

Appendix 12.4 Evaluation of Ecological Importance

Evaluation of Ecological Importance

Habitats identified within the study area were evaluated in accordance with the guidelines stated in Table (2) in Annex 8 of the EIAO-TM. The overall ecological importance for each habitat type was ranked. Ranking starting with the highest ecological importance ranges from:

- High
- Moderate-high
- Moderate
- Moderate-low
- Low
- Very Low

1.1 Habitat Evaluation

- 1.1.1 Ecological evaluation of each habitat type in each location within the study area is presented in **Table 1 to Table 30**.

Table 1: Ecological Evaluation of Secondary Woodland in Location A

Criteria	Secondary Woodland in Location A
Naturalness	Natural habitat dominated by native floral species, but may suffer some level of human disturbance at the fringe of this habitat
Size	Commonly distributed in Tung Chung, San Tau, San Shek Wan and Sham Wat; large in total size (approx. 248.2 ha)
Diversity	Rich in terms of floral (273 species) and faunal (77 species) diversity

Criteria	Secondary Woodland in Location A
Rarity	<p>This habitat type is common in Hong Kong;</p> <p>Ten floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i>, Incense Tree <i>Aquilaria sinensis</i>, <i>Cansjera rheedii</i>, Biond's Hackberry <i>Celtis biondii</i>, Lamb of Tartary <i>Cibotium barometz</i>, Small Persimmon <i>Diospyros vaccinioides</i>, Little-leaved Rourea <i>Gmelina chinensis</i>, Night Blooming Cereus <i>Hylocereus undatus</i>, Hong Kong Pavetta <i>Pavetta hongkongensis</i> and Spiny-fruited Uvaria <i>Uvaria calamistrata</i></p> <p>Twenty-six faunal species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Sparrowhawk <i>Accipiter soloensis</i>, Crested Goshawk <i>Accipiter trivirgatus</i>, Besra <i>Accipiter virgatus</i>, Greater Coucal <i>Centropus sinensis</i>, Common Emerald Dove <i>Chalcophaps indica</i>, Collared Crow <i>Corvus torquatus</i>, Little Egret <i>Egretta garzetta</i>, Chinese Hwamei <i>Garrulax canorus</i>, White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>, Black Kite <i>Milvus migrans</i>, Collared Scops Owl <i>Otus lettia</i>, Crested Serpent Eagle <i>Spilornis cheela</i>, Red-billed Starling <i>Spodiopsar sericeus</i>, Romer's Tree Frog <i>Liuixalus romeri</i>, Hong Kong Newt <i>Paramesotriton hongkongensis</i>, Short-legged Toad <i>Xenophrys brachykolos</i>, Tokay Gecko <i>Gekko reevesii</i>, Chinese Cobra <i>Naja atra</i>, Burmese Bush Blue <i>Arhopala birmana birmana</i>, Dark Swift <i>Caltoris cahira</i>, Constable <i>Dichorragia nesimachus formosanus</i>, Spotless Grass Yellow <i>Eurema laeta betheseba</i>, Yellow Pansy <i>Junonia hierta hierta</i>, Malayan Megisba <i>malaya sikkima</i>, Conjoined Swift <i>Pelopidas conjunctus conjunctus</i> and Peacock Royal <i>Tajuria cippus malcolmi</i></p>
Re-creatability	Low re-creatability. It takes approximately 30 to 40 years to re-create this habitat provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	Slight fragmentation; Fragmentation of patches within Location A is minimal
Ecological linkage	Strong ecological linkage with adjacent terrestrial habitats in North Lantau such as tall shrubland and streams; secondary woodland is a climax community of habitat succession
Potential value	Moderate to high potential to become a higher ecological value habitat.
Nursery/ breeding ground	No significant nursery or breeding ground
Age	Relatively mature (probably >50 years) with respect to the size of the trees and the structural complexity and community composition
Abundance/ Richness of wildlife	Generally rich in flora and fauna species including 273 floral species and 76 faunal species
Ecological value	Moderate to High

Table 2: Ecological Evaluation of Secondary Woodland in Location B

Criteria	Secondary Woodland in Location B
Naturalness	Natural habitat dominated by native floral species, but may suffer some level of human disturbance at the fringe of this habitat
Size	Commonly distributed in Tai Ho and Pak Mong; medium in total size (approx. 51.0 ha)
Diversity	Rich in terms of floral (269 species and faunal (42 species) diversity

Criteria	Secondary Woodland in Location B
Rarity	<p>This habitat type is common in Hong Kong;</p> <p>Eleven floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i>, Incense Tree <i>Aquilaria sinensis</i>, Silver-back Artocarpus <i>Artocarpus hypargyreus</i>, Cansjera <i>rheedii</i>, Biond's Hackberry <i>Celtis biondii</i>, Lamb of Tartary <i>Cibotium barometz</i>, Small Persimmon <i>Diospyros vaccinioides</i>, Little-leaved Rourea <i>Gmelina chinensis</i>, Night Blooming Cereus <i>Hylocereus undatus</i>, Pitcher Plant <i>Nepenthes mirabilis</i> and Hong Kong Pavetta <i>Pavetta hongkongensis</i></p> <p>Twelve faunal species of conservation interest recorded from the literature review and/or field surveys, namely Crested Goshawk <i>Accipiter trivirgatus</i>, Grey Heron <i>Ardea cinerea</i>, Chinese Pond Heron <i>Ardeola bacchus</i>, Common Emerald Dove <i>Chalcophaps indica</i>, Chinese Hwamei <i>Garrulax canorus</i>, Brown Fish Owl <i>Ketupa zeylonensis</i>, Black Kite <i>Milvus migrans</i>, Collared Scops Owl <i>Otus lettia</i>, Romer's Tree Frog <i>Liuixalus romeri</i>, Lesser Spiny Frog <i>Quasipaa exilispinosa</i>, Short-legged Toad <i>Xenophrys brachykolos</i>, Common Rat Snake <i>Ptyas mucosus</i></p>
Re-creatability	Low re-creatability. It takes approximately 30 to 40 years to re-create this habitat provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	Moderate
Ecological linkage	Strong ecological linkage with adjacent terrestrial habitats in North Lantau such as tall shrubland, shrubby grassland and streams; secondary woodland is a climax community of habitat succession
Potential value	Moderate to high potential to become a higher ecological value habitat.
Nursery/ breeding ground	No significant nursery or breeding ground
Age	Relatively mature (probably >50 years) with respect to the size of the trees and the structural complexity and community composition
Abundance/ Richness of wildlife	Generally rich in floral and faunal species including 269 floral species and 42 faunal species
Ecological value	Moderate to High

Table 3: Ecological Evaluation of Secondary Woodland in Location C

Criteria	Secondary Woodland in Location C
Naturalness	Natural habitat dominated by native floral species, but may suffer some level of human disturbances at the fringe of this habitat
Size	A small patch on the north-facing slope of Scenic Hill; small in total size (approx. 4.3 ha)
Diversity	Medium diversity in terms of floral (134 species) and faunal (26 species) diversity
Rarity	<p>This habitat type is common in Hong Kong;</p> <p>Two floral species of conservation interest recorded from the literature review and/or field surveys, namely Incense Tree <i>Aquilaria sinensis</i> and Cansjera <i>rheedii</i></p> <p>Two faunal species of conservation interest recorded from literature review and/or field surveys, namely Chinese Bullfrog <i>Hoplobatrachus chinensis</i>, Romer's Tree Frog <i>Liuixalus romeri</i></p>
Re-creatability	Low re-creatability. It takes approximately 30 to 40 years to re-create this habitat provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	An isolated small patch of this habitat is found in this location
Ecological linkage	Strong ecological linkage with adjacent terrestrial habitats on Scenic Hill such as tall shrubland; secondary woodland is a climax community of habitat succession
Potential value	Low potential to become a habitat with higher ecological value due to small size and being surrounded by developed area.
Nursery/ breeding ground	No significant nursery or breeding ground except for Romer's Tree Frog in Scenic Hill

Criteria	Secondary Woodland in Location C
Age	Relatively mature (probably >50 years) with respect to the size of the trees and the structural complexity and community composition
Abundance/ Richness of wildlife	Generally rich in floral and faunal species including 134 floral species and 26 faunal species
Ecological value	Moderate

Table 4: Ecological Evaluation of Secondary Woodland in Location D

Criteria	Secondary Woodland in Location D
Naturalness	Semi-natural habitat dominated by both native and exotic floral species
Size	A few small isolated patches in Lung Kwu Chau and Sha Chau; small in total size (approx. 4.2 ha)
Diversity	Relatively low in terms of floral (58 species) and faunal (3 species) diversity
Rarity	This habitat type is common in Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely <i>Cansjera rheedii</i> Four avifaunal species of conservation interest recorded from the literature review and/or field surveys, including Great Egret <i>Ardea alba</i> , Little Egret <i>Egretta garzetta</i> , White-bellied Sea Eagle <i>Haliaeetus leucogaster</i> and Black Kite <i>Milvus migrans</i>
Re-creatability	Low re-creatability. It takes approximately 30 to 40 years to re-create this habitat provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	Small isolated patches of this habitats are found on the islands in this Location
Ecological linkage	Strong ecological linkage with adjacent terrestrial habitats such as tall shrubland; secondary woodland is an climax community of habitat succession
Potential value	Low potential to become a habitat with higher ecological value due to isolation of the islands and unfavourable coastal conditions (e.g. windy and high salt content in air and soil)
Nursery/ breeding ground	An egretty has been established in a small portion of the woodland on Sha Chau and there is a breeding pair of White-bellied Sea Eagle living in the woodland on Lung Kwu Chau
Age	Relatively mature (probably >50 years) with respect to the size of the trees and the structural complexity and community composition
Abundance/ Richness of wildlife	Relatively low in terms of flora and fauna including 58 floral species and 3 faunal species
Ecological value	The overall ecological value is High

Table 5: Ecological Evaluation of Plantation Woodland in Location A

Criteria	Plantation Woodland in Location A
Naturalness	Man-made planted habitat dominated by exotic floral species
Size	Medium in total size (approx. 13.6 ha)
Diversity	Medium in terms of floral (150 species) and faunal (39 species) diversity

Criteria	Plantation Woodland in Location A
Rarity	This habitat type is common in Hong Kong; Two floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> and Incense Tree <i>Aquilaria sinensis</i> ; Sixteen fauna species of conservation interest recorded from the literature review and/or field surveys, namely Greater Coucal <i>Centropus sinensis</i> , Common Albatross <i>Appias albina darada</i> , Burmese Bush Blue <i>Arhopala birmana birmana</i> , Constable <i>Dichorragia nesimachus formosanus</i> , Small Grass Yellow <i>Eurema brigitta rubella</i> , Banded Awl <i>Hasora chromus chromus</i> , Yellow Pansy <i>Junonia hierta hierta</i> , Sullied Sailer <i>Neptis soma tayalina</i> , Common Rose <i>Pachliopta aristolochiae goniopeltis</i> , Swallowtail <i>Papilio xuthus xuthus</i> , Oriental Straight Swift <i>Parnara bada bada</i> , Yellow Band Dart <i>Potanthus pava pava</i> , Lesser Band Dart <i>Potanthus trachala trachala</i> , Peacock Royal <i>Tajuria cippus malcolmi</i> , Golden Birdwing <i>Troides aeacus aeacus</i> , Grass Demon <i>Udaspes folus</i>
Re-creatability	High re-creatability provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	Moderately fragmented
Ecological linkage	Less functionally linked to any habitats of high ecological value; act as a buffer between Secondary Woodland and Developed Area
Potential value	Relatively low value for man-made habitats
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Young to semi-mature (probably 20 to 30 years) with respect to the size of the trees
Abundance/ Richness of wildlife	Medium richness with 150 floral species and 40 faunal species
Ecological value	Low

