchii Brown Wood Frog	1. Local Concern	Woodland	+					



Species Name & Common Name	Conservation Status*	Habitat Requirement	PSO	NST	PTA	KT	ТКР	СК
Rana taipehensis Two-striped Grass Frog	1. Local Concern	Marsh, pond	+					
Polypedates megacephalus Brown Tree Frog	Nil	Marsh, agricultural land, pond	+		+	+		
Boiga multimaculata Large-spotted Cat Snake	Nil	Woodland, shrubland	+		+	+		
Bungarus fasciatus Banded Krait	 Regional Concern Endangered 	Generalist	+					
Bungarus multicinctus Many-banded Krait	Potential Regional Concern Vulnerable	Generalist	+		+	+		
Cyclophiops major Greater Green Snake	Nil	Woodland	+			+		+
Elaphe porphyracea Red Mountain Racer	1. Local Concern 3. Vulnerable	Woodland	+			+		
Elaphe radiata Copperhead Racer	 Potential Regional Concern Endangered 	Generalist	+		+	+		
Enhydris plumbea Plumbeous Water Snake	Nil	Wetland	+					
Lycodon subcictus Banded Wolf Snake	Nil	Woodland	+					
Naja atra Chinese Cobra	Potential Regional Concern Vulnerable	Generalist	+		+	+	+	
Oligodon cinereus Golden Kukri Snake	1. Local Concern	Woodland	+			+		
Oligodon formosanus Taiwan Kukri Snake	Nil	Generalist	+			+		
Ophiophagus hannah King Cobra	 Potential Regional Concern Vulnerable Critically Endangered 	Generalist	+			+		
Opisthotrophis balteatus Banded Stream Snake	Nil	Watercourse	+			+		
Opisthotropis andersonii Anderson's Stream Snake	Endemic to the region 1. Potential Global Concern 2. Near Threatened	Watercourse	+					
Pareas margaritophorus White-spotted Slug Snake	Nil	Woodland, shrubland	+		+	+		
Protobothrops mucrosquamatus Pointed-scaled Pit Viper	Local Concern	Woodland	+					
Psammodynastes pulverulentus Mock Viper	Nil	Woodland, shrubland, grassland	+			+		
Ptyas mucosus Common Rat Snake	Potential Regional Concern Endangered	Generalist	+		+	+		
Python bivittatus Burmese Python	 Potential Regional Concern Vulnerable Critically Endangered 	Generalist	+		+	+	+	

Species Name & Common Name	Conservation Status*	Habitat Requirement	PSO	NST	PTA	KT	ТКР	СК
Ramphotyphlops braminus Common Blind Snake	Nil	Generalist	+					
Rhabdophis subminiatus Red-necked Keelback	Nil	Woodland, shrubland	+		+	+		+
Sibynophis chinensis Chinese Mountain Snake	1. Local Concern	Woodland	+					
Cryptelytrops (Trimeresurus) albolabris Bamboo Snake	Nil	Shrubland, grassland	+		+	+		
Xenocrophis piscator Checkered Keelback	Nil	Wetland	+					
Ateuchosaurus chinensis Chinese Forest Skink	Nil	Woodland	+					
Calotes versicolor Changeable Lizard	Nil	Lowland area, shrubland, agricultural land	+		+	+		+
Eumeces chinensis Chinese Skink	Nil	Lowland area, shrubland, agricultural land	+		+			
Plestiodon tamdaoensis Vietnamese Five-lined Skink	Found in Hong Kong recently, highly restricted in distribution (Chan <i>et al.</i> 2009)	Woodland	+					
Gekko chinensis Chinese Gecko	Nil	Generalist	+		+			
Gekko gecko^ Tokay Gecko	 Regional Concern Endangered 	Woodland	+					
Hemidactylus bowringii Bowring's Gecko	Nil	Generalist	+					
Mabuya longicaudata Long-tailed Skink	Nil	Generalist			+			
Scincella reevesii Reeve's Smooth skink	Nil	Woodland	+					
Sphenomorphus indicus Indian Forest Skink	1. Local Concern	Woodland	+					
Takydromus sexlineatus Grass Lizard	Nil	Grassland, woodland	+					
Tropidophorus sinicus Chinese Waterside Skink	Nil . IUCN Red List (IUCN 2013); 3.	Stream	+			+		

^{*1.} Fellowes et al. (2002); 2. IUCN Red List (IUCN 2013); 3. China Red Data Book (AFCD 2013)

Herpetofauna diversity at PSO, PTA and KT is considered to be relatively high; the habitat mosaic in these enclaves probably contributes to the high diversity. The presence of marsh and seasonally wet grassland can greatly enhance habitat heterogeneity (i.e., breeding site for amphibians). We should also point out that the number of species discovered would also be reflected by survey effort which may not have been equal for all sites.

In addition, a reptile species of high conservation concern (not listed in Table 2) has been discovered in KT and PSO, and because the wild populations are under severe threat the identity has not been reported in this document. The species is Critically Endangered (IUCN 2013). Another



[^]Some scholars consider that the South China G. gecko should be renamed as G. reevesii (Rösler et al. 2011)

herpetofauna species considered to be Globally Endangered (IUCN 2013) has also been found in PSO. The two species can utilize streams, marshes, riparian areas and woodlands.

3.4 Fish

All enclaves contain aquatic habitats (streams, ponds and marshes) that support aquatic fauna and several fish of conservation importance. The estuaries at KT, TKP and CK are also believed to be fish nurseries (see below).

3.4.1 Fish Species of Conservation Importance

The watercourses (both channelized and natural) and the two ponds at PTA provide habitats for Hong Kong Paradise Fish (*Macropodus hongkongensis*). This species was once considered endemic to Hong Kong, and it is considered to be a key species of conservation importance by AFCD (AFCD 2013) and of Global Conservation Concern by Fellowes *et al.* (2002). This species can also be found in the Hau Tong Kai stream at TT (the KT enclave).

Watercourses and associated marshes at PSO provide habitats for a rare fish *Pseudobagrus trilineatus*. This catfish species can only be found at two sites in Hong Kong and is considered to be a key species of conservation concern by AFCD (2013). KFBG staff observations confirm that this species is also present in watercourses at NST, which belong to the same stream network.

One Giant Marbled Eel (*Anguilla marmorata*) was discovered in the watercourse at PSO. This is a catadromous species which needs to migrate between the sea and the stream; in order to protect this species, the stream-ocean corridor should not be blocked (i.e., channelized at sections or culverted); stream flow and the stream bed should remain natural (e.g., stream flow should not be reduced); simply speaking, the whole stream should be preserved in order to protect this species. The conservation status of this species is as follows: conservation concern (AFCD 2011a), Endangered in the China Species Red List (AFCD 2011a), Class II State Key Protected Wildlife in China (AFCD 2011a) and Global Conservation Concern (Fellowes *et al.* 2002). The presence of this species at PSO indicates that the stream system in this enclave is still linked with the sea, and thus can provide habitats for diadromous species. This species will spend a considerable amout of its life in streams with natural bottoms (with large rocks, gravel and sand). We believe that several streams in other enclaves can also provide suitable habitats for this species as the streams are largely natural and connected to the sea (PTA: connected to Pak Tam Chung; NST: connected to PSO and eventually to Hoi Ha Wan; KT, TKP and CK streams: coastal); for instance, we have observed a Mittern Crab (also a diadromous species) at PTA.

A rare goby, *Stiphodon multisquamus*, was found in the two main watercourses at CK during the survey, and has also been observed in the main stream at KT (KFBG Staff Pers. Obs.). This is an amphidromous species with a complex life cycle: adults live and breed in freshwater streams; eggs hatch in freshwater streams and larvae drift passively to the sea; larvae grow in the marine environment and juveniles actively return to freshwater streams. Therefore, in order to protect this species, the stream-ocean corridor should not be blocked; stream flow and the stream bed should remain natural (e.g., stream flow should not be further reduced); simply speaking, the whole stream should be preserved. It is a species considered to be of Global Conservation Concern by Fellowes *et al.* (2002) and Nip (2010), and is considered to be Endangered in China (Wu and Zhong 2008). It is also considered to be endemic to China (Wu and Zhong 2008). Another rare goby, *S. atropurpureus*, has also been found in the main stream at KT (KFBG Staff Pers. Obs.). It is also an amphidromous species, and is considered to be of Global Conservation Concern by Fellowes *et al.* (2002), although Nip (2010) considers it to be of Regional Conservation Concern as this species is common in the Philippines (Watson and Chen 1998). The stream system at TKP should also be able to provide habitats for the aforementioned goby species.

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3.4.2 *Marine Fish Nursery*

During the survey in the estuaries at CK, many juvenile fishes were observed (e.g., Figure 10). These estuaries and those at TKP and KT are believed to function as fish nursery habitats. Nip and Wong (2010) considered that mangrove mudflats in eastern Hong Kong provide nursery habitats for fishes; it is thus considered that the mangrove areas at KT, TKP and CK are likely to provide this function.

3.5 Crustaceans

AFCD has conducted a detailed Sesarmine Crab survey and identified that TT (Tai Tan, within the KT enclave) and TKP are important areas for Sesarmine Crabs (Kwok and Tan 2005); an endemic Sesarmine Crab, *Pseudosesarma patshuni*, was also found at TT and TKP during their survey. Kwok and Tang (2005) also considered that the riparian zone, stream, estuary, marsh, mangrove and backshore vegetated area are ecologically important to Sesarmine Crabs, and the diversity of Sesarmine Crabs can indicate the "intactness" of the mangrove ecosystem.

During the site visit conducted in June 2012 at CK, the riparian zones of the streams were found to contain many burrows of Sesarmine Crabs (Figure 11). Certain species were also recorded far from the shore, including one considered to be less commonly found in Hong Kong – Chiromantes haematocheir (Figure 12). According to Kwok and Tang (2005), only a healthy mangrove ecosystem can contain enough habitat heterogeneity for a diverse Sesarmine Crab community. The observations made during this site visit indicate that CK, like its adjacent areas (TT and TKP), also contains a diverse Sesarmine Crab community and this implies that the mangrove ecosystem is intact (i.e., containing estuaries, streams, natural riparian zones, marshes, mangrove, and backshore vegetation).

A shrimp with restricted distribution, *Palaemon debilis*, which only appears in estuaries along the eastern coast of Hong Kong, was found at the mouths of both streams at CK. In China, this species has only been reported from Hainan Island (Li et al. 2007). Thus Hong Kong is the second site in China where this species is known to occur and is also the only known site currently where this species can be found on the Mainland. In view of its restricted distribution, we consider that P. debilis is of conservation concern. The species should also be present at KT and TKP (estuarine habitats).

A freshwater shrimp, Macrobrachium meridionalis, an amphidromous species, was also discovered in a stream at CK. This species is not common in Hong Kong and is of local conservation interest (KFBG Staff Pers. Obs.). This species should also be present in the watercourses at KT and TKP.

3.6 Birds

The subject enclaves are all located within the general locality of Long Harbour (Tai Tan Hoi), and the westernmost and easternmost enclaves, NST and CK respectively, are separated by only 4.2 km. Given the mobility of birds, similar habitats within these enclaves are likely to support similar avifauna communities. Consequently, descriptions of bird occurrence have been carried out by habitat, rather than by enclave. Although the relative abundances of species within given habitats in each enclave may differ, broadly speaking species composition would be very similar.

Appendix 2 lists species that have been recorded in Sai Kung West CP based on Carey et al. (2001), subsequent issues of the Hong Kong Bird Report, data collected for the Hong Kong Bird Watching Society Winter Atlas project and surveys undertaken for the present report. Where a species occurrence within the enclaves can reasonably be predicted based on adjacent records indicated in the above sources, this is also mentioned.



3.6.1 Secondary Woodland and Fung Shui Woodland

These closely-related habitats are dominant across all enclaves, constituting 61.47% to 84.55% of the area of each, and 75.78% across all six enclaves. They are also the richest in terms of the diversity of the avifauna, particularly in the months October to February, when local bird populations are joined by migrants and winter visitors from further north. The habitats support a substantial number of species categorized by Fellowes *et al.* 2002 as of Local Concern; in addition, the Brown Fish Owl, which is of Regional Concern, is dependent on undisturbed, natural watercourses with good water quality, which are closely associated with forested areas. A Brown Fish Owl has been recorded uttering a territorial call from a location in the PSO enclave, indicating breeding in the vicinity (survey team, pers. obs).

3.6.2 Shrubby Grassland

Although the shrubby grassland habitat supports a similar range of species as secondary woodland, overall diversity of species and abundance of individuals is lower, and certain forest specialists are absent.

3.6.3 Grassland

No grassland specialist species were recorded. It is suggested that the Eurasian Eagle Owl may utilize the grassland habitats adjacent to the enclaves; but it should be noted that this species has a fairly wide home range.

3.6.4 Dry Agricultural Land

In the studied enclaves, this habitat supports low species diversity.

3.6.5 Seasonally Wet Grassland

The seasonally wet (rather than permanently wet) nature of this habitat with its lack of microhabitat diversity leads it to support a low diversity of common and widespread species. In addition, only very small patches of this habitat are present (at PTA, KT, CK and PSO).

3.6.6 *Marsh*

Marsh habitat is present in three enclaves: PSO, PTA and KT. Small ardeids, White-breasted Waterhen and Eurasian Woodcock utilize these marshes; in addition, the Brown Fish Owl has been recorded foraging in the marsh at PSO.

3.6.7 Pond

Pond habitat is present only at PTA and KT. The area of this habitat is very small, and individual ponds are fragmented; both diversity and abundance of wetland-dependent bird species was low.

3.6.8 Natural Watercourse

Natural watercourse habitats are present in all enclaves, commonly flowing through forested areas. The Brown Fish Owl forages in undisturbed, unpolluted lowland streams and tidal creeks (Carey *et al.* 2001); many HK records refer to stream sections with slower water flow, especially at the interface of freshwater and marine environments. Such conditions can be found at CK and KT, and it may be that this species forages in these areas.

The natural watercourse running through NST and PSO is the Hoi Ha Stream, of which the section through PSO is designated as an Ecologically Important Stream (EIS) by AFCD. The lower reaches of this stream, where it meets the sea at Hoi Ha Wan, is known to be frequented by the Brown Fish Owl; thus, changes in water quality of the upper reaches may impact this species. However, the species has also been recorded foraging in marsh habitat in PSO and also the upper sections of Hoi Ha Stream (within NST, PSO and PSOHY) where the stream course is narrow but sufficiently broad to provide sheltered areas of less disturbed water.

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AFCD (2013) stated that the Brown Fish Owl is a scarce resident in Hong Kong, and has been recorded at TT (in the KT enclave). This species is considered to be of Regional Conservation Concern by Fellowes et al. (2002).

3.6.9 Mangrove and Seashore

The closely-linked habitats of sea and mangrove are present at CK, TKP and KT. The area of mangrove habitat at each, however, is very small. Ardeids (including larger species) forage in these areas, while smaller waterbirds such as Common Kingfisher and White-breasted Waterhen are present along the coastal strip.

3.6.10 Backshore Vegetation

This habitat is similar in structure to shrubland habitat, though it supports a less abundant and diverse bird community largely confined to species common and widespread in Hong Kong.

3.6.11 Ruderal Area, Developed/Village Area and Waste Ground

These highly man-modified habitats support a very limited community of common and widespread bird species.

3.7 Mammals

According to Shek (2007), Chinese Porcupine (Hystrix brachyura), Masked Palm Civet (Paguma larvata) and Red Muntjac (Muntiacus muntjak) have been recorded in the Sai Kung CP; Shek (2006) includes a photograph of a roadkill Masked Palm Civet recorded at PSO. The porcupine is considered to be of Potential Global Concern and the civet and deer of Potential Regional Concern (Fellowes et al. 2002). A former resident of PSO has observed the Chinese Porcupine and Red Muntjac in the woodland at PSO (Christophe Barthelelmy pers. comm.). A detached quill of a Chinese Porcupine was found in the PTA enclave (Figure 13; KFBG Staff pers. obs.). Based on anecdotal reports, it appears that Chinese Porcupine is fairly common in the woodland areas of the Sai Kung Country Park.

Woodlands in the locality can be utilized by a wide range of mammal species. Indeed, the Chinese Pangolin (Manis pentadactyla) has also been recorded within and adjacent to these enclaves (AFCD Staff pers. comm.). The Chinese Pangolin is considered to be Globally Endangered (IUCN 2013); it is also rare and of conservation concern in Hong Kong (AFCD 2013). The Greater Short-nosed Fruit bat (Cynopterus sphinx) and the Himalayan Leaf-nosed bat (Hipposideros armiger) have a wide distribution in Hong Kong and both species have been recorded in Sai Kung. Fan palms adjacent to village areas provide roost sites for the fruit bat and the leaf-nosed bat has been found utilising old abandoned village buildings in enclaves. Although not recorded in the present survey both species are expected to be present in or adjacent to the enclaves under this study.