Table 6: Ecological Evaluation of Plantation Woodland in Location B

Criteria	Plantation Woodland in Location B
Naturalness	Man-made planted habitat dominated by exotic floral species
Size	A patch near village settlement in Pak Mong and a strip along North Lantau Expressway; medium in total size (approx. 6.9 ha).
Diversity	Medium floral diversity (105 species) and low in fauna diversity (2 species)
Rarity	This habitat type is common in Hong Kong; Two floral species of conservation interest recorded from literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> and Incense Tree <i>Aquilaria sinensis</i> No fauna species of conservation interest recorded
Re-creatability	High re-creatability provided that adequate resources are available and in the absence of large-scale disturbance such as hill fire
Fragmentation	Moderately fragmented
Ecological linkage	Less functionally linked to any habitats of high ecological value; act as buffer between secondary woodland and developed area
Potential value	Relatively low value for man-made habitats
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Young to semi-mature (probably 20 to 30 years) with respect to the size of the trees
Abundance/ Richness of wildlife	Medium richness in terms of flora with 105 floral species but low richness in terms of fauna with 2 faunal species
Ecological value	Low

Table 7: Ecological Evaluation of Plantation Woodland in Location C

Criteria	Plantation Woodland in Location C
Naturalness	Man-made planted habitat dominated by ornamental tree and shrub species
Size	Two patches / strips at the periphery of Scenic Hill; small in total size (approx. 2.2 ha).
Diversity	Medium in terms of flora (147 species) in fauna (15 species) diversity
Rarity	This habitat type is common in Hong Kong; No floral species of conservation interest has been recorded; One fauna species of conservation interest reported from the literature review surveys, namely Chinese Bullfrog <i>Hoplobatrachus chinensis</i>
Re-creatability	High re-creatability provided that adequate resources are available and in the absence of large-scale disturbances such as hill fire
Fragmentation	Moderately fragmented
Ecological linkage	Less functionally linked to any habitats of high ecological value; act as a buffer between natural habitats and developed area
Potential value	Relatively low value for man-made habitats
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Young to semi-mature for trees; mature for shrub planting (approx. 20 years)
Abundance/ Richness of wildlife	Medium richness in terms of flora with 147 floral species and fauna with 15 faunal species
Ecological value	Low

Table 8: Ecological Evaluation of Tall Shrubland in Location A

Criteria	Tall Shrubland in Location A
Naturalness	Natural habitat
Size	Dominant habitat in Hau Hok Wan and Sha Lo Wan; large in total size (approx. 82.4 ha)
Diversity	Rich in terms of flora (228 species) and moderate in fauna (43 species) diversity
Rarity	This habitat type is common in Hong Kong; Ten floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> , Incense Tree <i>Aquilaria sinensis</i> , <i>Cansjera rheedii</i> , <i>Carex tristachya</i> , Biond's Hackberry <i>Celtis biondii</i> , Small Persimmon <i>Diospyros vaccinioides</i> , Pale Purple Eulophia <i>Eulophia graminea</i> , Little-leaved Rourea <i>Gmelina chinensis</i> , Night Blooming Cereus <i>Hylocereus undatus</i> and Hong Kong Pavetta <i>Pavetta hongkongensis</i> Eighteen fauna species of conservation interest recorded from the literature review and/or field surveys, namely Japanese Sparrowhawk <i>Accipiter gularis</i> , Bonelli's Eagle <i>Aquila fasciata</i> , Great Egret <i>Ardea alba</i> , Chinese Pond Heron <i>Ardeola bacchus</i> , Grey-faced Buzzard <i>Butastur indicus</i> , Eastern Buzzard <i>Buteo japonicas</i> , Common Emerald Dove <i>Chalcophaps indica</i> , Eurasian Hobby <i>Falco subbuteo</i> , White-bellied Sea Eagle <i>Haliaeetus leucogaster</i> , Black Kite <i>Milvus migrans</i> , Collared Scops Owl <i>Otus lettia</i> , Romer's Tree Frog <i>Liuixalus romeri</i> , Lesser Spiny Frog <i>Quasipaa exilispinosa</i> , Short-legged Toad <i>Xenophrys brachykolos</i> , Small Grass Yellow <i>Eurema brigitta rubella</i> , Sullied Sailer <i>Neptis soma tayalina</i> , Conjoined Swift <i>Pelopidas conjunctus conjunctus</i> , Dark Palm Dart <i>Telicota ohara formosana</i>
Re-creatability	Can be readily re-created naturally or artificially and would easily recover from disturbances
Fragmentation	Fragmented within Location A; Fragmentation within the same patch is minimal
Ecological linkage	Functionally linked to other adjoining terrestrial habitats such as secondary woodland, shrubby grassland and streams
Potential value	Generally moderate, as the dense woody vegetation cover suggests that it has the potential to become woodland in the absence of disturbance given enough time

Criteria	Tall Shrubland in Location A
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is probably regularly disturbed and therefore secondary in nature (habitat re-grown after disturbances)
Abundance/ Richness of wildlife	High flora richness (228 species) and moderate fauna richness (43 species)
Ecological value	Moderate

Table 9: Ecological Evaluation of Tall Shrubland in Location B

Criteria	Tall Shrubland in Location B
Naturalness	Natural habitat
Size	A patch between Pak Mong and Tai Ho; medium in total size (approx. 13.6 ha)
Diversity	Rich in terms of floral diversity (205 species) and moderate in faunal (40 species) diversity
Rarity	This habitat type is common in Hong Kong; Six floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> , Incense Tree <i>Aquilaria sinensis</i> , <i>Cansjera rheedii</i> , Small Persimmon <i>Diospyros vaccinioides</i> , Little-leaved Rourea <i>Gmelina chinensis</i> and Hong Kong Pavetta <i>Pavetta hongkongensis</i> Two fauna species of conservation interest recorded from the literature review and/or field surveys, namely Black Kite <i>Milvus migrans</i> , Emerald Cascader <i>Zygonyx iris insignis</i>
Re-creatability	Can be readily re-created naturally or artificially and would easily recover from disturbance
Fragmentation	Generally not fragmented
Ecological linkage	Functionally linked to other adjoining terrestrial habitats such as secondary woodland
Potential value	Generally moderate, as the dense woody vegetation cover suggests that it has the potential to become woodland in the absence of disturbance given enough time
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is probably regularly disturbed and therefore secondary in nature (habitat re-grown after disturbances)
Abundance/ Richness of wildlife	High flora richness (205 species) and moderate fauna richness (40 species)
Ecological value	Moderate

Table 10: Ecological Evaluation of Tall Shrubland in Location C

Criteria	Tall Shrubland in Location C
Naturalness	Natural habitat
Size	A narrow strip separating secondary woodland and shrubby grassland on the north-facing slope of Scenic Hill; small in total size (approx. 1.0 ha)
Diversity	Medium floral diversity (81 species); low in faunal diversity (3 species)
Rarity	This habitat type is common in Hong Kong; Three floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> , <i>Cansjera rheedii</i> and Small Persimmon <i>Diospyros vaccinioides</i> No fauna species of conservation interest recorded
Re-creatability	Can be readily re-created naturally or artificially and would easily recover from disturbances
Fragmentation	Not fragmented
Ecological linkage	Functionally linked to other adjoining terrestrial habitats such as secondary woodland and shrubby grassland

Criteria	Tall Shrubland in Location C
Potential value	Generally moderate, as the dense woody vegetation cover suggests that it has the potential to become woodland in the absence of disturbance given enough time
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is probably regularly disturbed and therefore secondary in nature (habitat re-grown after disturbance)
Abundance/ Richness of wildlife	Moderate richness of flora (81 species) and low richness of fauna (3 species)
Ecological value	Moderate-low

Table 11: Ecological Evaluation of Tall Shrubland in Location D

Criteria	Tall Shrubland in Location D
Naturalness	Natural habitat
Size	Dominant habitat on all outlying islands; large in total size (approx. 43.6 ha)
Diversity	Medium floral (111 species) and faunal (21 species) diversity
Rarity	This habitat type is common in Hong Kong; Two floral species of conservation interest recorded from the literature review and/or field surveys, namely <i>Cansjera rheedii</i> and Portia Tree <i>Thespesia populnea</i> Six fauna species of conservation interest recorded from the literature review and/or field surveys, namely Besra <i>Accipiter virgatus</i> , Greater Coucal <i>Centropus sinensis</i> , White-cheeked Starling <i>Spodiopsar cineraceus</i> , Common Rat Snake <i>Ptyas mucosus</i> , Common Albatross <i>Appias albina darada</i> , Swallowtail <i>Papilio xuthus xuthus</i>
Re-creatability	Can be readily re-created naturally or artificially and would easily recover from disturbances
Fragmentation	Generally not fragmented
Ecological linkage	Functionally linked to other adjoining terrestrial habitats such as secondary woodland
Potential value	Generally moderate, as the dense woody vegetation cover suggests that it has the potential to become woodland in the absence of disturbance given enough time
Nursery/ breeding ground	No significant nursery or breeding ground
Age	The habitat is probably regularly disturbed and therefore secondary in nature (habitat re-grown after disturbances)
Abundance/ Richness of wildlife	Moderate richness of flora (111 species) and fauna (21 species)
Ecological value	Moderate

Table 12: Ecological Evaluation of Shrubby Grassland in Location A

Criteria	Shrubby Grassland in Location A
Naturalness	Natural, but may suffer frequent disturbance such as hill fire
Size	Common in hillside slope, particularly on higher elevations; large in total size (approx. 124.0 ha)
Diversity	Moderate floral (181 species) and faunal (19 species) diversity
Rarity	This habitat type is common in Hong Kong; Six floral species of conservation interest recorded from the literature review and/or field surveys, namely Banana Orchid <i>Acampe rigida</i> , Chinese Antirhea <i>Antirhea chinensis</i> , Bamboo Orchid <i>Arundina graminifolia</i> , <i>Cansjera rheedii</i> , Bee Orchid <i>Cleisostoma simondii</i> and Small Persimmon <i>Diospyros vaccinioides</i> Ten fauna species of conservation interest recorded from the literature review and/or field surveys, namely Bonelli's Eagle <i>Aquila fasciata</i> , Great Egret <i>Ardea alba</i> , Common Emerald Dove <i>Chalcophaps indica</i> , Yellow-breasted Bunting <i>Emberiza aureola</i> , Peregrine Falcon <i>Falco peregrinus</i> , Chinese Hwamei <i>Garrulax canorus</i> , Black Kite <i>Milvus migrans</i> , Lesser Spiny Frog <i>Quasipaa exilispinosa</i> , Tokay Gecko <i>Gekko reevesii</i> , Spotless Grass Yellow <i>Eurema laeta betheseba</i>

Criteria	Shrubby Grassland in Location A
Re-creatability	Can be readily re-created naturally or artificially and would recover easily from disturbance
Fragmentation	Patchily distributed on higher elevations, but generally not fragmented
Ecological linkage	Ecologically linked to adjoining terrestrial habitat such as tall shrubland
Potential value	Moderate, could become more mature through succession
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is frequently disturbed and therefore secondary in nature
Abundance/ Richness of wildlife	Moderate richness in flora (181 species) and fauna (19 species)
Ecological value	Moderate-low

Table 13: Ecological Evaluation of Shrubby Grassland in Location B

Criteria	Shrubby Grassland in Location B
Naturalness	Natural, but may suffer frequent disturbance such as hill fire
Size	Dominant habitat on hillside slope; large in total size (approx. 111.5 ha)
Diversity	Moderate floral diversity (145 species) and low faunal diversity (1 species)
Rarity	This habitat type is common in Hong Kong; Three floral species of conservation interest recorded from the literature review and/or field surveys, namely Bamboo Orchid <i>Arundina graminifolia</i> , <i>Cansjera rheedii</i> and Small Persimmon <i>Diospyros vaccinioides</i> Six fauna species of conservation interest reported from the literature review and/or field surveys, namely Eurasian Eagle Owl <i>Bubo bubo</i> , Greater Coucal <i>Centropus sinensis</i> , Brown Fish Owl <i>Ketupa zeylonensis</i> , Lesser Spiny Frog <i>Quasipaa exilispinosa</i> , Common Rat Snake <i>Ptyas mucosus</i> , Spotless Grass Yellow <i>Eurema laeta betheseba</i>
Re-creatability	Can be readily re-created naturally or artificially and would recover easily from disturbances
Fragmentation	Generally not fragmented
Ecological linkage	Ecologically linked to adjoining terrestrial habitat such as secondary woodland
Potential value	Moderate, could become more mature through succession
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is frequently disturbed and therefore secondary in nature
Abundance/ Richness of wildlife	Moderate richness in flora (145 species) and low richness in fauna (1 species)
Ecological value	Moderate-low

Table 14: Ecological Evaluation of Shrubby Grassland in Location C

Criteria	Shrubby Grassland in Location C
Naturalness	Natural, but may suffer frequent disturbances such as hill fires
Size	Dominant habitat on Scenic Hill; medium in total size (approx. 11.5 ha)
Diversity	Moderate floral (137 species) and faunal (33 species) diversity
Rarity	This habitat type is common in Hong Kong; Four floral species of conservation interest recorded from the literature review and/or field surveys, namely Chinese Antirhea <i>Antirhea chinensis</i> , <i>Cansjera rheedii</i> , Small Persimmon <i>Diospyros vaccinioides</i> and Pale Purple Eulophia <i>Eulophia graminea</i> Three fauna species of conservation interest was recorded from the literature review and/or field surveys, namely Great Egret <i>Ardea alba</i> , Common Kestrel <i>Falco tinnunculus</i> , Black Kite <i>Milvus migrans</i>

Criteria	Shrubby Grassland in Location C
Re-creatability	Can be readily re-created naturally or artificially and would recover easily from disturbances
Fragmentation	Generally not fragmented
Ecological linkage	Ecologically linked to adjoining terrestrial habitat such as tall shrubland
Potential value	Moderate, could become more mature through succession
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	The habitat is frequently disturbed and therefore secondary in nature
Abundance/ Richness of wildlife	Moderate richness in flora (137 species) and fauna (32 species)
Ecological value	Moderate-low

Table 15: Ecological Evaluation of Seasonally Wet Grassland in Location A

Criteria	Seasonally Wet Grassland in Location A
Naturalness	Man-made, as it is probably derived from abandoned wet agricultural land
Size	Two small patches adjacent to coastal village settlements near Sha Lo Wan and Kau Liu; small in total size (approx. 1.4 ha)
Diversity	Low floral (54 species) and faunal (3 species) diversity
Rarity	This habitat type is common in Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Portia Tree <i>Thespesia populnea</i> One fauna species of conservation interest recorded from the field surveys, namely Lesser Coucal <i>Centropus bengalensis</i>
Re-creatability	Can be readily re-created
Fragmentation	Moderately fragmented in patches
Ecological linkage	Ecological linkage with adjoining terrestrial habitat such as streams
Potential value	Low, as this habitat will naturally become dry in the absence of disturbances
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Young
Abundance/ Richness of wildlife	Generally low richness in flora (54 species) and fauna (3 species)
Ecological value	Low

Table 16: Ecological Evaluation of Seasonally Wet Grassland in Location B

Criteria	Seasonally Wet Grassland in Location B
Naturalness	Man-made, as it is probably derived from abandoned wet agricultural land
Size	One small patch adjacent to village settlement in Nga Kwu Long; small in total size (approx. 1.3 ha)
Diversity	Homogeneous with low floral diversity (18 species) and moderate fauna (20 species) diversity
Rarity	This habitat type is common in Hong Kong; No floral species of conservation interest is recorded One fauna species of conservation interest recorded from the field surveys, namely Tokay Gecko <i>Gekko reevesii</i>
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Ecological linkage with adjoining terrestrial habitat such as streams and cultivated land
Potential value	Low, as this habitat will naturally become dry in the absence of disturbances
Nursery/ breeding ground	No record of significant nursery or breeding ground

Criteria	Seasonally Wet Grassland in Location B
Age	Young
Abundance/ Richness of wildlife	Low richness in flora (18 species) and moderate richness in fauna (20 species)
Ecological value	Low

Table 17: Ecological Evaluation of Cultivated Land in Location A

Criteria	Cultivated Land in Location A
Naturalness	Man-made habitat
Size	Patchily distributed near village settlements; medium in overall size (approx. 15.4 ha)
Diversity	Moderate floral diversity (140 species); high faunal diversity (58 species)
Rarity	This habitat type is common in rural villages of Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Night Blooming Cereus <i>Hylocereus undatus</i> which is likely cultivated as agricultural crop Three fauna species of conservation interest recorded from the literature review and/or field surveys, namely Greater Coucal <i>Centropus sinensis</i> , Romer's Tree Frog <i>Liuixalus romeri</i> , Common Rat Snake <i>Ptyas mucosus</i>
Re-creatability	Can be readily re-created
Fragmentation	Highly fragmented in patches
Ecological linkage	Ecological linkage to adjoining terrestrial habitats such as streams
Potential value	Potentially moderate depending on the agricultural management practices
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Unknown
Abundance/ Richness of wildlife	Generally moderate richness in flora (140 species) and high richness in fauna (58 species)
Ecological value	Low

Table 18: Ecological Evaluation of Cultivated Land in Location B

Criteria	Cultivated Land in Location B
Naturalness	Man-made habitat
Size	Patches surrounding village settlement in Pak Mong; medium in overall size (approx. 16.1 ha)
Diversity	Moderate floral (123 species) and faunal (34 species) diversity
Rarity	This habitat type is common in rural villages of Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Night Blooming Cereus <i>Hylocereus undatus</i> which is likely cultivated as agricultural crop Two fauna species of conservation interest recorded from the literature review and/or field surveys, namely Greater Coucal <i>Centropus sinensis</i> Black Kite <i>Milvus migrans</i>
Re-creatability	Can be readily re-created
Fragmentation	Moderately fragmented in patches
Ecological linkage	Ecological linkage to adjoining terrestrial habitats such as seasonally wet grassland
Potential value	Potentially moderate depending on the agricultural management practices
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Unknown
Abundance/ Richness of wildlife	Generally moderate richness in flora (123 species) and fauna (33 species)
Ecological value	Low

Table 19: Ecological Evaluation of Streams and Riparian in Location A

Criteria	Streams and Riparian in Location A
Naturalness	Natural habitat, pristine at higher elevations, generally more disturbed at lower elevations
Size	Several separate streams; small in overall size as the habitat is linear (approx. 1.8 ha)
Diversity	Botanically diverse riparian zone (101 species); high fauna (42 terrestrial fauna species and 11 freshwater fauna species) diversity
Rarity	<p>This habitat type is common in Hong Kong;</p> <p>Three floral species of conservation interest recorded from the literature review and/or field surveys, namely Indian Sundew <i>Drosera indica</i>, Pitcher Plant <i>Nepenthes mirabilis</i> and Hong Kong Spiranthes <i>Spiranthes hongkongensis</i></p> <p>Twenty-eight fauna species of conservation interest recorded from the literature review and/or field surveys, namely Great Egret <i>Ardea alba</i>, Grey Heron <i>Ardea cinerea</i>, Little Egret <i>Egretta garzetta</i>, Black-capped Kingfisher <i>Halcyon pileata</i>, Red-billed Starling <i>Spodiopsar sericeus</i>, Lesser Spiny Frog <i>Quasipaa exilispinosa</i>, Tokay Gecko <i>Gekko reevesii</i>, Burmese Python <i>Python bivittatus</i>, Grey Scrub Hopper <i>Aeromachus jhora</i>, Common Albatross <i>Appias albina darada</i>, Plain Hedge Blue <i>Celastrina lavendularis limbata</i>, Small Grass Yellow <i>Eurema brigitta rubella</i>, Spotless Grass Yellow <i>Eurema laeta betheseba</i>, Yellow Pansy <i>Junonia hierta hierta</i>, White Dragontail <i>Lamproptera curius walker</i>, Common Rose <i>Pachliopta aristolochiae goniopeltis</i>, Swallowtail <i>Papilio xuthus xuthus</i>, Small Hooktail <i>Meligomphus moluami</i>, Beijiang Thick-lipped Barb <i>Acrossocheilus beijiangensis</i>, Giant Mottled Eel <i>Anguilla marmorata</i>, Mud Carp <i>Cirrhinus molitorella</i>, Common Carp <i>Cyprinus carpio</i>, White-line Chest-sculptured Sisoridfish <i>Glyptothorax pallozonum</i>, Rice Fish <i>Oryzias curvinotus</i>, Predaceous Chub <i>Parazacco spilurus</i>, Purple Neon Goby <i>Stiphodon atropurpureus</i>, Greasyback Shrimp <i>Metapenaeus ensis</i>, Freshwater Crab Species <i>Somanniathelphusa zanklon</i></p>
Re-creatability	Natural Streams and Riparian is difficult to re-create
Fragmentation	continuous linear habitat generally non-fragmented
Ecological linkage	Ecologically linked to riparian terrestrial habitat and the ecological sensitive estuarine habitats such as mangrove, seagrass bed and mudflat
Potential value	Moderate
Nursery/ breeding ground	Significant breeding grounds of numerous species of conservation interest, including Beijiang Thick-lipped Barb <i>Acrossocheilus beijiangensis</i> , Rice Fish <i>Oryzias curvinotus</i> and potential breeding location for amphibian species Short-legged Toad <i>Xenophrys brachykolos</i>
Age	Ancient geomorphological drainage features
Abundance/ Richness of wildlife	High floral species richness (101 species) for this habitat type; high species richness for freshwater fauna species (11 species recorded from field survey), moderate for other fauna group (42 species)
Ecological value	Moderate-high

Table 20: Ecological Evaluation of Streams and Riparian in Location B

Criteria	Streams and Riparian in Location B
Naturalness	Natural habitat, pristine at higher elevations, generally more disturbed at lower elevations
Size	Several separate streams; small in overall size as the habitat is linear (approx. 0.6 ha)
Diversity	Low floral diverse in riparian zone (29 species); moderate faunal (33 terrestrial fauna species and 7 freshwater fauna species) diversity