4. Habitats of High Conservation Importance

4.1 Watercourses and Riparian Zones

Watercourses and associated riparian zones within the enclaves are of high conservation importance, primarily because they support many species of conservation concern and the habitats are wellconnected with other nearby habitats (mainly secondary woodland). As indicated earlier, several fish species of conservation importance, endangered herpetofauna species and a scarce bird (Brown Fish Owl) depend on these habitats. In the KT, TKP and CK enclaves, riparian areas (including the watercourses) provide habitats for the Sesarmine Crab community; the stream estuaries also function as fish nurseries, and provide migratory paths for diadromous species.

4.2 Woodlands

Plant species of conservation concern flourish in the woodlands (both secondary and fung shui) of all six enclaves, and some species of global conservation concern were recorded, such as the Incense Tree (Aquilaria sinensis), Gnetum luofuense (a woody climber), Diospyros vaccinioides (a shrub) and the orchid Ludisia discolor. The woodlands provide suitable roosting habitats for the Brown Fish Owl, and are home to wild mammals and several herpetofauna species of high conservation importance. The woodlands at KT, TKP and CK also support a Sesarmine Crab In conclusion, we consider that the woodlands, with their intactness and their connectivity to the surrounding CP, are of high conservation importance.

4.3 Mangroves and Backshore Vegetation

Tam and Wong (2000) considered that the mangrove stands at TT (Tai Tan, within the KT enclave), CK and TKP are of conservation concern; TT and CK are considered to be "very important" and TKP to be "important". Our findings and also data from Kwok and Tang (2005) also reflect that these habitats (mangrove and backshore vegetation) are important and key to supporting the Sesarmine Crab community. The backshore vegetation areas are ecologically linked with mangroves and other important habitats nearby (i.e. streams, woodlands); they should not be considered as of low value or low concern as they are integral to other habitats and can function as an important buffer (e.g., for the mangrove), and indeed these areas are also habitats for many important species (i.e., the Sesarmine Crabs); backshore vegetation adjacent to streams provides suitable hunting and roosting perches for Brown Fish Owls and habitat for herpetofauna of conservation importance. We thus conclude that the two habitats described here should be considered of high conservation importance, and should be protected.

4.4 Marshes and Seasonally Wet Grasslands at PSO and PTA

A locally endangered orchid species was present in the marshes at PSOHY and PTA. This species also has legal protection in Hong Kong. The marshes at PSO (those adjacent to the watercourse) are known to support the rare catfish (Pseudobagrus trilineatus), which can only be found in the PSO area (including NST) and at one other site in Hong Kong. Since the seasonally wet grassland can provide suitable habitat for the endangered orchid (it requires boggy, lowland grassland), we consider that both the marsh areas and seasonally wet grasslands in the PSO (including PSOHY) and PTA enclaves should be protected.

4.5 Ponds at PTA

The two ponds at PTA contain the Hong Kong Paradise Fish, which is a key fish species of conservation concern in Hong Kong (AFCD 2013). Besides protecting these ponds, we recommend that the areas surrounding (as buffer) and watercourses connected with these ponds should also be protected.



4.6 Riparian Grasslands at CK

Riparian grassland at CK forms an integral part of the Sesarmine Crab habitat (Figure 11). In order to protect the crab species, these grasslands should not be disturbed.

4.7 Pond and Associated Marsh at KT

The large fresh water pond at KT (in the south of the enclave) is not a common landscape in Hong Kong – it appears to be a natural pond. The pond and its associated marsh should be protected.

4.8 Existing Agricultural Land at PSO

The large area of agricultural land at PSO should be protected. Although it may have a lower ecological value than the original marsh, it still provides suitable habitat for wildlife. If it is paved, it will no longer be able to provide habitats for any fauna of conservation concern at the site, and the enclave will also suffer from the fragmentation effect; thus the ecological value of the land and also the whole enclave would be adversely affected.





5. Recommendation

The information in this report highlights the uniqueness of the habitats within the six reported enclaves, and the necessity to protect them from significant adverse impacts. In May 2011, the Convention on Biological Diversity (CBD) was extended to Hong Kong by the Central People's Government, and the Hong Kong Government has commenced a dialogue with Environmental NGOs, experts and Local Concern Groups regarding a strategy for the implementation of the CBD and the development of a local Biodiversity Strategy and Action Plan. With strategic guidance from the Convention, the Authorities have added pressure to safeguard the territories rich natural heritage and ensure that the mosaic of inter-related habitats and vegetated corridors are maintained. Not only the Country Parks require continued protection and high vigilance, but many lowland and coastal areas are integral parts of our rich ecosystems and should not be fragmented, encroached or destroyed.

We hope that the recommendations below will guide future decision making regarding the environment within the Sai Kung Enclaves:

- 1. The above areas and habitats of high conservation importance should be covered by an appropriate land zoning category that provides relevant protection such as the Conservation Area (CA) zone under the planning system. No development incompatible with surrounding areas or the natural heritage of the sites should be authorized.
 - From ecological and nature conservation perspectives, due to the strong ecological and functional linkages the enclaves are very much part of the Country Park system, and thus the Government should consider incorporating the enclaves, or areas of high conservation importance within enclaves into the Sai Kung Country Park.
- 2. The enclaves and the Sai Kung peninsular are frequented by many hikers, nature lovers and citizens wishing to escape from urban areas. Any further development within the enclaves will add pressure to the ecosystem of the Sai Kung area (e.g., potential pollution impact on nearby water bodies) and also to the road system (e.g., increased road traffic causing disturbance and fragmentation impacts on fauna). The authorities should maintain a broad and holistic view regarding any planning or changes within these enclaves.
- 3. Appropriate and enforceable planning control should be prioritized for all enclaves, and there should be a willingness to enforce existing conservation acts under the local conservation protection legislation wherever they are being contravened.



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Figures



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Figure 1. Location of the six enclaves under the present study Grass **Tolo Channel** Hoi Ha Wan Pak Sha O Long Harbour Nam Shan Tung Ko Tong **To Kwa Peng** Chek Keng Pak Tam Au

Figure 2. Habitat map of Pak Sha O and Pak Sha O Ha Yeung

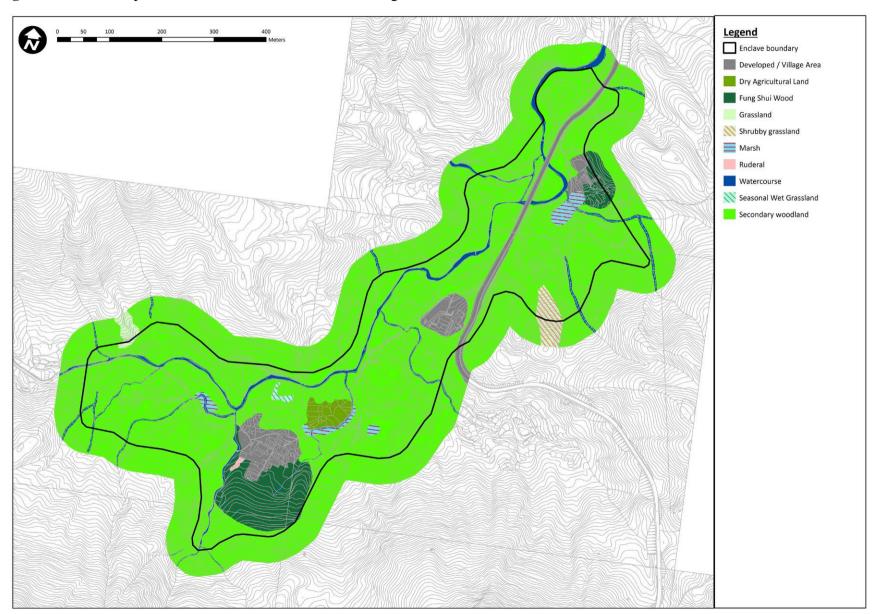


Figure 3. A natural freshwater marsh at Pak Sha O

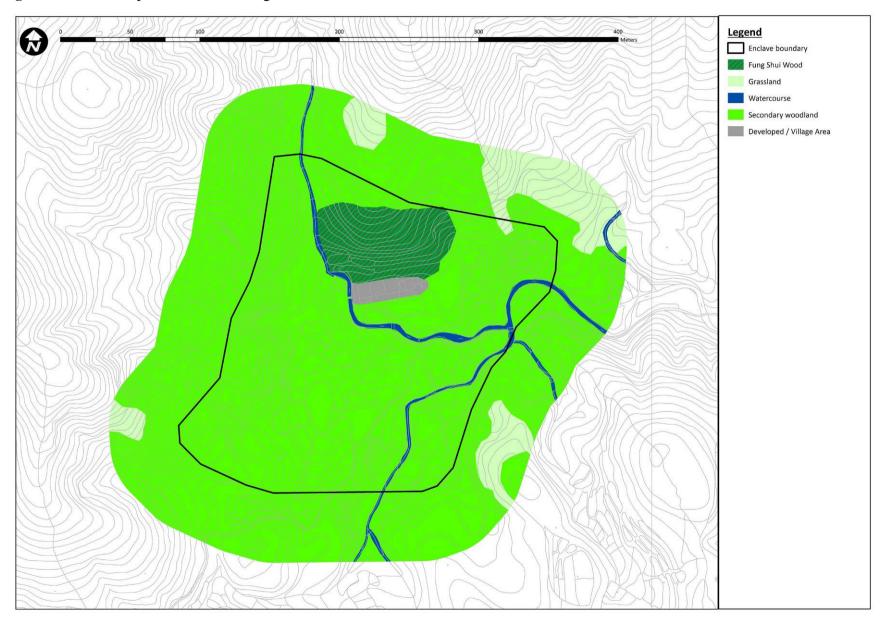


Figure 4. The natural freshwater marsh was re-profiled into an active agricultural land during the second half of 2012



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Kadaorie Farm & Botaric Garden

Figure 5. Habitat map of Nam Shan Tung



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Figure 6. Habitat map of Pak Tam Au

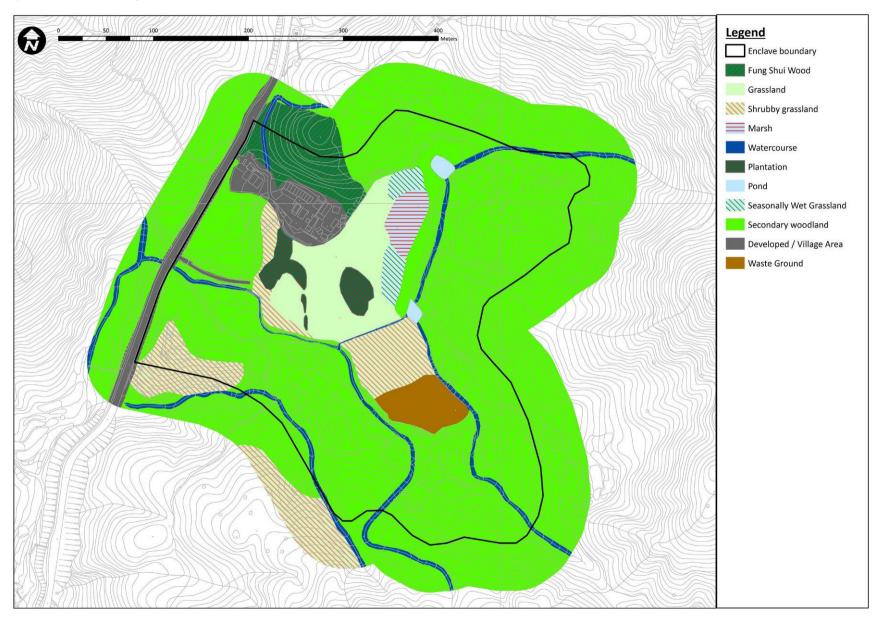




Figure 7. Habitat map of Ko Tong

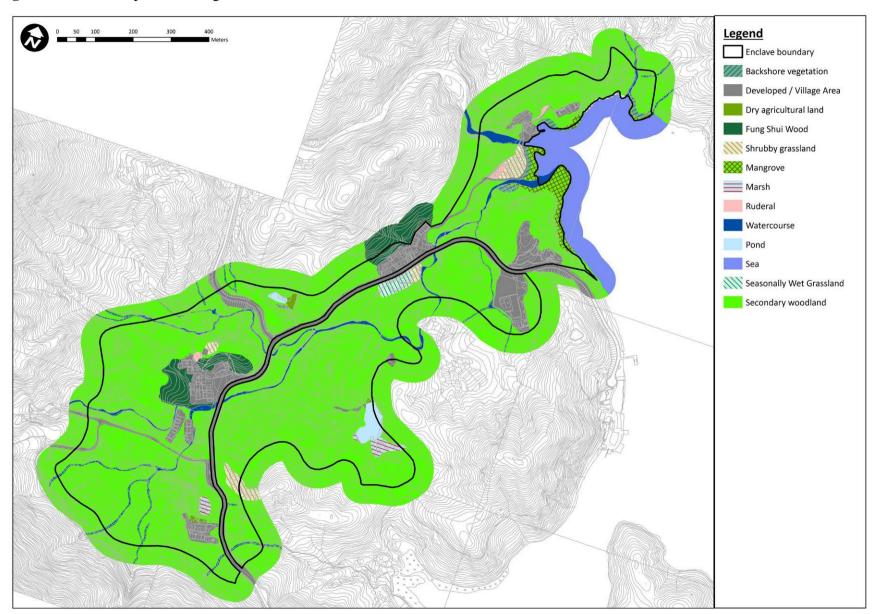




Figure 8. Habitat map of To Kwa Peng

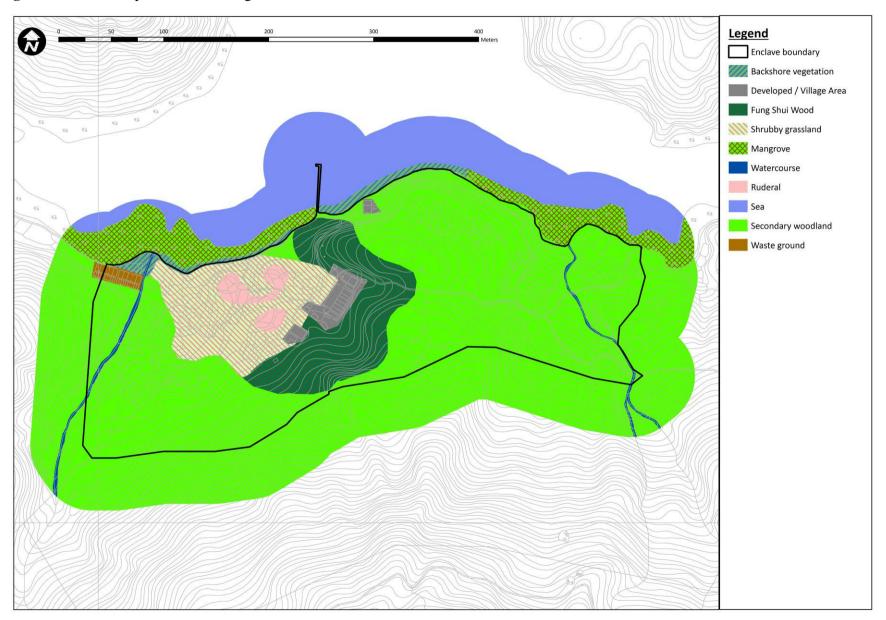


Figure 9. Habitat map of Chek Keng

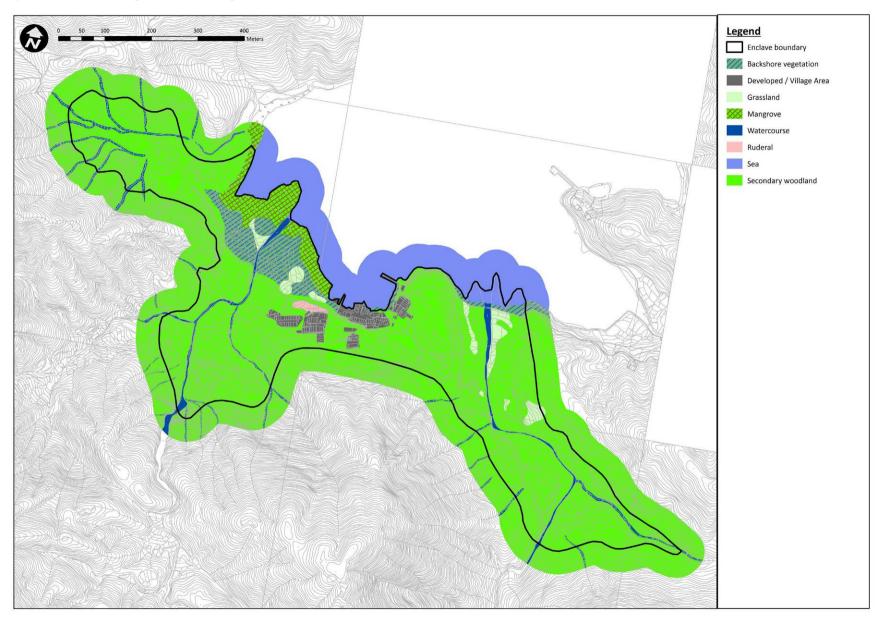
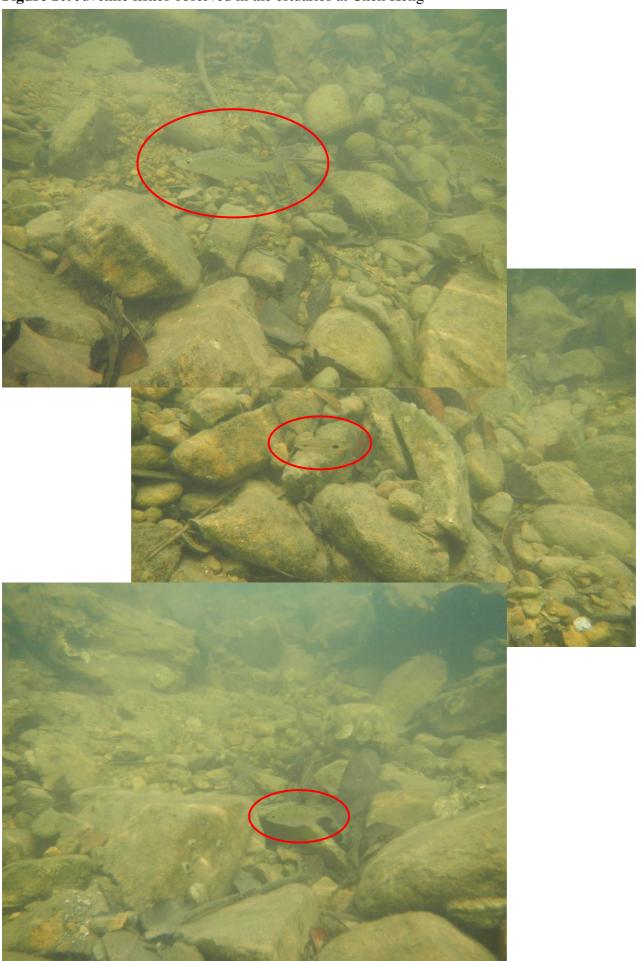