Criteria	Streams and Riparian in Location B
Rarity	This habitat type is common in Hong Kong; No floral species of conservation interest is recorded Eight fauna species of conservation interest recorded from the literature review and/or field surveys, namely Pacific Reef Heron <i>Egretta sacra</i> , Brown Fish Owl <i>Ketupa zeylonensis</i> , Lesser Spiny Frog <i>Quasipaa exilispinosa</i> , Short-legged Toad <i>Xenophrys brachykolos</i> , Paintbrush Swift <i>Baoris farri farri</i> , Grass Demon <i>Udaspes folus</i> , Giant Mottled Eel <i>Anguilla marmorata</i> , Predaceous Chub <i>Parazacco spilurus</i>
Re-creatability	Natural Streams and Riparian is difficult to re-create
Fragmentation	Continuous linear habitat generally non-fragmented
Ecological linkage	Ecologically linked to riparian terrestrial habitat and the ecological sensitive estuary habitats such as mangrove, seagrass bed and mudflat
Potential value	Moderate
Nursery/ breeding ground	Significant breeding grounds of Ayu <i>Plecoglossus altivelis</i> . Potential breeding location of numerous species of conservation interest, including Mottled Eel <i>Anguilla marmorata</i> , Predaceous Chub <i>Parazacco spilurus</i>
Age	Ancient geomorphological drainage features
Abundance/ Richness of wildlife	Low floral species richness (29 species); high to moderate species richness for freshwater fauna (7 species), moderate for other fauna group (33 species)
Ecological value	The overall ecological value is moderate; High in Tai Ho Stream

Table 21: Ecological Evaluation of Salt Marsh in Location A

Criteria	Salt Marsh in Location A
Naturalness	Natural habitat
Size	Small patches in Sham Wat and Tung Chung Bay; small in total size (approx. 0.5 ha)
Diversity	Moderate floral diversity (90 species); moderate-low faunal (15 species) diversity
Rarity	This habitat type is uncommon in Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Portia Tree <i>Thespesia populnea</i> One fauna species of conservation interest is recorded from the literature review and/or field surveys, namely Little Egret <i>Egretta garzetta</i>
Re-creatability	Cannot be easily re-created as particular geographical conditions are required
Fragmentation	Generally not fragmented other than by footpaths
Ecological linkage	Functionally linked to surrounding ecological sensitive marine coastal habitats such as mangrove
Potential value	Potentially moderate
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Ancient geomorphological drainage features
Abundance/ Richness of wildlife	Moderate floral (90 species) and moderate-low fauna species richness
Ecological value	Low

Table 22: Ecological Evaluation of Salt Marsh in Location B

Criteria	Salt Marsh in Location B
Naturalness	Natural habitat
Size	A small patch at Tai Ho; small in total size (approx. 0.7 ha)
Diversity	Moderate floral diversity (95 species); low in faunal (5 species) diversity
Rarity	This habitat type is uncommon in Hong Kong; No floral or fauna species of conservation interest is recorded

Criteria	Salt Marsh in Location B
Re-creatability	Cannot be easily re-created as particular geographical conditions are required
Fragmentation	Generally not fragmented
Ecological linkage	Functionally linked to surrounding ecological sensitive marine coastal habitats such as mangrove
Potential value	Low potential due to small size
Nursery/ breeding ground	No record of significant nursery or breeding ground
Age	Ancient geomorphological drainage features
Abundance/ Richness of wildlife	Moderate species richness in flora (95 species) and low in fauna (5 species)
Ecological value	Low

Table 23: Ecological Evaluation of Wasteland in Location A

Criteria	Wasteland in Location A
Naturalness	Semi-natural as the habitat is established on heavily disturbed land
Size	A patch next to developed area in Tung Chung; moderate in total size (approx. 5.2 ha)
Diversity	Moderate floral diversity (150 species) and low faunal (3 species) diversity
Rarity	This habitat type is quite common in Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Night Blooming Cereus <i>Hylocereus undatus</i> which is likely cultivated One fauna species of conservation interest recorded from the literature review and/or field surveys, namely Little Egret <i>Egretta garzetta</i>
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Not functionally linked to any habitats of high ecological value
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	Young
Abundance/ Richness of wildlife	Moderate floral (150 species) and low faunal (3 species) richness
Ecological value	Low

Table 24: Ecological Evaluation of Wasteland in Location B

Criteria	Wasteland in Location B
Naturalness	Semi-natural as the habitat is established on heavily disturbed land
Size	One small strip along North Lantau Expressway east of Tai Ho; small in total size (approx. 2.0 ha)
Diversity	Moderate floral diversity (145 species) and low fauna (no species recorded) diversity
Rarity	This habitat type is quite common in Hong Kong; One floral species of conservation interest recorded from the literature review and/or field surveys, namely Night Blooming Cereus <i>Hylocereus undatus</i> which is likely cultivated No fauna species of conservation interest recorded
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Not functionally linked to any habitats of high ecological value
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded

Criteria	Wasteland in Location B
Age	Young
Abundance/ Richness of wildlife	Moderate floral (145 species) and no fauna species recorded
Ecological value	Low

Table 25: Ecological Evaluation of Developed Area in Location A

Criteria	Developed Area in Location A
Naturalness	Man-made habitat with intensive human activities
Size	Distributed in patches as village settlements except in urban area in Tung Chung; large in total size (approx. 94.4 ha)
Diversity	High floral diversity (297 species) due to large landscaped areas; moderate faunal (37 species) diversity
Rarity	This habitat type is common in Hong Kong; Nine floral species of conservation interest recorded from the literature review and/or field surveys, namely Incense Tree <i>Aquilaria sinensis</i> , <i>Cansjera rheedii</i> , Night Blooming Cereus <i>Hylocereus undatus</i> , Indian Azalea <i>Rhododendron indica</i> , <i>Rhododendron mucronatum</i> 'Akemono', <i>Rhododendron mucronatum</i> 'Omuraski', Purple Azalea <i>Rhododendron pulchrum</i> , Red Azalea <i>Rhododendron simsii</i> and Portia Tree <i>Thespesia populnea</i> Fiver fauna species of conservation interest recorded from the literature review and/or field surveys, namely Great Egret <i>Ardea alba</i> , Tokay Gecko <i>Gekko reevesii</i> , Chinese Cobra <i>Naja atra</i> , Banded Awl <i>Hasora chromus chromus</i> and Oriental Striped Blue <i>Leptotes plinius</i>
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented for urban areas; fragmented for village settlements
Ecological linkage	Not functionally linked to any habitats of high ecological value
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	Young (<30 years) for urban area; unknown for village settlements
Abundance/ Richness of wildlife	High floral (297 species) and moderate faunal (36 species) richness
Ecological value	Low

Table 26: Ecological Evaluation of Developed Area in Location B

Criteria	Developed Area in Location B
Naturalness	Man-made habitat with intensive human activities
Size	Patchily distributed as village settlement; small in total size (approx. 115.6 ha)
Diversity	Moderate floral (161 species) and low faunal (16 species) diversity
Rarity	This habitat type is common in Hong Kong; One floral species of conservation interest recorded from literature review and/or field surveys, namely Incense Tree <i>Aquilaria sinensis</i> Two fauna species of conservation interest recorded from literature review and/or field surveys, namely Tokay Gecko <i>Gekko reevesii</i> , Lesser Forest Blue <i>Taraka hamada isona</i>
Re-creatability	Can be readily re-created
Fragmentation	Fragmented village settlements
Ecological linkage	Not functionally linked to any habitats of high ecological value
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded

Criteria	Developed Area in Location B
Age	Unknown
Abundance/ Richness of wildlife	Moderate floral (161 species) and low faunal (16 species) richness
Ecological value	Low

Table 27: Ecological Evaluation of Developed Area in Location C

Criteria	Developed Area in Location C
Naturalness	Man-made habitat with intensive human activities; SkyCity Nine Eagles Golf Course with highly manicured vegetated areas and two artificial lakes
Size	Dominant habitat on the airport island; large in total size (approx. 1,237.7 ha); SkyCity Nine Eagles Golf Course (approx. 17 ha)
Diversity	High floral diversity (295 species) due to large landscaped areas and high faunal (4 species recorded from terrestrial transect survey, 48 avifauna species recorded from land-based surveys on the airport island)
Rarity	This habitat type is common in Hong Kong; Nine floral species of conservation interest recorded from the literature review and/or field surveys, namely Mrs. Farrer's Rhododendron <i>Rhododendron farrerae</i> , Kurume Azalea <i>Rhododendron hybridum</i> , Indian Azalea <i>Rhododendron indica</i> , <i>Rhododendron lateritum</i> , <i>Rhododendron mucronatum</i> 'Akemono', <i>Rhododendron mucronatum</i> 'Omuraski', Purple Azalea <i>Rhododendron pulchrum</i> , Red Azalea <i>Rhododendron simsii</i> and Portia Tree <i>Thespesia populnea</i> Sixteen avifauna species of conservation interest recorded from the literature review and/or field surveys, namely Great Egret <i>Ardea alba</i> , Grey Heron <i>Ardea cinerea</i> , Chinese Pond Heron <i>Ardeola bacchus</i> , Eastern Buzzard <i>Buteo japonicas</i> , Kentish Plover <i>Charadrius alexandrinus</i> , Greater Sand Plover <i>Charadrius leschenaultia</i> , Little Egret <i>Egretta garzetta</i> , Intermediate Egret <i>Egretta intermedia</i> , Pacific Reef Heron <i>Egretta sacra</i> , Common Kestrel <i>Falco tinnunculus</i> , Black-winged Stilt <i>Himantopus himantopus</i> , Black Kite <i>Milvus migrans</i> , Western Osprey <i>Pandion haliaetus</i> , Pied Avocet <i>Recurvirostra avosetta</i> , White-cheeked Starling <i>Spodiopsar cineraceus</i> , Common Greenshank <i>Tringa nebularia</i>
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Not functionally linked to any habitats of high ecological value
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	Young (<30 years)
Abundance/ Richness of wildlife	High landscape plant (295 floral species) and moderate avifauna (48 species) richness
Ecological value	Low

Table 28: Ecological Evaluation of Developed Area in Location D

Criteria	Developed Area in Location D
Naturalness	Man-made habitat
Size	Two small patches in Lung Kwu Chau and Sha Chau; small in total size (approx. 0.6 ha)
Diversity	Very low floral diversity (6 species) and no fauna recorded
Rarity	This habitat type is common in Hong Kong; No floral or fauna species of conservation interest is recorded
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Not functionally linked to any habitats of high ecological value

Criteria	Developed Area in Location D
Potential value	Low potential value with respect to the planned land-use
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	Unknown
Abundance/ Richness of wildlife	Very low species richness and vegetation coverage (6 floral species); no fauna recorded
Ecological value	Very low

Table 29: Ecological Evaluation of Land Formation Area (Open Sea) for Avifauna

Criteria	Open Sea in Location C
Naturalness	Natural habitat
Size	Approximately 650 ha
Diversity	Moderate in avifauna diversity (43 species)
Rarity	This habitat type is common in Hong Kong; Fourteen avifauna species of conservation interest are recorded from field surveys, including Great Egret <i>Ardea alba</i> , Grey Heron <i>Ardea cinerea</i> , Great Knot <i>Calidris tenuirostris</i> , Greater Sand Plover <i>Charadrius leschenaultii</i> , Black-headed Gull <i>Chroicocephalus ridibundus</i> , Little Egret <i>Egretta garzetta</i> , Pacific Reef Heron <i>Egretta sacra</i> , Peregrine Falcon <i>Falco peregrinus</i> , Common Kestrel <i>Falco tinnunculus</i> , Black-tailed Godwit <i>Limosa limosa</i> , Black Kite <i>Milvus migrans</i> , Western Osprey <i>Pandion haliaetus</i> , Great Cormorant <i>Phalacrocorax carbo</i> , Terek Sandpiper <i>Xenus cinereus</i>
Re-creatability	Not able to be re-created
Fragmentation	Not fragmented
Ecological linkage	The ardeids utilise the sea over the land formation area is ecologically linked to the Sha Chau egrettry
Potential value	Low potential value to avifauna with respect to the low species abundance and diversity recorded.
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	Unknown
Abundance/ Richness of wildlife	Moderate species richness for avifauna (43 species) with low abundance, dominantly Little Egret
Ecological value	Low ecological value for avifauna

Table 30: Ecological Evaluation of Artificial Seawall along the North Coast of Existing Runways for Avifauna

Criteria	Artificial Seawall in Location C
Naturalness	Man-made habitat
Size	Approximately 5 km long
Diversity	Moderate in avifauna diversity (44 avifauna)
Rarity	This artificial habitat type is common in Hong Kong; Twelve avifauna species of conservation interest were recorded from the field surveys, including Great Egret <i>Ardea alba</i> , Grey Heron <i>Ardea cinerea</i> , Chinese Pond Heron <i>Ardeola bacchus</i> , Kentish Plover <i>Charadrius alexandrinus</i> , Little Egret <i>Egretta garzetta</i> , Pacific Reef Heron <i>Egretta sacra</i> , Yellow-breasted Bunting <i>Emberiza aureola</i> , Peregrine Falcon <i>Falco peregrinus</i> , Common Kestrel <i>Falco tinnunculus</i> , Black Kite <i>Milvus migrans</i> , Western Osprey <i>Pandion haliaetus</i> , Red-billed Starling <i>Spodiopsar sericeus</i>
Re-creatability	Can be readily re-created
Fragmentation	Not fragmented
Ecological linkage	Not functionally linked to any habitats of high ecological value

Criteria	Artificial Seawall in Location C
Potential value	Low potential value to avifauna with respect to the low species abundance and diversity recorded
Nursery/ breeding ground	No significant nursery or breeding ground recorded
Age	16 years
Abundance/ Richness of wildlife	Moderate species richness for avifauna (44 species) with low abundance, dominantly Little Egret
Ecological value	Low ecological value for avifauna

1.2 Species of Conservation Interest

- 1.2.1 The species of conservation concern recorded were listed and tabulated in accordance with the criteria stated in Table (3) in Annex 8 in EIAO-TM. The evaluation of flora and fauna species is presented in **Table 31** and **Table 32** respectively. Locations and distributions of the floral species of conservation interest are presented in **Drawings MCL/P132/EIA/12-017 to 022** while those of faunal species are presented in **Drawings MCL/P132/EIA/12-023 to 034**.

Table 31: Ecological Evaluation of Terrestrial Floral Species of Conservation Interest

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Acampe rigida</i> (Mouchel, 2004)	Shrubby grassland near Hau Hok Wan	Listed under Forestry Regulations (Cap. 96 sub. leg.) and Protection of Endangered Species of Animals and Plants Ordinance (Cap.586) in Hong Kong	Shek O, Kowloon Peak, Fo Tan alley, Ma On Shan, Lantau Island ⁽¹⁾ ; Sri Lanka, India, Bhutan, China (Guangdong, Guangxi, Hainan, Yunnan, Taiwan), Myanmar, Thailand, Indochina and Malaysia ⁽²⁾	Considered "near threatened" in Hong Kong and China ⁽²⁾
<i>Antirhea chinensis</i> (AECOM, 2009)	Secondary woodland near Pak Mong	Key protected wild species at mainland China	Hainan, Guangdong, Fujian ⁽³⁾	Considered common in Hong Kong ⁽³⁾ , Recorded in <i>Illustrations of Rare and Endangered Plants in Guangdong Province</i> ⁽⁴⁾

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report



Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Aquilaria sinensis</i> (AECOM, 2009, ARUP, 2008; ARUP, 2013; Asia Ecological Consultants Ltd, 2009; KFBG, 2013)	Along the footpath near the tall shrubland from Hau Hok Wan to Sha Lo Wan; within secondary and plantation woodlands near Pak Mong and Tai Ho and on Scenic Hill	Cap.586; listed as Category II protected species in Mainland China	Hainan, Guangdong, Guangxi, Taiwan ⁽⁵⁾	Considered common in Hong Kong ^(5,6) ; Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ ; Regarded as "near threatened" in the China Plant Red Data Book ⁽⁷⁾ ; Recorded in <i>Illustrations of Rare and Endangered Plants in Guangdong Province</i> ⁽⁴⁾ ; Listed as "vulnerable" under IUCN Red List of Threatened Species ⁽⁸⁾
<i>Artocarpus hypargyreus</i> (AECOM, 2009)	Secondary woodland near Tai Ho	Listed as Category III protected species in Mainland China	Hainan, Guangdong, Guangxi, Yunnan, Hunan, Jiangxi, Fujian ⁽⁹⁾	Considered Common in Hong Kong ^(6,9) ; Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ ; Regarded as "near threatened" in the China Plant Red Data Book ⁽⁷⁾ ; Recorded in <i>Illustrations of Rare and Endangered Plants in Guangdong Province</i> ⁽⁴⁾ ; Listed as "vulnerable" under IUCN Red List of Threatened Species ⁽⁸⁾
<i>Arundina graminifolia</i> (AECOM, 2009 & Mouchel, 2004)	Shrubby grassland near Hau Hok Wan and Tai Ho Wan	Cap. 96 sub. leg. and Cap.586	Sri Lanka, India, Bhutan, Nepal, China, Myanmar, Thailand, Indochina, Malaysia and the Malay Archipelago ⁽²⁾	Considered common ⁽¹⁾ and "least concern" in Hong Kong ⁽²⁾ ; but "near threatened" in China ⁽²⁾

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Cansjera rheedii</i> (ARUP, 2008; Asia Ecological Consultants Ltd, 2009; Mouchel, 2004)	Various locations in secondary woodland, tall shrubland and shrubby grassland on North Lantau	None	Aberdeen, Deep Water Bay, New Territories, Lantau Island ⁽⁵⁾ ; South and Southeast Asia, Australia, Pacific Islands ⁽⁵⁾	Considered restricted in Hong Kong ⁽¹⁰⁾
<i>Carex tristachya</i> (Mouchel, 2004)	Tall shrubland near Hau Hok Wan	None	San Tau, Tung Lung Chau ⁽¹⁾ ; Hau Hok Wan ⁽¹⁰⁾ ; Hainan, Guangdong, Hunan, Anhui, Jiangsu, Zhejiang, Fujian; Korea, Japan ⁽¹⁾	Classified as very rare ⁽¹⁰⁾
<i>Celtis biondii</i> (AECOM, 2009; ARUP, 2008; Asia Ecological Consultants Ltd, 2009; Mouchel, 2004)	Secondary woodland and tall shrubland at various locations in North Lantau	None	Hong Kong Island, Peng Chau ⁽⁹⁾ ; South, East and Central China, Gansu, Shanxi; Japan, Korea ⁽⁹⁾	Classified as rare ⁽¹⁰⁾
<i>Cibotium barometz</i> (ARUP, 2013; Mouchel, 2004)	Secondary woodland	Cap.586; Listed as Category II protected species in Mainland China	South China,; Japan, Vietnam, Myanmar, India, Indonesia ⁽⁶⁾	Considered common in Hong Kong ⁽⁶⁾ ; Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ ; Considered "vulnerable" in China
<i>Cleisostoma simondii</i> (Mouchel, 2004)	Shrubby grassland near Hau Hok Wan	Cap. 96 sub. leg. and Cap.586	Hong Kong Island, Ma On Shan ⁽¹⁾ ; India, China (Fujian, Guangdong, Hainan, Yunnan), Thailand, Laos and Vietnam ⁽²⁾	Considered "least concern" in Hong Kong and "vulnerable" in China ⁽²⁾
<i>Diospyros vaccinioides</i> (AECOM, 2009; ARUP, 2013)	Secondary woodland near Tai Ho Wan and Tung Chung Bay	None	Guangdong, Guangxi, Hainan ⁽⁹⁾	Considered common in Hong Kong ⁽⁹⁾ ; Listed as "critically endangered" under IUCN Red List of Threatened Species ⁽⁸⁾

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Dodonaea viscosa</i> (Asia Ecological Consultants Ltd, 2009 & Mouchel, 2004)	Near tall shrubland close to the coastline at Sha Lo Wan	None	Ting Kok Road, Sai Kung, Tai Lam Chung, Pak Nai, Tung Chung, Yi Long ⁽⁵⁾ , Ham Tin and Tung Chung ⁽¹⁰⁾ , East, South and Southwestern China and tropical and subtropical regions of the world ⁽⁵⁾	Classified as rare ⁽¹⁰⁾
<i>Drosera indica</i> (Asia Ecological Consultants Ltd, 2009 & Mouchel, 2004)	Stream and coastal habitat along Hau Hok Wan to Kau Liu	None	Cape d'Aguilar, Tung Chung ⁽⁹⁾ ; Hainan, Guangdong, Guangxi, Fujian, Taiwan and widely distributed in tropical and subtropical regions of Asia, Africa and Australia ⁽⁹⁾	Classified as very rare ⁽¹⁰⁾ ; Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ ; Listed as "least concern" under IUCN Red List of Threatened Species ⁽⁸⁾
<i>Eulophia graminea</i> (Asia Ecological Consultants Ltd, 2009 & Mouchel, 2004)	Tall shrubland near Hau Hok Wan, Sha Lo Wan and shrubby grassland on Scenic Hill	Cap. 96 sub. leg. and Cap.586	Ho Chung, Sha Tin, Lam Tsuen, Pillar Point ⁽¹⁾ ; Sri Lanka, India, Nepal, China (Anhui, Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan), Myanmar, Thailand, Vietnam, Laos, Malaysia, Singapore, Indonesia and Japan (Ryukyu Islands) ⁽²⁾	Regarded as "vulnerable" in Hong Kong and "near threatened" in China ⁽²⁾
<i>Gmelina chinensis</i> (ARUP, 2013; Asia Ecological Consultants Ltd, 2009; KFBG, 2013; Mouchel, 2004)	Secondary woodland and tall shrubland on North Lantau	None	Tung Chung, Keung Shan, Tai O ⁽⁶⁾ ; Fujian, Guangdong, Guangxi, Guizhou ⁽³⁾	Recorded in <i>Illustrations of Rare and Endangered Plants in Guangdong Province</i> ⁽⁴⁾ ; Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾
<i>Hylocereus undatus</i> (Asia Ecological Consultants Ltd, 2009 & Mouchel, 2004)	Secondary woodland, tall shrubland, cultivated land, wasteland and developed area	Cap.586	Originated from neotropics; widely cultivated in tropical regions ⁽⁹⁾	The species is commonly cultivated in Hong Kong ⁽⁹⁾