Figure 10. Juvenile fishes observed in the estuaries at Chek Keng



K F B G

Figure 11. Sesarmine Crab burrows within the riparian zone at Chek Keng



Figure 12. *Chiromantes haematocheir* – an uncommon Sesarmine Crab species in Hong Kong – recorded far from the shore of Chek Keng



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Figure 13. A detached quill of a Chinese Porcupine found in the Pak Tam Au enclave



Appendices



Appendix 1. Flora Species Recorded within Each Enclave



Table A1-1. Flora species recorded within Chek Keng enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation#	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Abutilon indicum	磨盤草	Subshrub	Restricted						*	
Acacia confusa	台灣相思	Tree	Exotic, Common, often planted in plantation		*	*				
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common			*	*			
Adiantum malesianum	南洋鐵線蕨	Herb	Common				*			
Adina pilulifera	水團花	Tree	Very common			**				
Adinandra millettii	黄瑞木	Tree	Common			*				
Aegiceras corniculatum	桐花樹	Shrub	Common	**						**
Alangium chinense	八角楓	Tree	Common			**				
Alocasia macrorrhizos	海芋	Herb	Very common			*			*	
Alyxia sinensis	念珠藤	Woody climber	Common			*				
Amaranthus viridis	野莧	Herb	Very common						*	
Anisomeles indica	廣防風	Herb	Common		*				*	
Antidesma bunius	五月茶,五味 子	Tree	Common			**				
Aporusa dioica	銀柴	Tree	Very common			***				
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List			*				
Archidendron clypearia	猴耳環	Tree	Common			*				

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Archidendron lucidum	亮葉猴耳環	Tree	Common			*				
Ardisia crenata	大羅傘	Shrub	Common			**				
Ardisia lindleyana	山血丹	Shrub	Common			*				
Ardisia quinquegona	羅傘	Small tree	Very common			*				
Atalantia buxifolia	酒餅簕	Shrub	Common		*	*	*			
Avicennia marina	白骨壤	Tree	Common	*						**
Axonopus compressus	地毯草	Herb	Exotic, Common		**			*	*	
Bambusa sp.	竹屬	Bamboo	Common			*				
Bauhinia glauca	粉葉羊蹄甲, 羊蹄甲藤	Woody climber	Very common			***				
Berchemia floribunda	勾兒茶	Climbing shrub	Common			*				
Bidens alba	白花鬼針草	Herb	Exotic, Very common			*				
Blechnum orientale	烏毛蕨	Herb	Very common			*	*			
Bombax ceiba	木棉	Tree	Exotic, Exotic, common for roadside planting						*	
Bougainvillea spectabilis	簕杜鵑	Climbing shrub	Exotic, Common						*	
Breynia fruticosa	黑面神	Shrub	Very common		*	*				
Bridelia tomentosa	土蜜樹	Tree	Very common		*	*				
Brucea javanica	鴉膽子,苦參 子	Shrub or tree	Common		*	*				
Caesalpinia crista	假老虎簕	Woody climber	Very common			*				
Caesalpinia vernalis	春雲實	Woody climber	streamside, lowland, common		**					



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation#	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common		*	*				
Canavalia lineata	狹刀豆	Climber	Common			*				
Carallia brachiata	竹節樹	Tree	Common			*				
Carica papaya	番木瓜	Tree	Exotic, Cultivated for food						*	
Cassytha filiformis	無根藤	Parasitic climber	Very common			*				
Casuarina equisetifolia	木麻黄	Tree	Exotic, Often planted in plantation and along roadside, apparently semi-naturalized in the nature			*				
Celtis sinensis	朴樹	Tree	Common			*			*	
Centella asiatica	崩大碗	Herb	Very common			*				
Centotheca lappacea	假淡竹葉	Herb	Common			*				
Cerbera manghas	海芒果	Tree	Common	***	*	**	**			
Cheilosoria tenuifolia	薄葉碎米蕨	Herb	Common			*	*			
Chloris barbata	孟仁草	Herb	Very common		*					
Chrysopogon aciculatus	竹節草,假雀 麥	Herb	Very common		***					
Cinnamomum parthenoxylon	黄樟	Tree	Common			**				
Citrus maxima	柚	Tree	Exotic, Cultivated for food					*		
Citrus reticulata	桔	Small tree	Common						*	
Clausena lansium	黄皮	Tree	Exotic, Commonly planted for fruit						*	
Cleistocalyx nervosum	水翁	Tree	Common				***			
Clerodendranthus spicatus	腎茶,貓鬚草	Herb	Exotic, Common						*	



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Clerodendrum inerme	苦郎樹,假茉莉	Shrub	Common		*					
Cocculus orbiculatus	木防己	Climber	Common			*				
Cratoxylum cochinchinense	黄牛木	Tree	Very common			**	*			
Crinum asiaticum var. sinicum	文殊蘭	Herb	Restricted		*	*				
Cuscuta chinensis	莬 絲子	Parasitic herbaceous climber	Common			*				
Cyclea hypoglauca	粉葉輪環藤	Climber	Common			*				
Cyclosorus interruptus	間斷毛蕨	Herb	Common			**				
Cyclosorus parasiticus	華南毛蕨	Herb	Very common			*				
Cynodon dactylon	狗牙根	Herb	Very common		*				*	
Cyrtococcum patens	弓果黍	Herb	Very common		**	*				
Dalbergia benthamii	兩廣黃檀	Woody climber	Common			**				
Dalbergia millettii	香港黃檀	Woody climber	Common			*				
Daphniphyllum calycinum	牛耳楓	Tree	Common		*	*	*	*		
Daphniphyllum oldhamii	交讓木	Tree	Common			*				
Dendrotrophe varians	寄生藤	Parasitic	Very common			*				
Desmodium triflorum	三點金	Herb	Very common		*					



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation#	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Desmos chinensis	假鷹爪	Woody climber	Common			**	*			
Dicranopteris pedata	芒萁	Herb	Very common			**				
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted			*			*	
Diospyros morrisiana	羅浮柿	Tree	Very common			*				
Diospyros vaccinioides	小果柿	Shrub	Very common, regarded as "Critically Endangered" accordign to IUCN Red List			**	*			
Diploclisia glaucescens	蒼白秤鈎風, 防己	Woody climber	Common			*	*			
Diplospora dubia	狗骨柴	Shrub or tree	Common			*				
Elaeagnus loureirii	雞柏紫藤,羅 氏胡頹子	Woody climber	Common			*				
Elaeocarpus chinensis	中華杜英,野 杜英	Tree	Common			*				
Elephantopus scaber	地膽草	Herb	Common		**	*	*			
Embelia laeta	酸藤子	Woody climber	Very common			*				
Embelia vestita	密齒酸藤子	Woody climber	Common			*				
Emilia sonchifolia	一點紅	Herb	Very common		*				*	
Eurya nitida	細齒葉柃	Shrub	Very common			*		_		
Excoecaria agallocha	海漆	Tree	Common	**	*					**
Ficus hirta	粗葉榕	Shrub	Common			*				
Ficus hispida	對葉榕	Tree	Very common			*	*	_		
Ficus microcarpa	細葉榕	Tree	Common				-		*	



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Ficus pumila	薜荔	Climber	Very common			*			*	
Ficus tinctoria subsp. Gibbosa	斜葉榕	Tree	Restricted			*				
Ficus variegata var. chlorocarpa	青果榕	Tree	Common			*			*	
Ficus variolosa	變葉榕	Shrub or tree	Very common			*				
Fimbristylis sp.	飄拂草屬	Herb	Restricted		*					
Gahnia tristis	黑莎草	Herb	Very common			**				
Garcinia oblongifolia	黄牙果	Tree	Very common			*				
Glochidion eriocarpum	毛果算盤子	Tree	Very common			*	*			
Glochidion lanceolarium	艾膠算盤子,大 葉算盤子	Shrub	Common		*	*				
Glochidion zeylanicum	香港算盤子	Shrub	Common			***				
Gnetum luofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List			*				
Gnetum parvifolium	小葉買麻藤	Clmber	Very common			*				
Gymnanthera oblonga	海島藤	Slender woody climber	Regarded as Very Rare in Xing et al. (2000), common in serveral districs in HK including Sai Kung, Tsing Yi, Yeun Long and Lantau Island (AFCD 2009)	**			***			**
Hedyotis acutangula	方骨草	Herb	Very common			*				. <u></u>
Heritiera littoralis	銀葉樹	Tree	Restricted	**						**
Heterosmilax japonica	肖菝葜	Climber	Common			*				
Hibiscus tiliaceus	黃槿	Tree	Common	***	*	*	**			*



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Homalium cochinchinense	天料木	Shrub or tree	Common			**				
Ilex asprella	梅葉冬青	Shrub	Very common		*	*				
Ilex pubescens	毛冬青	Shrub	Very common			***				
Ipomoea cairica	五爪金龍	Herbaceous climber	Exotic, Very common			*				
Isachne globosa	柳葉箬	Herb	Very common						*	
Ixora chinensis		Shrub	Restricted						*	
Kalanchoe pinnata	落地生根	Herb	Exotic, Common			*			*	
Kandelia obovata	水筆仔	Tree	Very common	**						****
Lantana camara	馬纓丹	Shrub	Exotic, Very common	**	*	*	*	*	*	
Lemmaphyllum microphyllum	伏石蕨	Herb	Common			*				
Ligustrum sinense	山指甲	Shrub or small tree	Common			*	*			
Limonium sinense	補血草	Herb	Common	*	*					
Lindernia crustacea	母草	Herb	Restricted		*					
Lindsaea orbiculata	團葉鱗始蕨	Herb	Very common			*				
Liriope spicata	山麥冬,麥門 冬	Herb	Very common			*				
Litchi chinensis	荔枝	Tree	Exotic, Restricted						*	
Litsea cubeba	木薑子	Tree	Common			*				
Litsea glutinosa	潺稿樹	Tree	Very common			*	*			
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common			*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Lophatherum gracile	淡竹葉	Herb	Very common			*			*	
Lygodium flexuosum	曲軸海金沙	Climber	Very common				*			
Lygodium japonicum	海金沙	Climber	Very common	*		*	*	*	*	
Lygodium scandens	小葉海金沙	Climber	Common			*				
Macaranga tanarius var. tomentosa	血桐	Tree	Common			*			*	
Machilus chekiangensis	浙江潤楠	Tree	Very common			**				
Machilus velutina	絨毛潤楠	Tree	Common			**				
Maesa perlarius	鯽魚膽	Shrub	Common		*	*			*	
Mallotus paniculatus	白楸	Tree	Very common		*	**				
Melastoma malabathricum	野牡丹	Shrub	Common		*	*				
Melastoma sanguineum	毛菍	Shrub	Common			*				
Melicope pteleifolia	三椏苦	Tree	Common			*				
Melodinus suaveolens	山橙	Woody climber	Common			*				
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common		*			****	*	
Millettia nitida	亮葉雞血藤	Woody climber	Very common			*	_			
Miscanthus floridulus	五節芒	Herb	Common			*				
Mussaenda pubescens	玉葉金花	Climbing shrub	Very common			*	*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation#	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Oxalis corniculata	酢漿草	Herb	Very common		*					
Paederia scandens	雞矢藤	Climber	Very common		*	*				
Palhinhaea cernua	鋪地蜈蚣, 燈籠 草	Creeping herb	Very common			*				
Paliurus ramosissimus	馬甲子	Tree	Common	****	**	**	**			*
Pandanus austrosinensis	露兜草	Herb	Common				**			
Pandanus tectorius	露兜樹	Small tree	Very common		**	*				
Panicum brevifolium	短葉黍	Herb	Very common						*	
Paspalum conjugatum	兩耳草	Herb	Exotic, Common		**					
Paspalum distichum	雙穗雀稗	Herb	Common		*					
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A			**				
Perilla frutescens	紫蘇	Herb	Restricted		*					<u> </u>
Phoenix loureiroi	刺葵	Shrub or small tree	Common		*					
Phyllanthus cochinchinensis	越南葉下珠	Shrub	Very common			*				
Phyllanthus emblica	餘甘子,油甘子	Tree	Very common			*	*			
Phyllodium pulchellum	排錢草	Shrub	Very common		*		*			
Piper cathayanum	青蒟	Climber	Restricted			*				
Pluchea indica	闊苞菊,煙茜	Shrub	Common		*			-		



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Praxelis clematidea	假臭草	Herb	Exotic, Very common		*					
Psidium guajava	番石榴	Tree	Exotic, Common			*			*	
Psychotria asiatica	九節	Shrub	Very common		*	***	**			
Pteris semipinnata	半邊旗	Herb	Very common			*				
Pteris vittata	蜈蚣草	Herb	Very common			*				
Pueraria lobata	野葛	Climber	Very common			*	*			
Pycreus polystachyus	多穗扁莎	Herb	Very common		*					
Rhaphiolepis indica	車輪梅	Shrub or small tree	Very common			*				
Rhapis excelsa	棕竹	Shrub	Common			**				
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common		*	**				
Rhus chinensis	鹽膚木	Tree	Common				*			
Rhus hypoleuca	白背鹽膚木	Tree	Common	**	*	**				
Rhus succedanea	野漆樹	Tree	Common			*	*			
Rosa laevigata	金櫻子	Climbing shrub	Common			*				
Rourea microphylla	小葉紅葉藤, 紅葉藤	Woody climber	Common			*	*			
Rubus reflexus	蛇泡簕	Climbing shrub	Very common			*				
Ruellia coerulea	蘭花草	Herb	Exotic, Common						*	
Sageretia thea	雀梅藤	Shrub	Common	**		*			*	
Sapium discolor	山烏桕	Tree	Very common			*				
Sapium sebiferum	烏桕	Tree	Common		*	*				
Sarcandra glabra	草珊瑚	Subshrub	Common			*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Schefflera heptaphylla	鴨腳木	Tree	Very common			***	*			
Schizostachyum dumetorum	苗竹仔	Bamboo	Very common				**			
Scolopia chinensis	刺柊	Tree	Common			**	*			
Scolopia saeva	廣東刺柊	Tree	Common			*				
Scoparia dulcis	野甘草,冰糖草	Herb	Common			*				
Selaginella doederleinii	深綠卷柏	Herb	Common			*				
Selaginella uncinata	翠雲草	Herb	Common						*	
Senna occidentalis	望江南,野扁 豆	Shrub	Very common		*					
Smilax china	金剛藤	Climbing shrub	Very common			*				
Smilax glabra	土茯苓,光葉菝 葜	Climbing shrub	Very common			*				
Smilax lanceifolia var. opaca	暗色菝葜	Climbing shrub	Common			*	*			
Solanum capsicoides	牛茄子,癲茄	Herb	Exotic, Regarded as Rare in Xing <i>et al.</i> (2000), widely established in HK in recent years			*			*	
Spermacoce stricta	豐花草	Herb	Restricted						*	
Stachytarpheta jamaicensis	假馬鞭	Herb	Exotic, Common		*					
Stephania longa	千金藤	Climber	Common		*			*	*	
Sterculia lanceolata	假蘋婆	Tree	Very common			*				
Strophanthus divaricatus	羊角拗	Woody climber	Common		*	*	*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Strychnos angustiflora	牛眼馬錢	Woody climber	Common			*				
Styrax suberifolius	栓葉安息香, 紅皮	Tree	Common			*				
Suaeda australis	南方鹼蓬	Herb	Common	*						
Symplocos cochinchinensis var. laurina	黃牛奶樹	Tree	Common		**	*				
Symplocos crassifolia	厚葉山礬,厚葉 灰木	Tree	Common			*				
Symplocos lancifolia	光葉山礬	Tree	Common			*				
Syzygium buxifolium	赤楠	Shrub	Common			*				
Syzygium hancei	韓氏蒲桃,紅 鱗蒲桃	Tree	Common			*	*			
Syzygium jambos	蒲桃	Tree	Exotic, Common		*	*	*			
Syzygium levinei	山蒲桃	Tree	Common			**				
Tetracera asiatica	錫葉藤	Woody climber	Very common			*	*			
Toxocarpus wightianus	弓果藤	Slender woody climber	Very common			*				
Triumfetta rhomboidea	刺蒴麻	Subshrub	Common						*	
Tylophora ovata	娃兒藤	Slender woody climber	Common			*				
Urena lobata	肖梵天花	Subshrub	Common		*					
Urena procumbens	梵天花	Subshrub	Common		*	*		*		
Uvaria macrophylla	紫玉盤	Woody climber	Common			*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation [#]	Grassland	Secondary Woodland	Natural Watercourse	Ruderal Area	Developed / Village Area	Mangrove
Vernonia cinerea	夜香牛	Herb	Very common		*					
Viburnum odoratissimum	珊瑚樹	Tree	Very common		*	*	***	*		
Viola diffusa	蔓堇菜	Herb	Common				*			
Vitex rotundifolia	白背蔓荊	Shrub	Exotic, Common	**	*					
Wedelia trilobata	三裂葉蟛蜞菊	Herb	Exotic, Common					*	*	
Wikstroemia indica	了哥王	Shrub	Common			**				
Wikstroemia nutans	細軸蕘花	Shrub	Common			**				
Youngia japonica	黃鶴菜	Herb	Very common			*				
Zanthoxylum ailanthoides	椿葉花椒	Tree	Regarded as Rare in Xing <i>et al.</i> (2000), restricted to several locations in HK such as Chek Keng and Tai Long Sai Wan according to AFCD 2008		*				*	
Zanthoxylum avicennae	簕欓花椒	Tree	Common			*				
Zanthoxylum nitidum	兩面針	Climbing shrub	Very common			*				
Zanthoxylum scandens	花椒簕	Climbing shrub	Common			*				
Cibotium barometz	金毛狗	Herb	Very common, Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003)			*				
Total			226	16	60	164	42	10	39	8