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Ligustrum punctifolium</i> (ARUP, 2013; KFBG, 2013)	Mangrove in Tung Chung	None	Chung Mei, Sam A Chung, Sham Chung ⁽³⁾ , Hainan; Vietnam ⁽³⁾	Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾
<i>Nepenthes mirabilis</i> (AECOM, 2009; KFBG, 2013)	Secondary woodland near Tai Ho	Cap. 96 sub. leg. and Cap.586	Tai Lam Chung, So Kwun Wat, Castle Peak, Lantau Island ⁽⁹⁾ , Guangdong, Hainan,; Indochina, Malaysia ⁽⁹⁾	Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ , Listed as "least concern" under IUCN Red List of Threatened Species ⁽⁸⁾
<i>Pavetta hongkongensis</i> (AECOM, 2009; ARUP, 2013; Asia Ecological Consultants Ltd, 2009; Mouchel, 2004)	Secondary woodland and tall shrubland at a number of locations such as Hau Hok Wan and near Tai Ho Wan	Cap. 96 sub. leg	Hainan, Guangdong, Guangxi, Yunnan; Vietnam ⁽³⁾	Considered common in Hong Kong ^(3,10)
<i>Rhododendron farrerae</i> , <i>R. hybridum</i> , <i>R. indica</i> , <i>R. lateritum</i> , <i>R. mucronatum</i> 'Akemono', <i>R. mucronatum</i> 'Omuraski', <i>R. pulchrum</i> and <i>R. simsii</i> (AAHK, 2013; ARUP, 2013)	Within developed area on Airport Island and Tung Chung	Cap. 96 sub. leg	Widely cultivated as ornamental shrubs in Hong Kong	Widely cultivated as ornamental shrubs in Hong Kong
<i>Spiranthes hongkongensis</i> (KFBG, 2013)	Along the streamside of Tung Chung Stream	Cap. 96 sub. leg. and Cap.586	Guangdong, Guizhou, Yunnan, Shandong, Zhejiang, Fujian; Japan, Australia ⁽¹⁾	Regarded as "vulnerable" in Hong Kong ⁽²⁾
<i>Thespesia populnea</i> (ARUP, 2008; Asia Ecological Consultants Ltd, 2009)	Along the coastal and mangrove habitats	None	Tai Tam Reservoir, Tai Po, Butterfly Beach, Lung Kwu Tan, Nam Chung, Luk Keng, Lantau Island, Ma Wan, Po Toi ⁽⁹⁾ , Hainan, Guangxi, Guangdong, Taiwan; Indochina, Thailand, India, Sri Lanka, Philippines and tropical Africa ⁽⁹⁾	Recorded in 9 out of 43 mangrove stands in a terrestrial-wide study ⁽¹¹⁾
<i>Uvaria calamistrata</i> (ARUP, 2013)	North Lantau near Tung Chung	None	Aberdeen, Lady Clementi's Ride, Wong Chuk Hang, Tai Mo Shan ⁽⁹⁾ , Guangdong, Guangxi; Vietnam ⁽⁹⁾	Classified as rare ⁽¹⁰⁾

Expansion of Hong Kong International Airport into a Three-Runway System

Environmental Impact Assessment Report

Species	Location	Protection Status / Conservation Status	Distribution	Rarity
<i>Xyris indica</i> (ARUP, 2008)	Grassland near Tai Ho	None	Fanling ⁽¹⁾ ; Hainan, Guangdong, Fujian; Indochina, Malaysia, Thailand, India, Sri Lanka, Philippines, Australia ⁽¹⁾	Considered restricted in Hong Kong ⁽¹⁰⁾ ; Listed as "least concern" under IUCN Red List of Threatened Species ⁽⁸⁾
<i>Zoysia sinica</i> (Mouchel, 2004; Asia Ecological Consultants Ltd, 2009)	Mangrove and coastal habitats	Listed as Category II protected species in Mainland China	Ma On Shan, Castle Peak, Sai Kung, Lantau Island ⁽¹⁾ ; Guangdong, Guangxi, Hebei, Liaoning, Shandong, Anhui, Jiangsu, Zhejiang, Fujian, Taiwan; Japan, Korea ⁽¹⁾	Listed in <i>Rare and Precious Plants of Hong Kong</i> ⁽⁶⁾ ; Considered "vulnerable" in China ⁽⁶⁾

Reference sources:

- (1) Flora of Hong Kong Volume 4 (Hong Kong Herbarium and South China Botanical Garden 2011)
- (2) The Wild Orchids of Hong Kong (Baretto *et al.* 2011)
- (3) Flora of Hong Kong Volume 3 (Hong Kong Herbarium and South China Botanical Garden 2009)
- (4) Illustrations of Rare and Endangered Plants in Guangdong Province (Wu *et al.* 1988)
- (5) Flora of Hong Kong Volume 2 (Hong Kong Herbarium and South China Botanical Garden 2008)
- (6) Rare and Precious Plants of Hong Kong (AFCD 2003)
- (7) China Plant Red Data Book: Rare and Endangered Plants (Fu & Chin 1992)
- (8) IUCN Red List of Threatened Species (IUCN 2013)
- (9) Flora of Hong Kong Volume 1 (Hong Kong Herbarium and South China Botanical Garden 2007)
- (10) Gymnosperms and angiosperms of Hong Kong (Xing *et al.* 2000)
- (11) Hong Kong Mangroves (Tam & Wong 2000)

Table 32: Ecological Evaluation of Faunal Species of Conservation Interest

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Avifauna					
Japanese Sparrowhawk	<i>Accipiter gularis</i>	San Shek Wan	Cap. 170, Cap. 586, CITES II	Found in Chek Lap Kok, Mai Po, Tsim Bei Tsui, Mong Tseng, Cheung Chau, Po Toi, Tung Ping Chau	Uncommon passage migrant
Chinese Sparrowhawk	<i>Accipiter soloensis</i>	Tung Chung	Cap. 170, Cap. 586, CITES II	Found in Tsim Bei Tsui, Kadoorie Farm & Botanic Garden, Tai Po Kau	Uncommon passage migrant

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Crested Goshawk	<i>Accipiter trivirgatus</i>	Tung Chung, San Tau, Pak Mong, Sha Lo Wan, West Station	Cap. 170, Cap. 586, CRDB (R), China Protected Species II, CITES II	Widely distributed in woodlands and shrublands throughout Hong Kong	Uncommon resident
Besra	<i>Accipiter virgatus</i>	Sha Lo Wan, Sha Chau, Lung Kwu Chau,	Cap. 170, Cap. 586, China Protected Species II CITES II	Found in Tai Po Kau, Deep Bay area, Chek Lap Kok, Cheung Chau, Soko Islands	Scare resident
Bonelli's Eagle	<i>Aquila fasciata</i>	Sham Wat, Sha Lo Wan	Cap. 170, Cap. 586, CRDB (R), China Protected Species II CITES II	Found in Deep Bay area, Hong Kong Island, Lamma Island, Lantau Island, Castle Peak, Sha Lo Tung	(RC)
Great Egret	<i>Ardea alba</i>	Scenic Hill, San Tau, Tung Chung, Tai Ho, Airport Island South Coast, North Station, Northeast Station, West Station, Sha Chau, Sham Wat, land formation area	Cap. 170	Widely distributed in Hong Kong	PRC(RC)
Grey Heron	<i>Ardea cinerea</i>	Tai Ho, Pak Mong, Scenic Hill, North Station, Northeast Station, San Tau, Sham Wat, land formation area	Cap. 170	Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar	PRC
Chinese Pond Heron	<i>Ardeola bacchus</i>	Tai Ho, Sha Lo Wan, Tung Chung, Sham Wat, Hau Hok Wan, Pak Chau, Northeast Station, West Station, Sha Chau, land formation area, Northeastern roundabout of airport island	Cap. 170	Widely distributed in Hong Kong	PRC(RC)
Eurasian Eagle Owl	<i>Bubo bubo</i>	Pak Mong	Cap. 170, Cap. 586, CRDB (R), China Protected Species II, CITES II	Widely distributed in Hong Kong	RC
Grey-faced Buzzard	<i>Butastur indicus</i>	Hau Hok Wan	Cap. 170, Cap. 586, CRDB (R), China Protected Species II, CITES II	Found in Cheung Chau, Aberdeen Country Park, Mount Davis, Deep Bay area	Uncommon passage migrant

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Eastern Buzzard	<i>Buteo japonicus</i>	Hau Hok Wan, North Station, West Station, Sha Chau	Cap. 170, Cap. 586, China Protected Species II, CITES II	Widely distributed in Hong Kong	Common winter visitor
Curlew Sandpiper	<i>Calidris ferruginea</i>	north Lantau waters (Grid E13 of Drawing MCL/P132/EIA/12-008)	Cap. 170	Common passage migrant. Found in Deep Bay area, Cape D'Aguilar	RC
Great Knot	<i>Calidris tenuirostris</i>	Northeast Station	Cap. 170, IUCN (V)	Found in Deep Bay Area	LC
Lesser Coucal	<i>Centropus bengalensis</i>	San Tau	Cap. 170, CRDB (V), China Protected Species II	Widely distributed in Hong Kong	Common resident
Greater Coucal	<i>Centropus sinensis</i>	Sham Wat, Sha Chau, Tung Chung, San Tau, Tai Ho, Pak Mong,	Cap. 170, CRDB (V), China Protected Species II	Widely distributed in Hong Kong	Common resident
Common Emerald Dove	<i>Chalcophaps indica</i>	Sha Lo Wan, Hau Hok Wan, San Tau, Tung Chung, Tai Ho	Cap. 170, CRDB (V)	Widely distributed in woodland throughout Hong Kong	Scarce but widespread resident
Kentish Plover	<i>Charadrius alexandrinus</i>	North Station, Northeast Station, land formation area	Cap. 170	Found in Deep Bay area, Chek Lap Kok, Shuen Wan, Sai Kung, Lantau Island	RC
Greater Sand Plover	<i>Charadrius leschenaultii</i>	North Station, land formation area	Cap. 170	Found in Deep Bay Area	RC
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	West Station, Sha Chau, land formation area	Cap. 170	Found in Deep Bay area, Tolo Harbour, Starling Inlet, Victoria Harbour	PRC
Collared Crow	<i>Corvus torquatus</i>	Tung Chung Bay, Sha Chau	Cap. 170, IUCN (NT),	Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.	LC
Swinhoe's Egret	<i>Egretta eulophotes</i>	Tung Chung Bay	Cap. 170, IUCN (V), CRDB (E), China Protected Species I	Found in Mai Po, Lok Ma Chau, Nam Chung	GC

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Little Egret	<i>Egretta garzetta</i>	North Station, Northeast Station, West Station, Sha Chau, Pak Mong, San Tau, Sha Lo Wan, Scenic Hill, Sham Wat Wan, Hau Hok Wan, Pak Mong, Tai Ho, land formation area	Cap. 170	Widely distributed in coastal areas throughout Hong Kong	PRC(RC)
Intermediate Egret	<i>Egretta intermedia</i>	Tung Chung, Sha Chau	Cap. 170	Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguilar	RC
Pacific Reef Heron	<i>Egretta sacra</i>	Sha Chau, Tai Ho, Sha Lo Wan, Tung Chung Bay, Hau Hok Wan, Scenic Hill, West Station, North Station, land formation area	Cap. 170, CRDB (R), China Protected Species II	Widely distributed in coastal area throughout Hong Kong.	LC
Yellow-breasted Bunting	<i>Emberiza aureola</i>	Tung Chung, Hau Hok Wan, Northeast Station, land formation area	Cap. 170, IUCN (V)	Widely distributed in agriculture land and reed beds throughout Hong Kong	RC
Peregrine Falcon	<i>Falco peregrinus</i>	Sha Lo Wan, North Station, Northeast Station, Sha Chau, land formation area	Cap. 170, Cap. 586, China Protected Species II, CITES II	Widely distributed in Hong Kong	(LC)
Eurasian Hobby	<i>Falco subbuteo</i>	Sha Chau, Sha Lo Wan, West Station	Cap. 170, Cap. 586, China Protected Species II, CITES II	Widely distributed in marshes, agricultural land and lightly wooded hills throughout Hong Kong	(LC)
Common Kestrel	<i>Falco tinnunculus</i>	Scenic Hill, North Station, West Station, Northeast Station, Land formation area	Cap. 170, Cap. 586, China Protected Species II, CITES II	Widely distributed in Hong Kong	Common autumn migrant and winter visitor
Chinese Hwamei	<i>Garrulax canorus</i>	Sham Wat, San Shek Wan, Tung Chung Bay, Pak Mong	Cap. 170, Cap. 586, , CITES II	Widely distributed in hillside shrubland throughout Hong Kong	Common resident
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	Sham Wat, Sha Lo Wan, Tai Ho, Lung Kwu Chau	Cap. 170, Cap. 586, CRDB (I), China Protected Species II, CITES II	Widely distributed in coastal areas throughout Hong Kong	(RC)
Black-winged Stilt	<i>Himantopus himantopus</i>	San Tau, SkyCity Nine Eagles Golf Course	Cap. 170,	Found in Deep Bay area, Long Valley, Kam Tin	RC

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Caspian Tern	<i>Hydroprogne caspia</i>	Sha Chau	Cap. 170	Found in Deep Bay area	RC
Brown Fish Owl	<i>Ketupa zeylonensis</i>	Tai Ho	Cap. 170, Cap. 586, China Protected Species II, CITES II	Found in Discovery Bay, Pak Tam Chung, Tai Tan, Yung Shue O, Sham Chung	RC
Black-tailed Godwit	<i>Limosa limosa</i>	Northeast Station, land formation area	Cap. 170, IUCN (NT), CRDB (I)	Found in Deep Bay area	RC
Black Kite	<i>Milvus migrans</i>	North Station, Northeast Station, West Station, Sha Chau, Hau Hok Wan, Pak Mong, San Shek Wan, Scenic Hill, Sha Lo Wan, Sham Wat, Tai Ho, land formation area	Cap. 170, China Protected Species II, CITES II	Widely distributed in Hong Kong	(RC)
Collared Scops Owl	<i>Otus lettia</i>	Sham Wat, San Tau, Tai Ho, Hau Hok Wan	Cap. 170, Cap. 586, China Protected Species II, CITES II	Widely distributed in shrublands throughout Hong Kong	Common Resident
Western Osprey	<i>Pandion haliaetus</i>	North Station, Northeast Station, Sha Chau, land formation area	Cap. 170, Cap. 586, CRDB R, China Protected Species II, CITES II	Widely distributed in coastal areas throughout Hong Kong	RC
Great Cormorant	<i>Phalacrocorax carbo</i>	Northeast Station, West Station, Sha Chau, land formation area	Cap. 170	Widely distributed in coastal areas throughout Hong Kong	PRC
Pied Avocet	<i>Recurvirostra avosetta</i>	SkyCity Nine Eagles Golf Course	Cap. 170	Found in Deep Bay area	RC
Crested Serpent Eagle	<i>Spilornis cheela</i>	Sham Wat, San Shek Wan	Cap. 170, Cap. 586, CRDB (V), China Protected Species II, CITES II	Widely distributed in shrublands on hillsides throughout Hong Kong	(LC)
White-cheeked Starling	<i>Spodiopsar cineraceus</i>	Sha Chau, Northeastern roundabout on airport island	Cap. 170	Found in Deep Bay area, Kam Tin, Long Valley	PRC
Red-billed Starling	<i>Spodiopsar sericeus</i>	Northeast Station, Sha Chau, San Tau, land formation area	Cap. 170	Widely distributed in Hong Kong	GC
Ancient Murrelet	<i>Synthliboramphus antiquus</i>	Southern waters of Tuen Mun	Cap. 170, CRDB (V)	Found in Mirs Bay, Repulse Bay, Sai Kung	Scarce Winter visitor
Common Greenshank	<i>Tringa nebularia</i>	Northeast Station	Cap. 170	Found in Deep Bay area	RC

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Terek Sandpiper	<i>Xenus cinereus</i>	North Station, land formation area	Cap. 170	Found in Deep Bay area, Sai Kung, Tung Ping Chau, Cape D'Aguilar	RC
Amphibians					
Chinese Bullfrog	<i>Hoplobatrachus chinensis</i>	Scenic Hill	Class II protected	Widely distributed in Lantau and New Territories	Fairly Common, PRC
Romer's Tree Frog	<i>Philautus romeri</i>	Sham Wat Wan, Scenic Hill, Tung Chung Bay, Pak Mong, Hau Hok Wan	IUCN (EN), Cap. 170	Distributed in woodlands on Lantau Island, Po Toi Island, Lamma Island, Hong Kong Island and New Territories	Endemic, Locally common in protected areas, PGC
Hong Kong Newt	<i>Paramesotriton hongkongensis</i>	Tung Chung	IUCN (NT), Cap. 170	Widely distributed in mountain streams throughout New Territories, Lantau Island and Hong Kong Island	PGC
Lesser Spiny Frog	<i>Quasipaa exilispinosa</i>	Sham Wat, Hau Hok Wan, San Tau, Tai Ho Wan, Pak Mong	IUCN (V)	Occurs throughout the territory	Common in protected areas, PGC
Short-legged Toad	<i>Xenophrys brachykolos</i>	Sham Wat Wan, Hau Hok Wan, Pak Mong, Tai Ho	IUCN (EN)	Widely distributed in upland forest streams throughout Hong Kong	Endemic, Locally common in protected areas, PGC
Reptiles					
Tokay Gecko	<i>Gekko reevesii</i>	Sham Wat Wan, San Shek Wan, Tai Ho	CRDB (E)	Distributed in rocky areas in Tung Chung and Sham Wat on Lantau Island, Lion Rock Country Park. Population on Hong Kong Island are considered as escapee from petshops	Rare, RC
Chinese Cobra	<i>Naja atra</i>	San Shek Wan, Tung Tung	CRDB (V), CITES II, Cap. 586	Found throughout the territory, including all larger and a few smaller islands (Karsen <i>et al.</i> 1998)	Common, PRC
King Cobra	<i>Ophiophagus hannah</i>	Sham Wat Wan to Tai Ho Wan	IUCN (V), CRDB (CE), CITES II,	Widely distributed throughout Hong Kong	Very Uncommon, PRC

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Common Rat Snake	<i>Ptyas mucosus</i>	Tung Chung Bay, Pak Mong, Tai Ho, Sha Chau, Lung Kwu Chau	CRDB (E), Cap. 586	Widely distributed throughout Hong Kong	Common, PRC
Burmese Python	<i>Python bivittatus</i>	Tung Chung	CRDB (CE), Cap. 170, Cap. 586	Widely distributed throughout Hong Kong	Common, PRC
Butterflies					
Grey Scrub Hopper	<i>Aeromachus jhora</i>	Tung Chung	-	Yung Shue O, Kuk Po, Tai Lam, Sha Lo Tung	Rare
Common Albatross	<i>Appias albina darada</i>	San Tau, Sha Chau, Lung Kwu Chau	-	Shing Mun, Tai Po Kau, Tai Mo Shan, Lung Kwu Tan, Kat O	Rare, LC
Powdered Oak Blue	<i>Arhopala bazalus turbata</i>	Sham Wat Wan to Tai Ho Wan	-	Shing Mun, Yung Shue O, Tai Po Kau, Mount Nicholson, Victoria Park	Rare
Burmese Bush Blue	<i>Arhopala birmana birmana</i>	San Tau	-	Ma On Shan, Tsiu Hang, Shan Liu, Lai Chi Shan, Yung Shue O	Very Rare, LC
Paintbrush Swift	<i>Baoris farri farri</i>	Tai Ho	-	Deep Water Bay, Shing Mun, Lam Tsuen, Fung Yuen, Wu Kau Tang, Lai Chi Wo	Rare
Orange Awlet	<i>Bibasis oedipodea belesis</i>	Sham Wat Wan to Tai Ho Wan	-	Tai Po Kau, Lung Kwu Tan, Nam Chung, Bride's Pool, Shan Liu, Shing Mun, Tai Mo Shan, KFBG, Lantau South Country Park	Very Rare
Colon Swift	<i>Caltoris bromus bromus</i>	Sham Wat Wan to Tai Ho Wan	-	Wong Lung Hang, Hok Tau	Very Rare
Dark Swift	<i>Caltoris cahira</i>	San Tau	-	Mount Nicholson, Wong Chuk Yeung, Nam Chung, Tai Po Kau, Ma Wan	Rare
Forget-me-not	<i>Catochrysops</i>	Sham Wat Wan to Tai Ho Wan	-	Pui O, Tai Po Kau, Fung Yuen, Shing Mun, Sha Lo Wan	Very Rare, Species of Conservation Concern (AFCD Assessment)

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Plain Hedge Blue	<i>Celastrina lavendularis limbata</i>	Sha Lo Wan	-	Tai Po Kau, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan	Very Rare, LC
Common Yeoman	<i>Cirrochroa tyche mithila</i>	Sham Wat Wan to Tai Ho Wan	-	Aberdeen, Kat O	Very Rare, LC, Species of Conservation Concern (AFCD Assessment)
Cornelian	<i>Deudorix epijarbas menesicles</i>	Sham Wat Wan to Tai Ho Wan	-	Lam Tsuen, Shan Liu, Wu Kau Tang, Pak Sha O, Fung Yuen	Rare
Constable	<i>Dichorragia nesimachus formosanus</i>	San Tau	-	Widely distributed in woodland areas throughout Hong Kong	Rare, LC
Small Grass Yellow	<i>Eurema brigitta rubella</i>	Hau Hok Wan, San Tau	-	Ping Shan Tsai, Yung Shue O, Pat Sin Leng	Rare, LC
Spotless Grass Yellow	<i>Eurema laeta betheseba</i>	Tung Chung, Sha Lo Wan, Pak Mong, Tai Ho, San Tau	-	Ping Shan Chai, Hok Tau	Very Rare
Banded Awl	<i>Hasora chromus chromus</i>	San Tau	-	Sham Wat, Lai Chi Wo, Po Toi	Rare
Metallic Cerulean	<i>Jamides alecto alocina</i>	Sham Wat Wan to Tai Ho Wan	-	Victoria Peak, Fung Yuen, Cheung Lung, Mui Wo	Very Rare
Common Cerulean	<i>Jamides celeno celeno</i>	Sham Wat Wan to Tai Ho Wan	-	Shek Pik, High Junk Peak, Shek Mun Kap, Fung Yuen, Pui O, Ma On Shan	Rare
Yellow Pansy	<i>Junonia hierta hierta</i>	San Tau	-	Lung Kwu Tan, Wong Lung Hang, Peng Chau, Mount Davis, Kadoorie Farm	Rare
White Dragontail	<i>Lamproptera curius walkeri</i>	San Tau	-	Widely distributed throughout Hong Kong	Rare, LC
Oriental Striped Blue	<i>Leptotes plinius</i>	Tung Chung (Hau Wong Temple)	-	Lai Chi Wo, Kat O, Tung Ping Chau, North Lantau Island	Very Rare, Species of Conservation Concern (AFCD Assessment)