[^] Status follows Xing *et al.* (2000)

*Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Table A1-2. Flora species recorded within Ko Tong enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Acacia confusa	台灣相思	Tree	Exotic, Common, often planted in plantation													*
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common			*										
Adina pilulifera	水團花	Tree	Very common								*					
Aegiceras corniculatum	桐花樹	Shrub	Common	**				***								
Alangium chinense	八角楓	Tree	Common			**				***			*			*
Alocasia macrorrhizos	海芋	Herb	Very common			*					*		*			
Alpinia hainanensis	草豆蔻	Herb	Very common			*					**					
Alpinia stachyodes	密苞山薑	Herb	Common								*					
Ampelopsis cantoniensis	廣東蛇葡萄	Climber	Very common							*						
Anisomeles indica	廣防風	Herb	Common							*					*	
Annona squamosa	番荔枝	Tree	Common												*	
Antidesma bunius	五月茶,五味子	Tree	Common			*	*			**						*
Aporusa dioica	銀柴	Tree	Very common	*		***				**			*		*	*
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu et al. 2003), classified as Critically Endangered (CR) on the IUCN Red List			*				**						*
Archidendron lucidum	亮葉猴耳環	Tree	Common			*				*						

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Archontophoenix alexandrae	假檳榔	Tree	Exotic, Commonly planted for greening													*
Ardisia crenata	大羅傘	Shrub	Common			*				*			*			
Ardisia quinquegona	羅傘	Small tree	Very common			*				*			**			
Atalantia buxifolia	酒餅簕	Shrub	Common							*						
Avicennia marina	白骨壤	Tree	Common					**								
Axonopus compressus	地毯草	Herb	Exotic, Common										***		***	****
Bauhinia glauca	粉葉羊蹄甲,羊蹄 甲藤	Woody climber	Very common			**	*			**						
Berchemia floribunda	勾兒茶	Climbling shrub	Common							**		*				
Bischofia javanica	秋楓	Tree	Common							*						
Blechnum orientale	烏毛蕨	Herb	Very common			**				*						
Breynia fruticosa	黑面神	Shrub	Very common							*						
Bridelia tomentosa	土蜜樹	Tree	Very common							*						
Brucea javanica	鴉膽子,苦參子	Shrub or tree	Common	*											**	
Bruguiera gymnorhiza	木欖	Tree	Restricted					**								
Byttneria aspera	刺果藤	Woody climber	Very common			***	***			***			*			
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common													*
Cardiospermum halicacabum	倒地鈴	Climber	Restricted												*	
Carica papaya	番木瓜	Tree	Exotic, Cultivated for food		*											
Castanopsis fissa	黧蒴錐	Tree	Common							*						*



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Cerbera manghas	海芒果	Tree	Common	*				*								
Choerospondias axillaris	南酸棗	Tree	Common							*						
Cinnamomum camphora	樟	Tree	Common				**									*
Cinnamomum parthenoxylon	黄樟	Tree	Common			**				**		**	*			
Citrus maxima	柚	Tree	Exotic, Cultivated for food		*											
Citrus reticulata	桔	Small tree	Common		**											
Citrus sinensis	橙	Tree	Cultivated for food		*											
Clausena lansium	黄皮	Tree	Exotic, Commonly planted for fruit				*									
Cleistocalyx nervosum	水翁	Tree	Common	**						*	**					
Clerodendrum inerme	苦郎樹,假茉莉	Shrub	Common	*				*								
Cocculus orbiculatus	木防己	Climber	Common							*						
Colocasia esculenta	芋	Herb	Cultivated						*							
Commelina diffusa	節節草	Herb	Common						**							
Cratoxylum cochinchinense	黄牛木	Tree	Very common			**	*			**			*		*	*
Cyclosorus interruptus	間斷毛蕨	Herb	Common						**			*				
Cyclosorus parasiticus	華南毛蕨	Herb	Very common			*				*						
Cyperus compressus	扁穗莎草	Herb	Very common						*							
Cyperus pilosus	毛軸莎草	Herb	Common						*		*			*		
Cyrtococcum patens	弓果黍	Herb	Very common						***	*		**	*			
Dalbergia benthamii	兩廣黃檀	Woody climber	Common			*				**						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Daphniphyllum calycinum	牛耳楓	Tree	Common							**						
Delonix regia	鳳凰木,金鳳	Tree	Exotic, Common				*									
Desmos chinensis	假鷹爪	Woody climber	Common			*				**			*			
Dicranopteris pedata	芒萁	Herb	Very common			*				*						
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted			*	**			*			*			
Dioscorea bulbifera	黃獨	Climber	Common			*										
Elaeagnus loureirii	雞柏紫藤,羅氏胡 頹子	Woody climber	Common			*										
Embelia laeta	酸藤子	Woody climber	Very common							*						
Embelia vestita	密齒酸藤子	Woody climber	Common							*						
Eriocaulon truncatum	菲律賓穀精草	Herb	Common						*							
Eucalyptus robusta	大葉桉,大葉有加 利	Tree	Exotic, Common, often planted in plantation													*
Excoecaria agallocha	海漆	Tree	Common	*				***								
Ficus hispida	對葉榕	Tree	Very common								**					
Ficus microcarpa	細葉榕	Tree	Common			*										*
Ficus subpisocarpa	筆管榕	Tree	Common	*			*	*								
Ficus variegata var. chlorocarpa	青果榕	Tree	Common							*						
Fimbristylis nutans	點頭飄拂草	Herb	Restricted						*							
Fimbristylis sieboldii	銹鱗飄拂草	Herb	Common						*							
Floscopa scandens	聚花草	Herb	Common						**			*		*		



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Fuirena umbellata	芙蘭草	Herb	Common						*							
Geissapis cristata	睫苞豆	Herb	Regarded as Rare in Xing et al. (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008						**					****		
Glochidion eriocarpum	毛果算盤子	Tree	Very common							**					*	*
Glochidion zeylanicum	香港算盤子	Shrub	Common						*	*		***	*	***	*	
Gnetum luofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List			*	**									
Gymnanthera oblonga	海島藤	Slender woody climber	Regarded as Very Rare in Xing et al. (2000), common in serveral districs in HK including Sai Kung, Tsing Yi, Yeun Long and Lantau Island (AFCD 2009)	**				*								
Hedychium coronarium	薑花	Herb	Exotic, Common		*											
Heterosmilax japonica	肖菝葜	Climber	Common			*				*						
Hibiscus tiliaceus	黄槿	Tree	Common	***				**			**					
Hypericum japonicum	地耳草	Herb	Very common						*			*		*		
Ilex asprella	梅葉冬青	Shrub	Very common							*						
Impatiens chinensis	華鳳仙	Herb	Common						**							
Ipomoea batatas	番薯	Herbaceous climber	Exotic, Cultivated		**											
Ipomoea triloba	三裂葉薯	Herbaceous climber	Exotic, Common						**							



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Ischaemum barbatum	粗毛鴨嘴草	Herb	Very common						***			**				
Ischaemum ciliare	細毛鴨嘴草	Herb	Very common						***							
Kalanchoe pinnata	落地生根	Herb	Exotic, Common	*												*
Kandelia obovata	水筆仔	Tree	Very common					***								
Kyllinga nemoralis	單穗水蜈蚣	Herb	Very common						*						*	
Kyllinga polyphylla	香根水蜈蚣	Herb	Exotic, Common											*		
Lantana camara	馬纓丹	Shrub	Exotic, Very common	*	*					*	*		**		***	*
Ligustrum sinense	山指甲	Shrub or small tree	Common			*				*						
Lindernia crustacea	母草	Herb	Restricted											*		
Lindernia oblonga	棱萼母草	Herb	Restricted						*							
Lindernia rotundifolia	迷你虎耳草	Herb	Restricted											*		
Lipocarpha chinensis	華湖瓜草	Herb	Restricted						*							
Liriope spicata	山麥冬,麥門冬	Herb	Very common								*					
Litchi chinensis	荔枝	Tree	Exotic, Restricted			*	*									
Lithocarpus glaber	柯,石櫟	Tree	Common							**						
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common							*						
Lophatherum gracile	淡竹葉	Herb	Very common			*										
Lophostemon confertus	紅膠木	Tree	Exotic, Commonly planted							*						*
Ludwigia hyssopifolia	草龍	Herb	Common											*		
Ludwigia octovalvis	毛草龍	Herb	Common						*							



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Lygodium japonicum	海金沙	Climber	Very common		*	**				*		*			*	*
Lygodium scandens	小葉海金沙	Climber	Common						*	*		*				
Macaranga tanarius var. tomentosa	血桐	Tree	Common							*			*			*
Machilus chekiangensis	浙江潤楠	Tree	Very common			**				***						*
Maesa perlarius	鯽魚膽	Shrub	Common		*	**			*	**					*	
Mallotus paniculatus	白楸	Tree	Very common				**			***	*	**				
Mangifera indica	杧果	Tree	Exotic, Commonly planted for fruit				*									
Melaleuca quinquenervia	白千層	Tree	Exotic, Commonly used for slope plantation													*
Melastoma malabathricum	野牡丹	Shrub	Common	*					**	*		***		**	**	*
Melicope pteleifolia	三椏苦	Tree	Common							*						
Microcos nervosa	破布葉,布渣葉	Tree	Common	*		*				*						
Microstegium ciliatum	剛莠竹	Herb	Very common							**						
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common		**				***	**	***		*	*	*	*
Mimosa pudica	含羞草	Herb	Exotic, Very common										*	*	***	
Morus alba	桑	Tree	Common							*						
Murdannia nudiflora	裸花水竹葉	Herb	Common						*							
Musa x paradisiaca	大蕉	Giant herb	Exotic, Commonly cultivated												*	
Mussaenda erosa	楠藤	Climbing shrub	Common							*						
Neyraudia reynaudiana	類蘆	Herb	Common							*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Oxalis corniculata	酢漿草	Herb	Very common										*			
Palhinhaea cernua	鋪地蜈蜙,燈籠草	Creeping herb	Very common						*			*				
Paliurus ramosissimus	馬甲子	Tree	Common	***				**								
Pandanus austrosinensis	露兜草	Herb	Common								**					
Pandanus tectorius	露兜樹	Small tree	Very common	***				**								
Panicum dichotomiflorum	水生黍	Herb	Common						***			*				
Panicum maximum	大黍	Herb	Exotic, Very common		**											
Panicum repens	舖地黍/枯骨草	Herb	Very common						***			*		*		
Paspalum conjugatum	兩耳草	Herb	Exotic, Common											*		
Paspalum scrobiculatum var. orbiculare	圓果雀稗	Herb	Very common											**		
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A			*	***			**			*			
Philydrum lanuginosum	田蔥	Herb	Common						**			*		**		
Phoenix loureiroi	刺葵	Shrub or small tree	Common							*						
Phyllanthus emblica	餘甘子,油甘子	Tree	Very common	*						*						*
Phyllodium pulchellum	排錢草	Shrub	Very common												*	
Piper cathayanum	青蒟	Climber	Restricted			*							*			
Piper hancei	山蒟	Climber	Very common										*			
Plumeria rubra	雞蛋花	Tree	Exotic, Commonly planted for greening													*
Polygonum barbatum	毛蓼	Herb	Common						*							
Polygonum chinense	火炭母	Herb	Very common										*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Polygonum glabrum	光蓼	Herb	Restricted						**							
Polygonum pubescens	短毛蓼	Herb	Common						*					**		
Praxelis clematidea	假臭草	Herb	Exotic, Very common											*		
Prunus persica	桃	Tree	Exotic, Commonly planted for fruit		**											
Psychotria asiatica	九節	Shrub	Very common	*		***				***			*		*	*
Pteris biaurita	狹眼鳳尾蕨	Herb	Common			*										
Pteris semipinnata	半邊旗	Herb	Very common			*				*			*			
Pueraria lobata	野葛	Climber	Very common			*				*	*					
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common						*			***				
Rhus hypoleuca	白背鹽膚木	Tree	Common							*			**			
	小葉紅葉藤,紅葉 藤	Woody climber	Common							*						
Sacciolepis indica	囊穎草	Herb	Very common						*							
Sageretia thea	雀梅藤	Shrub	Common							**			*			
Sapium discolor	山烏桕	Tree	Very common							**						
Sapium sebiferum	烏桕	Tree	Common							*					***	*
Sarcandra glabra	草珊瑚	Subshrub	Common			*				*						
Schefflera heptaphylla	鴨腳木	Tree	Very common			**	*			**						*
Schima superba	木荷	Tree	Common							**						*
Scolopia chinensis	刺柊	Tree	Common	**												
Scolopia saeva	廣東刺柊	Tree	Common							*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Scoparia dulcis	冰塘草	Herb	Common										*		*	
Senna tora	決明,假綠豆	Shrub	Exotic, Common												***	
Solanum erianthum	假煙葉樹	Shrub	Exotic, Common							*	*					
Solanum torvum	水茄	Shrub	Exotic, Common										*		**	
Spermacoce stricta	豐花草	Herb	Restricted		*											
Sphaerocaryum malaccense	桴 藎	Herb	Common						**			**				
Spilanthes paniculata	金鈕扣	Herb	Common						*					*	**	
Sterculia lanceolata	假蘋婆	Tree	Very common			**	*			***						*
Strophanthus divaricatus	羊角拗	Woody climber	Common							*						
Strychnos angustiflora	牛眼馬錢	Woody climber	Common	*												
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common							*						
Syzygium hancei	韓氏蒲桃,紅鱗蒲 桃	Tree	Common							*						
Syzygium jambos	蒲桃	Tree	Exotic, Common	*		*				*						*
Syzygium levinei	山蒲桃	Tree	Common				*			*						
Tadehagi triquetrum	葫蘆茶	Shrub	Very common							*						
Tetracera asiatica	錫葉藤	Woody climber	Very common			*				*						
Tithonia diversifolia	腫柄菊,假向日葵	Herb	Exotic, Common		**											
Toxocarpus wightianus	弓果藤	Slender woody climber	Very common							*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Backshore Vegetation	Dry Agricultural Land	Ko Tong Fung Shui Woodland	Ko Tong Ha Yeung Fung Shui Woodland	Mangrove	Marsh	Secondary Woodland	Natural Watercourse	Pond	Ruderal Area	Seasonally Wet Grassland	Shrubby Grassland	Developed / Village Area
Tylophora ovata	娃兒藤	Slender woody climber	Common										*			*
Urena lobata	肖梵天花	Subshrub	Common										***		***	
Urena procumbens	梵天花	Subshrub	Common										*		*	*
Utricularia bifida	挖耳草	Small herb	Common						*			*				
Uvaria macrophylla	紫玉盤	Woody climber	Common			*				**			*			
Vernonia cinerea	夜香牛	Herb	Very common										*		*	*
Viburnum odoratissimum	珊瑚樹	Tree	Very common	**		**				***	**					
Vitex quinata	山牡荊	Tree	Common							*						
Wedelia biflora	雙頭菊, 孿花蟛蜞 菊	Herb	Common	*												
Xyris pauciflora	蔥草	Herb	Restricted						*							
Zanthoxylum avicennae	簕欓花椒	Tree	Common				*			*						
Zanthoxylum nitidum	兩面針	Climbing shrub	Very common			*				*			*			
Total			196	23	14	46	18	12	40	86	16	19	34	19	27	34