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Malayan	<i>Megisba malaya sikkima</i>	San Tau	-	North Lantau Island	Very Rare, LC
Sullied Sailer	<i>Neptis soma tayalina</i>	San Tau	-	Ma On Shan	Very Rare, LC
Common Rose	<i>Pachliopta aristolochiae goniopeltis</i>	San Tau	-	San Tau, Fung Yuen, Shing Mun Reservoir, Ngong Ping, Shan Liu	Rare
Southern Chinese Peacock	<i>Papilio dialis</i>	Sham Wat Wan to Tai Ho Wan	-	Fung Yuen, Ma On Shan	Very Rare, LC
Swallowtail	<i>Papilio xuthus xuthus</i>	San Tau, Sha Chau	-	Kap Lung, Wu Kau Tang, Sha Lo Wan, Kat O, Lung Kwu Tan	Rare
Oriental Straight Swift	<i>Parnara bada bada</i>	San Tau	-	Widely distributed in grassland throughout Hong Kong	Rare
Conjoined Swift	<i>Pelopidas conjunctus conjunctus</i>	San Tau	-	Ngong Ping, Shing Mun, Pak Tam Chung, Fung Yuen	Rare
Common Leopard	<i>Phalanta phalantha phalantha</i>	Sham Wat Wan to Tai Ho Wan	-	Widely distributed in shrubland throughout Hong Kong	Very Rare
Yellow Band Dart	<i>Potanthus pava pava</i>	San Tau	-	Plover Cove	Very Rare
Lesser Band Dart	<i>Potanthus trachala trachala</i>	San Tau	-	Widely distributed in grassland throughout Hong Kong	Rare
Peacock Royal	<i>Tajuria cippus malcolmi</i>	San Tau	-	Ma On Shan, Wu Kau Tang, Tai Po Kau, Mount Nicholson, Victoria Peak, Cloudy Hill	Rare, LC
Lesser Forest Blue	<i>Taraka Hamada isona</i>	Pak Mong	-	Tai Po Kau, Tai Mo Shan, Kadoorie Farm and Botanic Garden, Tai Tan	Rare, LC
Pale Palm Dart	<i>Telicota colon stinga</i>	Sham Wat Wan to Tai Ho Wan	-	Widely distributed in grasslands and shrublands throughout Hong Kong	Rare, LC
Dark Palm Dart	<i>Telicota ohara formosana</i>	San Tau	-	Widely distributed in grassland and shrubland throughout Hong Kong	Rare

Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
Golden Birdwing	<i>Troides aeacus aeacus</i>	San Tau	Cap. 586	Widely distributed throughout Hong Kong	Rare, LC
Grass Demon	<i>Udaspes folus</i>	San Tau, Tai Ho	-	Widely distributed in agricultural field throughout Hong Kong	Rare
Painted Lady	<i>Vanessa cardui</i>	Sham Wat Wan to Tai Ho Wan	-	Widely distributed throughout Hong Kong	Rare, LC
Tiny Grass Blue	<i>Zizula hylax</i>	Sham Wat Wan to Tai Ho Wan	-	Lung Kwu Tan, Fung Yuen	Species of Conservation Concern (AFCD Assessment)
Odonates					
Small Hooktail	<i>Meligomphus moluami</i>	San Tau	-	Ng Tung Chai, Sha Lo Tung, Tai Lam Country Park and Tai Tong	Uncommon, GC
Emerald Cascader	<i>Zygonyx iris insignis</i>	Tai Ho	-	Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong	Abundant, PGC
Stream Fauna					
Beijiang Thick-lipped Barb	<i>Acrossocheilus beijiangensis</i>	Tung Chung	IUCN (LC)	Records from reservoir catchments on Hong Kong Island and a few streams on Lantau Island	Rare, GC
Giant Mottled Eel	<i>Anguilla marmorata</i>	Sham Wat, Tai Ho	IUCN (LC), China Protected Species II	Records from Lantau Island, Sai Kung and Tsuen Wan	GC
Mud Carp	<i>Cirrhinus molitorella</i>	Tung Chung	IUCN (NT)	Not common in streams but occurs in large numbers in many reservoirs and cultivated in fishponds as food fish	-
Common Carp	<i>Cyprinus carpio</i>	Tung Chung	IUCN (V)	Not common in streams but occurs in many reservoirs and cultivated in fishponds as food fish.	-

Expansion of Hong Kong International Airport into a Three-Runway System

Environmental Impact Assessment Report

Common Name	Scientific Name	Location	Protection Status	Distribution	Rarity and Level of Concern
White-line Chest-sculptured Sisoridfish	<i>Glyptothorax pallozonum</i>	Tung Chung	Species of Conservation Concern (AFCD Assessment)	Possibly restricted to North Lantau.	GC
Rice Fish	<i>Oryzias curvinotus</i>	Tung Chung	IUCN (DD)	Records from a few streams in North District, Sai Kung and on Lantau Island as well as some reservoirs in North District and Tuen Mun.	GC
Predaceous Chub	<i>Parazacco spilurus</i>	Sham Wat, Sha Lo Wan, San Tau, Tung Chung, Pak Mong, Tai Ho	IUCN (DD), CRDB (VU)	A widespread species occurring in most unpolluted hill streams in both upper and lower courses	Common
Ayu	<i>Plecoglossus altivelis</i>	Tai Ho	IUCN (DD), CRDB (V)	Records from a stream on Lantau Island	Rare, RC
Purple Neon Goby	<i>Stiphodon atropurpureus</i>	Tung Chung	Species of Conservation Concern (AFCD Assessment)	Records from a few streams in North-East of New Territories and on Lantau Island	GC
Freshwater Macroinvertebrate					
Greasyback Shrimp	<i>Metapenaeus ensis</i>	San Tau, Sha Lo Wan	Vulnerable*	-	-
Freshwater Crab Species	<i>Somanniathelphusa zanklon</i>	San Tau	IUCN (EN)	-	Endemic

Reference source:

IUCN – IUCN Red List: EN = Endangered, V = Vulnerable, NT = Near Threatened, LC = Least Concern, DD = Data Deficient. (IUCN2013)

CRDB – China Red Data Book: CE = Critically Endangered, E = Endangered, V = Vulnerable. (Zheng, G. and Wang, Q. 1998)

Level of Concern: LC = Local Concern, RC = Regional Concern, PRC = Potential Regional Concern, PGC = Potential Global Concern, GC = Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence. (Fellowes *et al.* 2002)

Odonates – Distribution and Rarity: AFCD Biodiversity Database, 2012

*ARUP (2009)

References

AAHK. (2013). Hong Kong International Airport Approved Plant Species List (Revision 4.0: July 2013).

AECOM. (2009). Tuen Mun-Chek Lap Kok Link – Investigation. Final EIA Report. Submitted to Highways Department of HKSAR Government.

AFCD. (2003). Rare and Precious Plants of Hong Kong. Hong Kong: Friends of the Country Parks: Cosmos Books Ltd.

308875/ENL/ENL/03/07/C March 2014

P:\Hong Kong\ENL\PROJECTS\308875 3rd runway\03 Deliverables\07 Final EIA Report\Appendices\Ch 12 Terrestrial Ecology\Appendix 12.4 Evaluation of Ecological Importance.doc

Expansion of Hong Kong International Airport into a Three-Runway
System
Environmental Impact Assessment Report



ARUP. (2008). Agreement o. CE 23/2004 (CE) Lantau Logistics Park Development – Feasibility Study – Final report. Unpublished information.

ARUP. (2009). Hong Kong - Zhuhai - Macao Bridge Hong Kong Link Road (HZMB-HKLR) - Investigation Final EIA Report.

ARUP. (2013). EIA Study for Tung Chung New Town Development Extension. Unpublished information.

Asia Ecological Consultants Ltd. (2009). Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Verification Survey for Ecological Baseline Final Report. Prepared for Highways Department of HKSAR Government.

Barretto, G., Cribb, P. & Gale S. (2011). The Wild Orchids of Hong Kong. Natural History Publications (Borneo), Kota Kinabalu and Kadoorie Farm & Botanic Garden, Hong Kong.

Fellowes, J.R., Lau M.W-N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan B.P-L., Kendrick, R.C., Lee K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. 2002. Wild animals to watch: terrestrial and freshwater fauna of conservation interest in Hong Kong. *Memoirs of the Hong Kong Natural History Society* 25: 123-160.

Fu, L.K. & Chin, C.M. (1992). China Plant Red Data Book: Rare and Endangered Plants. Science Press, Beijing.

Hong Kong Herbarium and South China Botanical Garden (eds.) (2007). Flora of Hong Kong Volume 1. Agriculture, Fisheries and Conservation Department, Government of the Hong Kong Special Administrative Region, Hong Kong.

Hong Kong Herbarium and South China Botanical Garden (eds.) (2008). Flora of Hong Kong Volume 2. Agriculture, Fisheries and Conservation Department, Government of the Hong Kong Special Administrative Region, Hong Kong.

Hong Kong Herbarium and South China Botanical Garden (eds.) (2009). Flora of Hong Kong Volume 3. Agriculture, Fisheries and Conservation Department, Government of the Hong Kong Special Administrative Region, Hong Kong.

Hong Kong Herbarium and South China Botanical Garden (eds.) (2011). Flora of Hong Kong Volume 4. Agriculture, Fisheries and Conservation Department, Government of the Hong Kong Special Administrative Region, Hong Kong.

IUCN. (2013). IUCN Red List of Threatened Species Version 2013.1. <www.iucnredlist.org>. Downloaded on 07 November 2013.

Kadoorie Farm and Botanic Garden. 2013. *Ecological and Conservation Importance of Tung Chung, Lantau*. Kadoorie Farm and Botanic Garden, Hong Kong Special Administrative Region. 29 pp.

Karsen., S.J., Lau, M.W.N, & Bogadek, A. (1998). *Hong Kong Amphibians and Reptiles Second Edition*. Provisional Urban Council, Hong Kong.

Mouchel. (2004). Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities and Hong Kong Link Road – Final 9 Months Ecological Baseline Survey Report. Prepared for Highways Department of HKSAR Government.

Tam, N.F.Y. & Wong, Y.S. (2000). Hong Kong Mangroves. City University of Hong Kong Press, Hong Kong.

Wu, D.L., Hu, C.X., Hu, Q.M., Li, Z.X., & Xing, F.W., (Eds.) (1988) *Illustrations of Rare and Endangered Plants in Guangdong Province*: South China Botany Institute and Guangdong Environmental Protection Bureau, Environmental Science Press, Beijing.

Xing, F., Ng, S.C. & Chau, L.K.C. (2000). Gymnosperms and angiosperms of Hong Kong. *Memoirs of the Hong Kong Natural History Society* 23: 21-136.

Zheng, G. & Wang, S. (Ed.). (1998). *China Red Data Book of Endangered Animals: Aves*. Science Press, Beijing.