[^] Status follows Xing *et al.* (2000)

*Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Table A1-3. Flora species recorded within Nam Shan Tung enclave

Scientific Name	Chinese Common Name	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Secondary Woodland	Natural Watercourse	Developed / Village Area	
Acacia confusa	台灣相思	Tree	Exotic, Common, often planted in plantation		*		
Acorus gramineus	石菖蒲	Herb	Very common			**	
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common	*	*		
Adina pilulifera	水團花	Tree	Very common	*	*	**	
Alangium chinense	八角楓	Tree	Common	*			*
Alocasia macrorrhizos	海芋	Herb	Very common	*	*	*	*
Alpinia hainanensis	草豆蔻	Herb	Very common	*		*	
Anisomeles indica	廣防風	Herb	Common				*
Aporusa dioica	銀柴	Tree	Very common	***	***		
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List	*			
Archidendron clypearia	猴耳環	Tree	Common	*			
Ardisia crenata	大羅傘	Shrub	Common		**		
Ardisia lindleyana	山血丹	Shrub	Common		*		
Ardisia quinquegona	羅傘	Small tree	Very common	*	*	**	
Bambosa sp.	竹屬	Bambos	Common	*			
Blechnum orientale	烏毛蕨	Herb	Very common	**	**	*	
Boehmeria nivea	苧麻	Shrub	Restricted		*		
Bougainvillea spectabilis	簕杜鵑	Climbing shrub	Exotic, Common				**
Breynia fruticosa	黑面神	Shrub	Very common		*		*
Bridelia tomentosa	土蜜樹	Tree	Very common	*			
Brucea javanica	鴉膽子	Shrub or tree	Common		*		



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Byttneria aspera	刺果藤	Woody climber	Very common	*	**		
Carex chinensis	中華薹草	Herb	Common			*	
Centella asiatica	崩大碗	Herb	Very common	*			
Centotheca lappacea	假淡竹葉	Herb	Common		*		
Cibotium barometz	金毛狗	Herb	Very common, Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003)		*	*	
Cinnamomum parthenoxylon	黄樟	Tree	Common	*	**		
Citrus reticulata	桔	Small tree	Common				*
Clausena lansium	黄皮	Tree	Exotic, Commonly planted for fruit	*			
Cleistocalyx nervosum	水翁	Tree	Common		**	**	
Cratoxylum cochinchinense	黄牛木	Tree	Very common	***	***		
Cuphea platycentra	雪茄花	Herb	Exotic, Commonly planted				*
Cyclosorus parasiticus	華南毛蕨	Herb	Very common	*	**	**	*
Dalbergia benthamii	兩廣黃檀	Woody climber	Common	**			
Daphniphyllum calycinum	牛耳楓	Tree	Common	*	**		
Desmos chinensis	假鷹爪	Woody climber	Common	*	*		
Dicranopteris pedata	芒萁	Herb	Very common	*	**		
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted	*	*		*
Elaeagnus loureirii	雞柏紫藤,羅氏胡頹子	Woody climber	Common		*		
Elephantopus scaber	地膽草	Herb	Common	*			
Erythrina variegata	刺桐	Tree	Exotic, Commonly planted				*
Eurya nitida	細齒葉柃	Shrub	Very common	*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Ficus hispida	對葉榕	Tree	Very common				**
Ficus pumila	薜荔	Climber	Very common	*			
Ficus variegata var. chlorocarpa	青果榕	Tree	Common	*			*
Glochidion eriocarpum	毛果算盤子	Tree	Very common	*	**		
Gnetum luofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List	*	*		
Helicteres angustifolia	山芝麻	Subshrub	Very common		*		
Ilex asprella	梅葉冬青	Shrub	Very common	*	*		
Ilex cinerea	灰冬青	Tree	Common	*			
Kalanchoe pinnata	落地生根	Herb	Exotic, Common				*
Lantana camara	馬纓丹	Shrub	Exotic, Very common				*
Lepidagathis incurva	鱗花草	Herb	Common		*		
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common	*			
Lophatherum gracile	淡竹葉	Herb	Very common		*		
Lygodium japonicum	海金沙	Climber	Very common	*	*		
Machilus chekiangensis	浙江潤楠	Tree	Very common	*	**		
Maesa perlarius	鯽魚膽	Shrub	Common	*			
Mallotus paniculatus	白楸	Tree	Very common	***			**
Mangifera indica	杧果	Tree	Exotic, Commonly planted for fruit	*			
Melastoma malabathricum	野牡丹	Shrub	Common		*		
Melicope pteleifolia	三椏苦	Tree	Common		*		
Millettia dielsiana	山雞血藤	Woody climber	Very common		*		
Paederia scandens	雞矢藤	Climber	Very common				*



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Palhinhaea cernua	鋪地蜈蜙, 燈 籠草	Creeping herb	Very common		*		
Pandanus austrosinensis	露兜草	Herb	Common	*		*	
Panicum brevifolium	短葉黍	Herb	Very common			*	
Phoenix loureiroi	刺葵	Shrub or small tree	Common		*		
Pronephrium simplex	單葉新月蕨	Herb	Very common	*			
Psidium guajava	番石榴	Tree	Exotic, Common				*
Psychotria asiatica	九節	Shrub	Very common	***	***	**	
Pteris biaurita	狹眼鳳尾蕨	Herb	Common	*			
Pteris semipinnata	半邊旗	Herb	Very common	*	*	*	
Pyrrosia adnascens	貼生石韋	Herb	Common	*			
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*			
Rubus leucanthus	白花懸鉤子	Climbing shrub	Common		*		
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*	*	*	
Sageretia thea	雀梅藤	Shrub	Common	*	*		
Sapium discolor	山烏桕	Tree	Very common	*	*		
Sapium sebiferum	烏桕	Tree	Common	*	*		
Sarcandra glabra	草珊瑚	Subshrub	Common	*	*		
Saurauia tristyla	水東哥	Tree	Common	*	*	**	
Schefflera heptaphylla	鴨腳木	Tree	Very common	***	***		
Scolopia saeva	廣東刺柊	Tree	Common		*		
Selaginella doederleinii	深綠卷柏	Herb	Common		*		
Smilax china	金剛藤	Climbing shrub	Very common	*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Secondary Woodland	Natural Watercourse	Developed / Village Area
Smilax glabra	土茯苓,光葉 菝葜	Climbing shrub	Very common	*	*		
Sphenomeris chinensis	烏韭	Herb	Common		*		
Sterculia lanceolata	假蘋婆	Tree	Very common	*	**	*	
Syzygium hancei	韓氏蒲桃,紅 鱗蒲桃	Tree	Common	*	*		
Syzygium levinei	山蒲桃	Tree	Common	*	*		
Tetracera asiatica	錫葉藤	Woody climber	Very common	*	*		
Urena lobata	肖梵天花	Subshrub	Common		*		
Uvaria macrophylla	紫玉盤	Woody climber	Common		*		
Viburnum odoratissimum	珊瑚樹	Tree	Very common	*	**		
Wikstroemia nutans	細軸蕘花	Shrub	Common		*		
Zanthoxylum avicennae	簕欓花椒	Tree	Common		*		*
Total			97	58	60	17	18

[^] Status follows Xing et al. (2000)

[#] Code for Abundance: **** = Abundant, *** = Frequent, ** = Occasional, * = Scarce

Table A1-4. Flora species recorded within Pak Tam Au enclave

	Chinese	G 41			Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Grassland	Shrubby Grassland	Waste
Scientific Name	Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	elized course	ped/ Area	and		lary	al course	tion		Seasonally Wet Grassland	by and	Waste Ground
Abrus mollis	毛相思子	Woody climber	Restricted						*						
Acacia confusa	台灣相思	Tree	Exotic, Common, often planted in plantation			**	*		*		***			*	
Acorus gramineus	石菖蒲	Herb	Very common		**										
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common	*											
Adina pilulifera	水團花	Tree, 5m	Very common		**										*
Adinandra millettii	黄瑞木	Tree	Common						*						
Agave americana	龍舌蘭	Perennial Herb	Exotic, Cultivated in HK (AFCD 2011)				*								
Ageratum conyzoides	藿香薊,勝紅 薊	Herb	Exotic, Exotic (pantropical herb of American origin), very common		*	**	*				*				**
Alangium chinense	八角楓	Tree	Common	***			*		***		**				
Alocasia macrorrhizos	海芋	Herb	Very common	*			*		*						
Alternanthera sessilis	蓮子草	Herb	Common				*								
Ampelopsis cantoniensis	廣東蛇葡萄	Climber	Very common	**					*						
Aporusa dioica	銀柴	Tree	Very common	***					***						
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List	*					*		*				
Archidendron clypearia	猴耳環	Tree	Common						*						
Archidendron lucidum	亮葉猴耳環	Tree	Common							*					



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland#	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Ardisia crenata	大羅傘	Shrub	Common	**						*					
Ardisia quinquegona	羅傘	Small tree	Very common	*					**						
Arundinella setosa	刺芒野古草	Herb	Very common				*								
Axonopus compressus	地毯草	Herb	Exotic, Common				***								
Baeckea frutescens	崗松	Shrub	Very common				*							*	**
Bambosa sp.	竹屬	Bambos	Common						*						
Basella alba	落葵,潺菜	Herbaceous climber	Exotic, Restricted						*						
Bauhinia variegata	宮粉羊蹄甲	Tree	Exotic, Common						*						
Bischofia javanica	秋楓	Tree	Common						***		*			*	
Blechnum orientale	烏毛蕨	Herb	Very common		*		*		**	**	*				
Bougainvillea spectabilis	簕杜鵑	Climbing shrub	Exotic, Common	**											
Breynia fruticosa	黑面神	Shrub	Very common				*		*		*			*	*
Bridelia tomentosa	土蜜樹	Tree	Very common	*			*		**		*			*	
Cajanus scarabaeoides	蔓草蟲豆	Climber	Common				*								
Callicarpa formosana	杜虹花	Shrub	Common				*		*						
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common						*		*				
Casuarina equisetifolia	木麻黄,牛尾 松	Tree	Exotic, often planted in plantation and along roadside, apparently semi-naturalized in the nature								**				
Cayratia corniculata	角花烏蘞莓	Climber	Very common						*						
Centella asiatica	崩大碗	Herb	Very common			*	*		*		*			*	
Centotheca lappacea	假淡竹葉	Herb	Common						*		*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland#	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Chrysopogon aciculatus	竹節草,假雀 麥	Herb	Very common				***	**						***	
Cinnamomum camphora	樟	Tree	Common			*	*		**						
Cinnamomum parthenoxylon	黃樟	Tree	Common	***					*						
Cleistocalyx nervosum	水翁	Tree	Common	**	**				***		**	**			
Colocasia esculenta	芋	Herb	Cultivated		*							*			
Commelina diffusa	節節草	Herb	Common		**				*	**		***			
Cratoxylum cochinchinense	黄牛木	Tree	Very common				*				*				
Cyclobalanopsis myrsinifolia	小葉青岡	Tree	Common						*						
Cyclosorus interruptus	間斷毛蕨	Herb	Common									***			
Cyclosorus parasiticus	華南毛蕨	Herb	Very common	*	**		*		*	**	*	**		*	
Cynodon dactylon	狗牙根	Herb	Very common				*								
Cyperus difformis	異型莎草	Herb	Very common												*
Cyperus iria	碎米莎草	Herb	Common				*	*							
Cyperus sp.	莎草屬	Herb	Common					*							
Cyrtococcum patens	弓果黍	Herb	Very common	**											
Daphniphyllum calycinum	牛耳楓	Tree	Common	*			*		***	*	*				
Desmodium gangeticum	大葉山螞蝗	Subshrub	Common				*		*						
Desmodium triflorum	三點金	Herb	Very common				**	*					***	*	
Desmos chinensis	假鷹爪	Woody climber	Common				*		**						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Desmos chinensis	假鷹爪	Woody climber	Common	**											
Dicranopteris pedata	芒萁	Herb	Very common	*	*		**		**		**			****	**
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted	*					*						
Dioscorea bulbifera	黄獨	Climber	Common						*						
Dioscorea cirrhosa	薯茛	Climber	Common		*										
Diospyros morrisiana	羅浮柿	Tree	Very common	*											
Eclipta prostrata	鱧腸	Herb	Common				*	**					*		
Eichhornia crassipes	鳳眼藍,大水 萍	Floating herb	Exotic, Common									***			
Elaeagnus loureirii	雞柏紫藤,羅 氏胡頹子	Woody climber	Common	*					*						
Elaeocarpus decipiens	杜英	Tree	Common	*											
Eleocharis spiralis	螺旋鱗荸薺	Herb	Regarded as Rare in Xing <i>et al.</i> (2000), common in several districts in HK including Yuen Long, Mai Po and Tai Ho (AFCD 2012)					**				**			
Embelia laeta	酸藤子	Woody climber	Very common	*			**								
Embelia ribes	白花酸藤子	Woody climber	Common						*						
Emilia sonchifolia	一點紅	Herb	Very common				*								
Eragrostis atrovirens	鼠婦草	Herb	Common				*								
Eragrostis tenella	鯽魚草,南方 知風草	Herb	Very common									**			
Eriocaulon sexangulare	華南穀精草	Herb	Very common		*			***					*		
Eupatorium chinense	華澤蘭,蘭草	Herb	Restricted				*					*]



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Eurya nitida	細齒葉柃	Shrub	Very common		*										
Ficus hirta	粗葉榕	Shrub	Common						*	*					
Ficus Hispida	對葉榕	Tree	Very common	*			*		*	*	*				
Ficus microcarpa	細葉榕	Tree	Common			**	*		*		***			*	
Ficus pumila	薜荔	Climber	Very common							**					
Ficus subpisocarpa	筆管榕	Tree	Common						*						
Ficus variegata var. chlorocarpa	青果榕	Tree	Common	*					*						*
Ficus variolosa	變葉榕	Shrub or tree, 5m (10m)	Very common		*										
Fimbristylis aestivalis	夏飄拂草	Herb	Restricted		*										
Fimbristylis sieboldii	銹鱗飄拂草	Herb	Common					*					*		
Geissapis cristata	睫苞豆	Herb	Regarded as Rare in Xing <i>et al.</i> (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008				**	**					**		
Glochidion eriocarpum	毛果算盤子	Tree	Very common											*	
Glochidion hirsutum	厚葉算盤子	Tree	Common											***	
Glochidion lanceolarium	艾膠算盤子, 大葉算盤子	Shrub	Common				*		****	*	**			***	
Glochidion zeylanicum	香港算盤子	Shrub	Common	**											
Hedyotis auricularia	耳草	Herb	Common					**					*		
Hedyotis diffusa	白花蛇舌草	Herb	Very common			*	*		*						
Ilex pubescens	毛冬青	Shrub	Very common						*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Imperata cylindrica var. major	絲茅	Herb	Very common				**								
Ipomoea cairica	五爪金龍	Herbaceous climber	Exotic, Very common	*	**	**			*						
Ischaemum barbatum	粗毛鴨嘴草	Herb	Very common				***								
Jatropha integerrima	全緣葉麻瘋	Shrub	Exotic, Cultivated				*								
Kyllinga brevifolia	短葉水蜈蚣	Herb	Common				*	*					**		
Kyllinga nemoralis	單穗水蜈蚣	Herb	Very common	*		*					*				
Lantana camara	馬纓丹	Shrub	Exotic, Very common	*		**	*		*					**	
Leersia hexandra	李氏禾	Herb	Common		*							***			
Leucaena leucocephala	銀合歡	Tree	Exotic, Common		*		*								
Lindernia antipoda	泥花草	Herb	Common				*					*			
Lindernia crustacea	母草	Herb	Restricted				*							*	
Liparis ferruginea	銹色羊耳蒜	Herb	Regarded as Scarce and Restricted, and is a locally endangered species(EN) in HK (Barretto <i>et al.</i> 2011)					*							
Litchi chinensis	荔枝	Tree	Exotic, Restricted	*											
Litsea cubeba	木薑子	Tree	Common	*											
Litsea glutinosa	潺稿樹	Tree	Very common	*										*	
Litsea monopetala	假柿木薑子	Tree	Restricted						*						
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common	*										**	
Lophatherum gracile	淡竹葉	Herb	Very common				*		*		*				
Ludwigia adscendens	水龍	Herb	Common									**			
Ludwigia perennis	細花丁香蓼	Herb	Restricted									*		_	



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Lygodium flexuosum	曲軸海金沙	Climber	Very common		*				*	*					
Lygodium japonicum	海金沙	Climber	Very common				**		*					**	
Lygodium scandens	小葉海金沙	Climber	Common						*						
Machilus breviflora	短序潤楠	Tree	Very common	*											
Machilus chekiangensis	浙江潤楠	Tree	Very common	**	*				****	**	*			*	
Machilus pauhoi	刨花潤楠	Tree	Regarded as Very Rare in Xing et al. (2000), common in several districts in HK including Tai Mo Shan, Shing Mun and Tai Po Kau (Personal observation)						*						
Macroptilium lathyroides	大翼豆	Creeping herb	Exotic, Common				*								
Macrothelypteris torresiana	普通針毛蕨	Herb	Very common											*	
Maesa perlarius	鯽魚膽	Shrub	Common	**			*		***		**			**	
Mallotus paniculatus	白楸	Tree	Very common	**					***		*				*
Melastoma malabathricum	野牡丹	Shrub	Common		*		***		*	*	**	*		***	**
Melastoma sanguineum	毛菍	Shrub	Common				**		**					**	
Microstegium ciliatum	剛莠竹	Herb	Very common		*										
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common	*					*						
Mimosa pudica	含羞草	Herb	Exotic, Very common				**								
Miscanthus sinensis	芒	Herb	Very common				*								
Mucuna birdwoodiana	白花油麻藤, 勃氏黧豆	Woody climber	Common	**											



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Mussaenda pubescens	玉葉金花	Climbing shrub	Very common						*						
Nelumbo nucifera	荷花	Aquatic herb	Exotic, Commonly planted									**			
Osbeckia chinensis	金錦香,天香爐	Herb	Very common												*
Oxalis corniculata	酢漿草	Herb	Very common			*	*	*			*				
Paederia scandens	雞矢藤	Climber	Very common						*		*				*
Palhinhaea cernua	鋪地蜈蜙,燈 籠草	Creeping herb	Very common				**		*		*				*
Pandanus tectorius	露兜樹	Small tree	Very common		*										
Panicum brevifolium	短葉黍	Herb	Very common				*					*			
Panicum dichotomiflorum	水生黍	Herb	Common				*	*							
Panicum repens	舖地黍, 枯骨草	Herb	Very common					**					**		
Paspalum conjugatum	兩耳草	Herb	Exotic, Common				***		*					***	
Paspalum distichum	雙穗雀稗	Herb	Common					*							
Paspalum scrobiculatum var. orbiculare	圓果雀稗	Herb	Very common		*			**					*		
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A						*						
Philydrum lanuginosum	田蔥	Herb	Common					***				**	**		
Phyllanthus emblica	餘甘子,油甘子	Tree	Very common						*		*			*	
Plantago major	車前草	Herb	Very common				*								



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Polyspora axillaris	大頭茶	Tree	Very common				*		**		*			*	
Pronephrium simplex	單葉新月蕨	Herb	Very common		*					*					
Psidium guajava	番石榴	Tree	Exotic, Common	*		**	*		*		*			*	
Psychotria asiatica	九節	Shrub	Very common	***		**	*		***	**	**				
Pteris ensiformis	劍葉鳳尾蕨, 井邊茜	Herb	Common				*								
Pteris multifida	井欄邊草	Herb	Very common						*	*					
Pteris semipinnata	半邊旗	Herb	Very common	*					*						
Pterocarpus indicus	紫檀,牛血樹	Tree	Exotic, Common						*						
Pueraria lobata	野葛	Climber	Very common	**					*						
Pycreus polystachyus	多穗扁莎	Herb	Very common				*	*				*	**		
Rhaphiolepis indica	車輪梅	Shrub or small tree	Very common				*		*						
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*			**		*		*			***	**
Rhus chinensis	鹽膚木	Tree	Common				*		*		*			*	*
Rhus succedanea	野漆樹	Tree	Common	*			*		**					*	
Rosa laevigata	金櫻子	Climbing shrub	Common											*	
Rourea microphylla	小葉紅葉藤, 紅葉藤	Woody climber	Common		*				*						
Rubus leucanthus	白花懸鉤子	Climbing shrub	Common						*						
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*					*		*				
Sacciolepis indica	囊穎草	Herb	Very common]	**	*				*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Sageretia thea	雀梅藤	Shrub	Common	**					*						
Sagittaria sagittifolia	慈菇	Aquatic herb	Restricted						*						
Sapium discolor	山烏桕	Tree	Very common	*					*						*
Sapium sebiferum	烏桕	Tree	Common	*			*		***		*			*	
Sarcandra glabra	草珊瑚	Subshrub	Common						**						
Saurauia tristyla	水東哥	Tree	Common		*					**					
Schefflera arboricola	鵝掌藤	Shrub	Exotic, Common			*			*	*	*				
Schefflera heptaphylla	鴨腳木	Tree	Very common	***	**				**						
Selaginella uncinata	翠雲草	Herb	Common		*										
Senna bicapsularis	雙莢決明,雙 莢槐	Shrub	Exotic, Ocassionally cultivated in HK (AFCD 2008)			*			*						
Smilax china	金剛藤	Climbing shrub	Very common				*								
Solanum torvum	水茄	Shrub	Exotic, Common				*								
Spermacoce latifolia	闊葉豐花草	Herb	Exotic, Restricted						*						
Spermacoce stricta	豐花草	Herb	Restricted						*						
Spilanthes paniculata	金鈕扣	Herb	Common				*								
Stachytarpheta jamaicensis	假馬鞭	Herb	Exotic, Common			*	*		*						
Sterculia lanceolata	假蘋婆	Tree	Very common	*					*						
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common	**											
Symplocos crassifolia	厚葉山礬,厚 葉灰木	Tree	Common						*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Syzygium hancei	韓氏蒲桃,紅 鱗蒲桃	Tree	Common	**					*	*	*			*	
Syzygium jambos	蒲桃	Tree	Exotic, Common	*			*								
Syzygium levinei	山蒲桃	Tree	Common	*											
Tadehagi triquetrum	葫蘆茶	Shrub	Very common				*		*						
Tetracera asiatica	錫葉藤	Woody climber	Very common	**		*			**						
Tetradium glabrifolium	棟葉吳茱萸	Tree	Common	*											
Tinospora sagittata	青牛膽	Climber	Common							*					
Toddalia asiatica	飛龍掌血	Climbing shrub	Restricted						*						
Turpinia montana	山香圓	Tree	Common						*						
Tylophora ovata	娃兒藤	Slender woody climber	Common	*	*				*						
Urena lobata	肖梵天花	Subshrub	Common			**	**		*		*			**	
Urena procumbens	梵天花	Subshrub	Common				*		*						
Utricularia bifida	挖耳草	Small herb	Common		*										
Uvaria macrophylla	紫玉盤	Woody climber	Common	**											
Viburnum odoratissimum	珊瑚樹	Tree	Very common	***			*		***		**				
Vitex negundo	黄荊	Shrub	Common				*								
Vitex quinata	山牡荊	Tree	Common						*						
Wedelia chinensis	蟛蜞菊	Perennial Herb	Common								*				
Wedelia trilobata	三裂葉蟛蜞菊	Herb	Exotic, Common					*				*			



Scientific Name		Growth Form	Status and Distribution in HK [^]	Fung Shui Woodland [#]	Channelized Watercourse	Developed / Village Area	Grassland	Marsh	Secondary Woodland	Natural Watercourse	Plantation	Pond	Seasonally Wet Grassland	Shrubby Grassland	Waste Ground
Youngia japonica	黃鶴菜	Herb	Very common				*								
Zanthoxylum avicennae	簕欓花椒	Tree	Common	*	*				**		*				
Zanthoxylum nitidum	Climbing shrub	Very common						*		*			**		
Total			205	60	31	17	80	21	103	20	44	20	11	36	15

[^] Status follows Xing et al. (2000)

[#] Code for Abundance: **** = Abundant, *** = Frequent, ** = Occasional, * = Scarce

Table A1-5. Flora species recorded within To Kwu Peng enclave

Scientific Name	Chinese	Growth Form	Status and Distribution in HK^	Fung Shui Woodland#	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Acanthus ilicifolius	老鼠簕	Herb	Common		*							
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common	*								
Adina pilulifera	水團花	Tree	Very common				*					
Aegiceras corniculatum	桐花樹	Shrub	Common		*						*	
Alangium chinense	八角楓	Tree	Common	**		**			*			
Alocasia macrorrhizos	海芋	Herb	Very common	*					*		*	*
Anisomeles indica	廣防風	Herb	Common						*			
Antidesma bunius	五月茶,五 味子	Tree	Common	**		*						
Aporusa dioica	銀柴	Tree	Very common	***		***						
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List	*								
Archidendron clypearia	猴耳環	Tree	Common	*		*						
Ardisia crenata	大羅傘	Shrub	Common	*								
Ardisia lindleyana	山血丹	Shrub	Common			*						
Ardisia quinquegona	羅傘	Small tree	Very common	*		**						
Aster baccharoides	白舌紫菀	Herb	Very common	*								
Avicennia marina	白骨壤	Tree	Common		**							
Axonopus compressus	地毯草	Herb	Exotic, Common					*	**			
Bauhinia championii	缺葉藤	Woody climber	Common						**			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland#	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Blechnum orientale	烏毛蕨	Herb	Very common	*		**						
Breynia fruticosa	黑面神	Shrub	Very common			*		*	*			*
Bridelia tomentosa	土蜜樹	Tree	Very common			*						
Brucea javanica	鴉膽子,苦 參子	Shrub or tree	Common			*			*			
Bruguiera gymnorhiza	木欖	Tree	Restricted		*							
Byttneria aspera	刺果藤	Woody climber	Very common	*		*						
Callicarpa kochiana	枇杷葉紫珠	Shrub	Common	*								
Carallia brachiata	竹節樹	Tree	Common			*						
Cerbera manghas	海芒果	Tree	Common		**	*	*				*	
Cibotium barometz	金毛狗	Herb	Very common, Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003)			*						
Cinnamomum parthenoxylon	黃樟	Tree	Common	***		*						
Clematis crassifolia	厚葉鐵線蓮	Climber	Restricted				*					
Conyza bonariensis	香絲草	Herb	Exotic, Very common							*		
Conyza canadensis	小蓬草	Herb	Exotic, Very common							*		
Cratoxylum cochinchinense	黄牛木	Tree	Very common	**						*		*
Crinum asiaticum var. sinicum	文殊蘭	Herb	Restricted						*		*	
Cyclosorus interruptus	間斷毛蕨	Herb	Common							*		
Cyclosorus parasiticus	華南毛蕨	Herb	Very common	*		***						**
Dalbergia benthamii	兩廣黃檀	Woody climber	Common	*						**		



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland#	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Daphniphyllum calycinum	牛耳楓	Tree	Common			**						
Desmodium heterocarpon	假地豆	Subshrub	Very common						*			
Desmos chinensis	假鷹爪	Woody climber	Common	*		*			*			
Dicranopteris pedata	芒萁	Herb	Very common	**		*		**	*			
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted	**		*						
Dioscorea bulbifera	黄獨	Climber	Common	*								
Elaeocarpus decipiens	杜英	Tree	Common			*						
Elephantopus scaber	地膽草	Herb	Common							*		
Emilia sonchifolia	一點紅	Herb	Very common							*		
Excoecaria agallocha	海漆	Tree	Common		**						*	
Ficus hirta	粗葉榕	Shrub	Common	*								
Ficus hispida	對葉榕	Tree	Very common	*		*						
Ficus pumila	薜荔	Climber	Very common									*
Ficus subpisocarpa	筆管榕	Tree	Common		*							
Ficus variegata var. chlorocarpa	青果榕	Tree	Common	*								
Ficus variolosa	變葉榕	Shrub or tree	Very common	*								
Glochidion eriocarpum	毛果算盤子	Tree	Very common	*		*			*			
Glochidion zeylanicum	香港算盤子	Shrub	Common			*			**	*		*
Gnetum luofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List	*								
Gymnanthera oblonga	海島藤	Slender woody climber	Regarded as Very Rare in Xing <i>et al.</i> (2000), common in serveral districs in HK including Sai Kung, Tsing Yi, Yeun Long and Lantau Island (AFCD 2009)		*							



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland#	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Heritiera littoralis	銀葉樹	Tree	Restricted		*						**	
Hibiscus tiliaceus	黄槿	Tree	Common		***	*	**				***	
Ilex asprella	梅葉冬青	Shrub	Very common	*		*						
Ipomoea cairica	五爪金龍	Herbaceous climber	Exotic, Very common									**
Ischaemum barbatum	粗毛鴨嘴草	Herb	Very common				**					
Kalanchoe pinnata	落地生根	Herb	Exotic, Common									*
Kandelia obovata	水筆仔	Tree	Very common		****							
Kyllinga nemoralis	單穗水蜈蚣	Herb	Very common									*
Lantana camara	馬纓丹	Shrub	Exotic, Very common						**	*		*
Lasianthus attenuatus	斜基粗葉 木,小葉雞 屎樹	Shrub	Restricted	**								
Lindernia crustacea	母草	Herb	Restricted							*		
Lindsaea orbiculata	團葉鱗始蕨	Herb	Very common	*								
Litchi chinensis	荔枝	Tree	Exotic, Restricted	*								
Lophatherum gracile	淡竹葉	Herb	Very common	*								
Lygodium japonicum	海金沙	Climber	Very common	*		*	*		*	**		
Lygodium scandens	小葉海金沙	Climber	Common	*		*				**		
Macaranga tanarius var. tomentosa	血桐	Tree	Common			*						
Machilus chekiangensis	浙江潤楠	Tree	Very common	**		***						
Maesa perlarius	鯽魚膽	Shrub	Common	*		**			*			*
Mallotus paniculatus	白楸	Tree	Very common	***		**			*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland*	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Melastoma malabathricum	野牡丹	Shrub	Common			*		**	***	*		
Melastoma sanguineum	毛菍	Shrub	Common			*			*	*		
Melicope pteleifolia	三椏苦	Tree	Common			*						
Microcos nervosa	破布葉,布 渣葉	Tree	Common	*								
Microstegium ciliatum	剛莠竹	Herb	Very common			**				**		
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common	*				**	**	**	*	**
Mimosa pudica	含羞草	Herb	Exotic, Very common					**	**			
Neyraudia reynaudiana	類蘆	Herb	Common							*		
Paederia scandens	雞矢藤	Climber	Very common						*			*
Palhinhaea cernua	鋪地蜈蜙, 燈籠草	Creeping herb	Very common						*			
Paliurus ramosissimus	馬甲子	Tree	Common		*						**	
Pandanus austrosinensis	露兜草	Herb	Common	*								
Pandanus tectorius	露兜樹	Small tree	Very common		*	*	**			*	***	
Paspalum conjugatum	兩耳草	Herb	Exotic, Common					*	**			
Paspalum scrobiculatum var. orbiculare	圓果雀稗	Herb	Very common						*			
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A	*		*			*			
Phoenix loureiroi	刺葵	Shrub or small tree	Common				*				**	
Phyllanthus emblica	餘甘子,油甘子	Tree	Very common			*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Phyllodium pulchellum	排錢草	Shrub	Very common						*			
Piper cathayanum	青蒟	Climber	Restricted	*								
Piper hancei	山蒟	Climber	Very common	*								
Pongamia pinnata	水黄皮	Tree	Common		**							
Praxelis clematidea	假臭草	Herb	Exotic, Very common					**	**			
Psidium guajava	番石榴	Tree	Exotic, Common									**
Psychotria asiatica	九節	Shrub	Very common	***		***			*			
Pteris biaurita	狹眼鳳尾蕨	Herb	Common	*								
Pteris semipinnata	半邊旗	Herb	Very common	*								
Pteris vittata	蜈蚣草	Herb	Very common							*		
Pueraria lobata	野葛	Climber	Very common						*	**		
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common	*		*				*		
Rhus chinensis	鹽膚木	Tree	Common	*						*		
Rhus hypoleuca	白背鹽膚木	Tree	Common						*			
Rhus succedanea	野漆樹	Tree	Common			*						
Rourea microphylla	小葉紅葉 藤,紅葉藤	Woody climber	Common	*		*						
Rubus reflexus	蛇泡簕	Climbing shrub	Very common	*								
Sageretia thea	雀梅藤	Shrub	Common			*						
Sapium discolor	山烏桕	Tree	Very common	*					*	*		
Sapium sebiferum	烏桕	Tree	Common	*								
Sarcandra glabra	草珊瑚	Subshrub	Common	**		**						
Schefflera heptaphylla	鴨腳木	Tree	Very common	**		***						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Fung Shui Woodland#	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Scolopia chinensis	刺柊	Tree	Common		**							
Scolopia saeva	廣東刺柊	Tree	Common			*						
Scoparia dulcis	冰塘草	Herb	Common						*			
Solanum torvum	水茄	Shrub	Exotic, Common	*				*	*			**
Sphenomeris chinensis	烏韭	Herb	Common	*								
Stachytarpheta jamaicensis	假馬鞭	Herb	Exotic, Common					*	*			
Sterculia lanceolata	假蘋婆	Tree	Very common	**		***						
Syzygium hancei	韓氏蒲桃, 紅鱗蒲桃	Tree	Common			*						
Syzygium jambos	蒲桃	Tree	Exotic, Common	*		*						
Syzygium levinei	山蒲桃	Tree	Common	*								
Tetracera asiatica	錫葉藤	Woody climber	Very common	*		*						
Trema tomentosa	山黄麻	Tree	Common						*		*	
Triumfetta rhomboidea	刺蒴麻	Subshrub	Common									*
Tylophora ovata	娃兒藤	Slender woody climber	Common			*						
Urena lobata	肖梵天花	Subshrub	Common			*		*	***	*		
Urena procumbens	梵天花	Subshrub	Common						*			
Uvaria macrophylla	紫玉盤	Woody climber	Common	*		*						
Vernonia cinerea	夜香牛	Herb	Very common						*			
Viburnum odoratissimum	珊瑚樹	Tree	Very common			*						
Vitex quinata	山牡荊	Tree	Common	*						_		



Scientific Name	Common	Growth Form	Status and Distribution in HK^	Fung Shui Woodland [#]	Mangrove	Secondary Woodland	Natural Watercourse	Ruderal Area	Shrubby grassland	Waste Ground	Backshore Vegetation	Developed / Village Area
Zanthoxylum ailanthoides	椿葉花椒	Tree	Regarded as Rare in Xing et al. (2000), restricted to several locations in HK such as Chek Keng and Tai Long Sai Wan according to AFCD 2008						*			
Zanthoxylum avicennae	簕欓花椒	Tree	Common	*		*				*		
Zanthoxylum nitidum	兩面針	Climbing shrub	Very common	*		*		**	*			
Total			140	64	15	57	8	12	41	25	12	16

[^] Status follows Xing et al. (2000) # Code for Abundance: ****= Abundant, *** = Frequent, ** = Occasional, * = Scarce

Table A1-6. Flora species recorded within Pak Sha O enclave

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Fak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Abrus mollis	毛相思子	Woody climber	Restricted				*	*				
Achyranthes aspera	土牛膝	Herb	Common									*
Acorus gramineus	石菖蒲	Herb	Very common			**						
Adenostemma lavenia	下田菊	Herb	Restricted	**								
Adiantum flabellulatum	扇葉鐵線蕨	Herb	Very common				*	*				
Adina pilulifera	水團花	Tree	Very common		*	**						
Adinandra millettii	黄瑞木	Tree	Common	*								
Alangium chinense	八角楓	Tree	Common		***		**	**			*	
Alocasia macrorrhizos	海芋	Herb	Very common			*	*	*				
Alpinia hainanensis	草豆蔻	Herb	Very common			**	*	*				
Alpinia stachyodes	密苞山薑	Herb	Common		*	*	*					
Anisomeles indica	廣防風	Herb	Common		*							
Antidesma bunius	五月茶,五味子	Tree	Common				*					
Antirhea chinensis	毛茶	Small tree	Very common		*							
Aporusa dioica	銀柴	Tree	Very common		**		***	***	*			
Aquilaria sinensis	土沉香	Tree	Common, Protected under Cap. 586, listed as Near Threatened (NT) in the China Plant Red Data Book and is under State protection (Category II) in China (Hu <i>et al.</i> 2003), classified as Critically Endangered (CR) on the IUCN Red List		*		*	*				
Archidendron clypearia	猴耳環	Tree	Common		*			*				

Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Ardisia crenata	大羅傘	Shrub	Common		*	*	**	*				
Ardisia lindleyana	山血丹	Shrub	Common		*							
Ardisia quinquegona	羅傘	Small tree	Very common		**		**	**				
Axonopus compressus	地毯草	Herb	Exotic, Common							***		
Bambosa sp.	竹屬	Bambos	Common		*							
Bauhinia glauca	粉葉羊蹄甲, 羊蹄甲藤	Woody climber	Very common				***					
Bischofia javanica	秋楓	Tree	Common				*					
Blechnum orientale	烏毛蕨	Herb	Very common		**	*	*	**				
Bothriochloa ischaemum	白羊草	Herb	Common									*
Bougainvillea spectabilis	簕杜鵑	Climbing shrub	Exotic, Common								*	
Breynia fruticosa	黑面神	Shrub	Very common		*			*		*		
Bridelia tomentosa	土蜜樹	Tree	Very common	*	*		*					
Brucea javanica	鴉膽子,苦參 子	Shrub or tree	Common		**							
Byttneria aspera	刺果藤	Woody climber	Very common		****		***	**				
Caesalpinia crista	假老虎簕	Woody climber	Very common		*			*				
Calamus tetradactylus	白藤	Climber	Common			*	*					
Calliandra haematocephala	紅絨球	Shrub	Exotic, Commonly cultivated								*	
Carex chinensis	中華薹草	Herb	Common			*						



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh*	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Catharanthus roseus	長春花	Herb	Exotic, Common								*	
Cayratia corniculata	角花烏蘞莓	Climber	Very common				*					
Centella asiatica	崩大碗	Herb	Very common	*								
Cibotium barometz	金毛狗	Herb	Very common, Protected under Cap. 586, listed as Vulnerable (VU) in the China Red Data Book and is under State protection (category II) in China (Hu <i>et al.</i> 2003)		*	*	*					
Cinnamomum camphora	樟	Tree	Common		*		*					
Cinnamomum parthenoxylon	黄樟	Tree	Common		**		***	***				
Cleistocalyx nervosum	水翁	Tree	Common		**	**	*					
Clerodendrum chinense	重瓣臭茉莉	Shrub	Common								*	
Colocasia esculenta	芋	Herb	Cultivated	*								**
Commelina diffusa	節節草	Herb	Common	*								*
Coriandrum sativum	芫荽	Herb	Exotic, Cultivated									**
Cratoxylum cochinchinense	黄牛木	Tree	Very common		***	*	*	*				
Cyclosorus interruptus	間斷毛蕨	Herb	Common	**								*
Cyclosorus parasiticus	華南毛蕨	Herb	Very common		**		**	*				
Cyperus compressus	扁穗莎草	Herb	Very common	*								*
Cyperus pilosus	毛軸莎草	Herb	Common	*								*
Cyrtococcum patens	弓果黍	Herb	Very common	**	**							**
Dalbergia benthamii	兩廣黃檀	Woody climber	Common		**		**	*	*			



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Dalbergia hancei	藤黃檀	Woody climber	Common				*	*				
Daphniphyllum calycinum	牛耳楓	Tree	Common		***		*	*				
Desmodium heterocarpon	假地豆	Subshrub	Very common	*								
Desmos chinensis	假鷹爪	Woody climber	Common		*		**	*	*			
Dicranopteris pedata	芒萁	Herb	Very common		*		*	**	*			
Dimocarpus longan	龍眼,桂圓	Tree	Exotic, Restricted		*		*	*			*	
Dioscorea bulbifera	黃獨	Climber	Common		*							
Diospyros eriantha	烏柿	Tree	Very common		*			*				
Diospyros morrisiana	羅浮柿	Tree	Very common		*			*				
Elaeagnus loureirii	雞柏紫藤,羅氏胡頹子	Woody climber	Common		*		*	*				
Elaeocarpus decipiens	杜英	Tree	Common				*					
Elephantopus scaber	地膽草	Herb	Common							**		
Eleutherococcus trifoliatus	白簕	Woody climber	Restricted				*					
Embelia ribes	白花酸藤子	Woody climber	Common					*				
Embelia vestita	密齒酸藤子	Woody climber	Common				*					
Endospermum chinense	黄桐	Tree	Restricted		**		**					
Epipremnum aureum	綠蘿	Climber	Exotic, Commonly cultivated				*					
Eriocaulon truncatum	菲律賓穀精草	Herb	Common	*								



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Ficus benjamina	垂葉榕	Tree	Exotic, Commonly planted for greening					*				
Ficus hirta	粗葉榕	Shrub	Common		*			*				
Ficus hispida	對葉榕	Tree	Very common		*		*		*			
Ficus microcarpa	細葉榕	Tree	Common				*					
Ficus pumila	薜荔	Climber	Very common								*	
Ficus pyriformis	舶梨榕	Shrub	Common			*						
Fimbristylis sieboldii	銹鱗飄拂草	Herb	Common	*								
Floscopa scandens	聚花草	Herb	Common	***		*				*		**
Fuirena umbellata	芙蘭草	Herb	Common	**								*
Garcinia oblongifolia	黄牙果	Tree	Very common		*			*				
Geissapis cristata	睫苞豆	Herb	Regarded as Rare in Xing et al. (2000), restricted to several locations including Deep Water Bay, Tai Mong Tsai, Sai Keng and Lantau Island according to AFCD 2008	****						**		**
Glochidion eriocarpum	毛果算盤子	Tree	Very common		*		*	*				
Glochidion wrightii	白背算盤子	Tree	Very common					*				
Glochidion zeylanicum	香港算盤子	Shrub	Common	**				***		**		*
Gnetum luofuense	羅浮買麻藤	Clmber	Very common, regarded as "Near Threatened" accordign to IUCN Red List		*	*	*		*			
Hedychium coronarium	薑花	Herb	Exotic, Common			*						
Houttuynia cordata	魚腥草	Herb	Regarded as Very Rare in Xing <i>et al.</i> (2000), restricted to several locations including Lam Tsuen and Sha Lo Tung according to AFCD 2007	**	*							



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Hydrocotyle sibthorpioides	天胡荽	Herb	Common	*								*
Hygrophila salicifolia	水蓑衣	Herb	Common	*								
Hypericum japonicum	地耳草	Herb	Very common	*								
Hypserpa nitida	夜花藤	Woody climber	Very common					*				
Ilex asprella	梅葉冬青	Shrub	Very common		*		*	*		*		
Impatiens chinensis	華鳳仙	Herb	Common	**								**
Ipomoea cairica	五爪金龍	Herbaceous climber	Exotic, Very common		*	*					*	
Ischaemum barbatum	粗毛鴨嘴草	Herb	Very common	***								
Kyllinga brevifolia	短葉水蜈蚣	Herb	Common	*						*		*
Kyllinga nemoralis	單穗水蜈蚣	Herb	Very common								*	
Leersia hexandra	李氏禾	Herb	Common	**								*
Lemmaphyllum microphyllum	伏石蕨	Herb	Common				*					
Lepidagathis incurva	鱗花草	Herb	Common		*							
Ligustrum sinense	山指甲	Shrub or small tree	Common		*							
Lindernia oblonga	棱萼母草	Herb	Restricted	**						*		*
Lindernia rotundifolia	迷你虎耳草	Herb	Restricted	*								*
Lindsaea orbiculata	團葉鱗始蕨	Herb	Very common		*		*					
Liparis ferruginea	銹色羊耳蒜	Herb	Regarded as Scarce and Restricted, and is a locally endangered species (EN) in HK (Barretto <i>et al.</i> 2011)	*								



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Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Litsea rotundifolia var. oblongifolia	豺皮樟	Tree	Very common		*		*	*				
Lonicera macrantha	大花忍冬	Climber	Common		*							
Lophatherum gracile	淡竹葉	Herb	Very common		*			*				
Lophostemon confertus	紅膠木	Tree	Exotic, Commonly planted		*							
Ludisia discolor	石蠶	Herb	Regarded as infrequent but widespread, and is a locally endangered species (EN) in HK (Barretto <i>et al.</i> 2011)		*							
Ludwigia adscendens	水龍	Herb	Common	*								*
Ludwigia hyssopifolia	草龍	Herb	Common	*								
Ludwigia octovalvis	毛草龍	Herb	Common	*						*		*
Ludwigia x taiwanensis	台灣水龍	Herb	Exotic, Common	*								*
Lygodium japonicum	海金沙	Climber	Very common		**		*		*			
Lygodium scandens	小葉海金沙	Climber	Common	*	*		*	*	*			
Macaranga tanarius var. tomentosa	血桐	Tree	Common		*							
Machilus breviflora	短序潤楠	Tree	Very common				*					
Machilus chekiangensis	浙江潤楠	Tree	Very common		**		*	***				
Maesa perlarius	鯽魚膽	Shrub	Common		**		**	**	*		*	
Mallotus paniculatus	白楸	Tree	Very common		***		**		*	*		
Mangifera indica	杧果	Tree	Exotic, Commonly planted for fruit								*	
Melastoma malabathricum	野牡丹	Shrub	Common	**	*					*		*
Melastoma sanguineum	毛菍	Shrub	Common		*			*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Melicope pteleifolia	三椏苦	Tree	Common		*			*				
Meliosma rigida	筆羅子	Tree	Common		*							
Mikania micrantha	薇甘菊	Herbaceous climber	Exotic, Very common									*
Millettia dielsiana	山雞血藤	Woody climber	Very common		*							
Murdannia nudiflora	裸花水竹葉	Herb	Common	**								*
Mussaenda pubescens	玉葉金花	Climbing shrub	Very common		*							
Neyraudia reynaudiana	類蘆	Herb	Common		*							
Ophiorrhiza pumila	短小蛇根草	Herb	Common		*							
Palhinhaea cernua	鋪地蜈蜙, 燈籠 草	Creeping herb	Very common	**								
Pandanus austrosinensis	露兜草	Herb	Common			**	*	*				
Panicum brevifolium	短葉黍	Herb	Very common	**		*						
Panicum dichotomiflorum	水生黍	Herb	Common	**								
Panicum repens	舖地黍/枯骨草	Herb	Very common	**								
Paspalum conjugatum	兩耳草	Herb	Exotic, Common	*								
Paspalum scrobiculatum var. orbiculare	圓果雀稗	Herb	Very common									*
Pavetta hongkongensis	香港大沙葉	Shrub or small tree	Common, Protected under Cap. 96A		*	*	*	*	**			
Philydrum lanuginosum	田蔥	Herb	Common	**								
Phoenix loureiroi	刺葵	Shrub or small tree	Common		*	*	*					



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK [^]	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Piper cathayanum	青蒟	Climber	Restricted		**		*		*			
Pogostemon auricularius	水珍珠菜	Herb	Common	**						*		**
Polygonum barbatum	毛蓼	Herb	Common	**								*
Polygonum glabrum	光蓼	Herb	Restricted									*
Polygonum pubescens	短毛蓼	Herb	Common	**						**		**
Pothos chinensis	石柑	Epiphytic climber	Very common			*	*					
Pronephrium simplex	單葉新月蕨	Herb	Very common		*							
Psidium guajava	番石榴	Tree	Exotic, Common							*		
Psychotria asiatica	九節	Shrub	Very common		***	*	***	**	*		*	
Psychotria serpens	蔓九節	Semi-woody climber	Very common					*				
Pteris semipinnata	半邊旗	Herb	Very common		**	**	**	*	*			
Quisqualis indica	使君子	Woody climber	Restricted								*	
Rhaphiolepis indica	車輪梅	Shrub or small tree	Very common			*					*	
Rhodomyrtus tomentosa	桃金娘	Shrub	Very common		*							
Rhus hypoleuca	白背鹽膚木	Tree	Common		*							
Rhus succedanea	野漆樹	Tree	Common		**		*					
Rourea microphylla	小葉紅葉藤, 紅葉藤	Woody climber	Common		*			*				
Rubus leucanthus	白花懸鉤子	Climbing shrub	Common		*							



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Rubus reflexus	蛇泡簕	Climbing shrub	Very common		*		*					
Sacciolepis indica	囊穎草	Herb	Very common	*								*
Sageretia thea	雀梅藤	Shrub	Common		*		*					
Salvia plebeia	荔枝草,雪見草	Herb	Restricted	*						**		
Sapium discolor	山烏桕	Tree	Very common				*					
Sapium sebiferum	烏桕	Tree	Common		*		*			**		
Sarcandra glabra	草珊瑚	Subshrub	Common		*		*	*				
Saurauia tristyla	水東哥	Tree	Common		*	**	*					
Schefflera heptaphylla	鴨腳木	Tree	Very common		**		***	***				
Scolopia saeva	廣東刺柊	Tree	Common		*		*	*				
Senna alata	翅莢決明	Shrub	Exotic, Common								*	
Smilax china	金剛藤	Climbing shrub	Very common					*				
Smilax glabra	土茯苓,光葉菝 葜	Climbing shrub	Very common				*	*				
Smilax lanceifolia var. opaca	暗色菝葜	Climbing shrub	Common		*			*				
Sphaerocaryum malaccense	桴蓋	Herb	Common	***								**
Sphenomeris chinensis	烏韭	Herb	Common		*		*	*				
Spilanthes paniculata	金鈕扣	Herb	Common	*						*		*
Stephania longa	千金藤	Climber	Common		*							
Sterculia lanceolata	假蘋婆	Tree	Very common		**		***	*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh#	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	Ruderal Area	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Strophanthus divaricatus	羊角拗	Woody climber	Common		*							
Symplocos cochinchinensis var. laurina	黄牛奶樹	Tree	Common	*	*			***				
Symplocos glauca	羊舌樹	Tree	Common		*							
Symplocos lancifolia	光葉山礬	Tree	Common					*				
Symplocos sumuntia	山礬	Tree	Restricted		*							
Syzygium hancei	韓氏蒲桃	Tree	Common		*			*				
Syzygium jambos	蒲桃	Tree	Exotic, Common		*		*	*				
Syzygium levinei	山蒲桃	Tree	Common		*		*	*				
Tectaria subtriphylla	叉蕨	Herb	Common				*					
Tetracera asiatica	錫葉藤	Woody climber	Very common		**		*					
Triumfetta rhomboidea	刺蒴麻	Subshrub	Common							**		
Tylophora ovata	娃兒藤	Slender woody climber	Common		*							
Urena lobata	肖梵天花	Subshrub	Common	*						**		*
Urena procumbens	梵天花	Subshrub	Common	*						**		*
Utricularia bifida	挖耳草	Small herb	Common	*								*
Uvaria macrophylla	紫玉盤	Woody climber	Common		*		*	*				
Viburnum odoratissimum	珊瑚樹	Tree	Very common		***		**	**		**		
Wikstroemia nutans	細軸蕘花	Shrub	Common		*		*	*				



Scientific Name	Chinese Common Name	Growth Form	Status and Distribution in HK^	Marsh*	Secondary Woodland	Natural Watercourse	Pak Sha O Fung Shui Woodland	Pak Sha O Ha Yeung Fung Shui Woodland	rea	Seasonally Wet Grassland	Developed / Village Area	Dry Agricultural Land
Xyris pauciflora	蔥草	Herb	Restricted	*								
Zanthoxylum avicennae	簕欓花椒	Tree	Common		*			*				
Zanthoxylum nitidum		Climbing shrub	Very common		**		*	*	*			
Total			200	53	100	26	77	66	15	22	15	36

[^] Status follows Xing et al. (2000)

[#] Code for Abundance: **** = Abundant, *** = Frequent, ** = Occasional, * = Scarce

Ecological and Conservation	Triportarice of Six Sur Ru	ing country rank Enclaves		
Appendix 2. Avian Sp	ecies Recorded or Pi	redicted to Occur in	the Enclave Habitats	

Table A2-1. Avian species recorded (1) or predicted to occur (P) in the habitats.

Habitats: FSW - Fung Shui & Secondary Woodland; SHG - Shrubland / Grassland; GRA - Grassland; DAL - Dry Agricultural Land; SWG - Seasonally Wet Grassland; MAR - Marsh; PON - Pond; NWA - Natural Watercourse; MAN - Mangrove; BVG - Backshore Vegetation; RUD - Ruderal; DVA - Developed / Village Area; WGR - Waste Ground.

	Trattarar Watercoarse, Wir in															
English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Chinese Francolin	Francolinus pintadeanus			1	1											
Japanese Quail	Coturnix japonica				P											
Malayan Night Heron	Gorsachius melanolophus		P													
Black-crowned Night Heron	Nycticorax nycticorax	(LC)						1	1	1		1	1			
Striated Heron	Butorides striata	(LC)								P		P				
Chinese Pond Heron	Ardeola bacchus	PRC/(RC)						1	1	1		1	1			
Eastern Cattle Egret	Bubulcus coromandus							1	1							
Grey Heron	Ardea cinerea	PRC									1	1	1			
Great Egret	Ardea alba	PRC/(RC)									1	1	1			
Intermediate Egret	Egretta intermedia		1					1								
Little Egret	Egretta garzetta	PRC/(RC)		1							1	1	1			
Pacific Reef Heron	Egretta sacra										1		1			
Black Baza	Aviceda leuphotes		1													
Crested Honey Buzzard	Pernis ptilorhynchus	LC	1													
Black Kite	Milvus migrans	(RC)		1	1	1	1	1	1				1	1	1	1
White-bellied Sea Eagle	Haliaeetus leucogaster	(RC)	1								1	1	1			
Crested Serpent Eagle	Spilornis cheela	(LC)	1	1												
Crested Goshawk	Accipiter trivirgatus		1	1												
Chinese Sparrowhawk	Accipiter soloensis		P	P												
Japanese Sparrowhawk	Accipiter gularis		1	1												
Besra	Accipiter virgatus		1	1												
Eastern Buzzard	Buteo japonicus			P	P	P	P	P	P							
Bonelli's Eagle	Aquila fasciata	(RC)	1													
Common Kestrel	Falco tinnunculus			1	1	1										
Amur Falcon	Falco amurensis		1													
Eurasian Hobby	Falco subbuteo		1													



English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Peregrine Falcon	Falco peregrinus	(LC)		1	1	1	1	1	1							
White-breasted Waterhen	Amaurornis phoenicurus			1				1	1	1		1	1			
Eurasian Woodcock	Scolopax rusticola		1	1			1	1								
Common Sandpiper	Actitis hypoleucos										P	P	P			
Oriental Turtle Dove	Streptopelia orientalis		1	1												
Spotted Dove	Spilopelia chinensis		1	1		1			1				1	1	1	1
Common Emerald Dove	Chalcophaps indica		1	1												
Greater Coucal	Centropus sinensis			P	P											
Lesser Coucal	Centropus bengalensis			P	P											
Chestnut-winged Cuckoo	Clamator coromandus		1	1												
Asian Koel	Eudynamys scolopaceus		1	1											1	
Large Hawk Cuckoo	Hierococcyx sparverioides		1													
Hodgson's Hawk Cuckoo	Hierococcyx nisicolor		1	1												
Indian Cuckoo	Cuculus micropterus			1											1	
Oriental Cuckoo	Cuculus optatus		1	1												
Collared Scops Owl	Otus lettia		1	1												
Eurasian Eagle Owl	Bubo bubo	RC			P											
Brown Fish Owl	Ketupa zeylonensis	RC	1					1		1	1					
Grey Nightjar	Caprimulgus jotaka	LC	1													
Savanna Nightjar	Caprimulgus affinis			1	1											
Pacific Swift	Apus pacificus	(LC)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Swift	Apus nipalensis		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oriental Dollarbird	Eurystomus orientalis		1	1												
White-throated Kingfisher	Halcyon smyrnensis	(LC)						P	P	P	P	P	P			
Black-capped Kingfisher	Halcyon pileata	(LC)						1			1	1	1			
Common Kingfisher	Alcedo atthis									1	1	1	1			
Eurasian Hoopoe	Upupa epops			P	P											
Black-winged Cuckooshrike	Coracina melaschistos		1													
Ashy Minivet	Pericrocotus divaricatus		1													



		G														
English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Grey-chinned Minivet	Pericrocotus solaris	LC	P													
Scarlet Minivet	Pericrocotus speciosus		1													
Tiger Shrike	Lanius tigrinus		P													
Bull-headed Shrike	Lanius bucephalus			1	1											
Brown Shrike	Lanius cristatus			1	1	1										
Long-tailed Shrike	Lanius schach			1	1	1									1	
White-bellied Erpornis	Erpornis zantholeuca	LC	1													
Black-naped Oriole	Oriolus chinensis	LC	P													
Black Drongo	Dicrurus macrocercus			1												
Ashy Drongo	Dicrurus leucophaeus	LC	P													
Hair-crested Drongo	Dicrurus hottentottus		1	1												
Black-naped Monarch	Hypothymis azurea		1	1												
Asian Paradise-Flycatcher	Terpsiphone paradisi	LC	1													
Japanese Paradise- Flycatcher	Terpsiphone atrocaudata	NT,LC	1													
Red-billed Blue Magpie	Urocissa erythroryncha			1												
Grey Treepie	Dendrocitta formosae	LC	1	1												
Collared Crow	Corvus torquatus	NT,LC									P	P	P			
Large-billed Crow	Corvus macrorhynchos		1	1												
Grey-headed Canary-flycatcher	Culicicapa ceylonensis		1													
Cinereous Tit	Parus cinereous		1	1												
Red-whiskered Bulbul	Pycnonotus jocosus		1	1	1	1	1	1	1	1		1	1	1	1	1
Chinese Bulbul	Pycnonotus sinensis		1	1	1	1	1	1	1	1		1	1	1	1	1
Sooty-headed Bulbul	Pycnonotus aurigaster			1	1	1										
Chestnut Bulbul	Hemixos castanonotus		1	1												
Barn Swallow	Hirundo rustica		1	1	1	1	1	1	1	1		1	1	1	1	1
Pygmy Wren-babbler	Pnoepyga pusilla		1													
Mountain Tailorbird	Phyllergates cuculatus		1													
Japanese Bush Warbler	Horornis diphone			1												



English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Manchurian Bush Warbler	Horornis borealis			1												
Brown-flanked Bush Warbler	Horornis fortipes		1													
Asian Stubtail	Urosphena squameiceps		1	1												
Dusky Warbler	Phylloscopus fuscatus			1		1	1									
Radde's Warbler	Phylloscopus schwarzi			1												
Chinese Leaf Warbler	Phylloscopus yunnanensis		1													
Pallas's Leaf Warbler	Phylloscopus proregulus		1	1											1	
Yellow-browed Warbler	Phylloscopus inornatus		1	1									1		1	
Hume's Leaf Warbler	Phylloscopus humei		1													
Arctic Warbler	Phylloscopus borealis		1	1												
Japanese Leaf Warbler	Phylloscopus xanthodryas		1	1												
Two-barred Warbler	Phylloscopus plumbeitarsus		1													
Pale-legged Leaf Warbler	Phylloscopus tenellipes		1	1												
Sakhalin Leaf Warbler	Phylloscopus borealoides		1	1												
Eastern Crowned Warbler	Phylloscopus coronatus		1	1												
Goodson's Leaf Warbler	Phylloscopus goodsoni		1	1												
Sulphur-breasted Warbler	Phylloscopus ricketti		P													
White-spectacled Warbler	Seicercus affinis		P													
Manchurian Reed Warbler	Acrocephalus tangorum	VU	1					1					1			
Russet Bush Warbler	Locustella mandelli			1	1											
Yellow-bellied Prinia	Prinia flaviventris			1	1	1	1	1					1	1	1	1
Plain Prinia	Prinia inornata				P											
Common Tailorbird	Orthotomus sutorius		1	1	1	1			1				1	1	1	1
Streak-breasted Scimitar Babbler	Pomatorhinus ruficollis		1													
Rufous-capped Babbler	Stachyridopsis ruficeps	LC	1													
Chinese Hwamei	Garrulax canorus			1												
Masked Laughingthrush	Garrulax perspicillatus		1	1											1	



		~ .														
English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Greater Necklaced Laughingthrush	Garrulax pectoralis		1	1												
Black-throated Laughingthrush	Garrulax chinensis		1	1												
Blue-winged Minla	Minla cyanouroptera		1												1	
Chestnut-collared Yuhina	Yuhina castaniceps	LC	1												1	
Chestnut-flanked White- eye	Zosterops erythropleurus		1													
Japanese White-eye	Zosterops japonicus		1	1											1	
Crested Myna	Acridotheres cristatellus			1	1	1						1	1	1	1	1
Red-billed Starling	Spodiopsar sericeus	LC		1	1	1										
Black-collared Starling	Gracupica nigricollis			1										1	1	1
Blue Whistling Thrush	Myophonus caeruleus		1													
Orange-headed Thrush	Geokichla citrina	LC	1													
Siberian Thrush	Geokichla sibirica		1													
White's Thrush	Zoothera aurea		1	1												
Grey-backed Thrush	Turdus hortulorum		1	1									1		1	
Japanese Thrush	Turdus cardis		1	1											1	
Common Blackbird	Turdus merula		1	1												
Eyebrowed Thrush	Turdus obscurus		1	1												
Pale Thrush	Turdus pallidus		1	1												
Brown-headed Thrush	Turdus chrysolaus		1													
Dusky Thrush	Turdus eunomus	LC		1		1										
Lesser Shortwing	Brachypteryx leucophris	LC	1	1												
Siberian Rubythroat	Luscinia calliope			1												
Siberian Blue Robin	Luscinia cyane		1													
Rufous-tailed Robin	Luscinia sibilans		1	1												
Red-flanked Bluetail	Tarsiger cyanurus		1	1												
Oriental Magpie Robin	Copsychus saularis		1	1									1	1	1	1
Daurian Redstart	Phoenicurus auroreus			1		1									1	



		Commention														
English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Stejneger's Stonechat	Saxicola stejnegeri			1	1	1	1	1	1					1	1	1
Grey Bush Chat	Saxicola ferreus			1	1											
Blue Rock Thrush	Monticola solitarius			1									1			
Grey-streaked Flycatcher	Muscicapa griseisticta		1													
Dark-sided Flycatcher	Muscicapa sibirica		1													
Asian Brown Flycatcher	Muscicapa dauurica		1	1												
Ferruginous Flycatcher	Muscicapa ferruginea		P													
Yellow-rumped Flycatcher	Ficedula zanthopygia		P													
Narcissus Flycatcher	Ficedula narcissina		1	1												
Mugimaki Flycatcher	Ficedula mugimaki		1													
Red-throated Flycatcher	Ficedula albicilla			1												
Blue-and-white Flycatcher	Cyanoptila cyanomelana		1													
Verditer Flycatcher	Eumyias thalassinus		1	1												
Hainan Blue Flycatcher	Cyornis hainanus		1	1												
Small Niltava	Niltava macgrigoriae		1													
Orange-bellied Leafbird	Chloropsis hardwickii	LC	1													
Fire-breasted Flowerpecker	Dicaeum ignipectus		1	1												
Scarlet-backed																
Flowerpecker	Dicaeum cruentatum		1	1											1	
Mrs. Gould's Sunbird	Aethopyga gouldiae		P													
Fork-tailed Sunbird	Aethopyga christinae		1	1												
Eurasian Tree Sparrow	Passer montanus			1	1	1								1	1	1
White-rumped Munia	Lonchura striata			1											1	
Scaly-breasted Munia	Lonchura punctulata			1	1										1	
Forest Wagtail	Dendronanthus indicus		P													
Grey Wagtail	Motacilla cinerea						1	1	1	1						
White Wagtail	Motacilla alba					1	1	1	1	1						
Richard's Pipit	Anthus richardi			1	1	1								1		1
Olive-backed Pipit	Anthus hodgsoni		1	1		1								1	1	
Chinese Grosbeak	Eophona migratoria		1	1												



English Name	Scientific Name	Conservation Status	FSW	SHG	GRA	DAL	SWG	MAR	PON	NWA	Sea	MAN	BVG	RUD	DVA	WGR
Tristram's Bunting	Emberiza tristrami		1	1												
Chestnut-eared Bunting	Emberiza fucata			P	P											
Little Bunting	Emberiza pusilla				P	P										
Yellow-browed Bunting	Emberiza chrysophrys			P	P											
Yellow-breasted Bunting	Emberiza aureola	VU,RC			1	1		1								
Chestnut Bunting	Emberiza rutila		P	P												
Black-faced Bunting	Emberiza spodocephala			1	1	1		1	1				1			

Key:

VU – Vulnerable; NT – Near-threatened. These conservation status assessments are provided by IUCN.

LC – Local Concern; [P]RC – [Potential] Regional Concern. Letters in parentheses () indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites, rather than in general occurrence. These conservation status assessments are based on Fellowes *et al.* (2002).

About KFBG

Kadoorie Farm and Botanic Garden (KFBG) is situated in the rural New Territories, on the northern slopes of Tai Mo Shan, Hong Kong's highest mountain. Two steep spurs enclose its deep-set valley. Within KFBG are streams, woodlands, orchards, vegetable gardens, walking trails, live animal exhibits, floral exhibits, sustainable agriculture demonstration plots, art exhibits, a wild animal rescue centre, a native tree nursery, and, other conservation and education facilities.

In the post-war years, Hong Kong was flooded with destitute refugees. Many had traditional knowledge of crop production and livestock farming but no stock, others had land but no experience. They required support to rebuild their lives. The farm site at Pak Ngau Shek was established in 1956 as a base for livestock breeding and distribution, agricultural research, farmers training, public education and recreation. The barren slopes were terraced and planted with orchards and vegetable gardens. The development of the botanic garden began in 1963 and the plant conservation programme from 1972.

On 20th January, 1995, the Legislative Council of Hong Kong passed an Ordinance (Chapter 1156) incorporating KFBG as a non-profit corporation designated as a conservation and education centre. It is a unique public-private partnership, for while the KFBG Corporation is a public organisation, it is privately funded by the Kadoorie Foundation.

Since 1995, KFBG has been conducting a wide range of nature education, nature conservation and sustainable living programmes both on-site, and, throughout Hong Kong and South China.

In this time of severe global crisis KFBG raises awareness, undertakes rigorous science-based species conservation and ecosystem restoration, and offers new ways of thinking and living to respond to the world's problems. Hence, our work brings hope and improvement by focusing on nature conservation, sustainable living and holistic education that re-connects people with nature. By working together with the public, Governments, academia, NGOs and businesses, we can protect our common future.

Our mission is to harmonise our relationship with the environment. Our vision is a world in which people live sustainably with respect for each other and nature.

