Hong Kong International Airport
Approved Plant Species List
(Revision 4.0.1: October 2015)

1 Background

Environmental management is integral to bird control at the Hong Kong International Airport (HKIA). Since Hong Kong lies on the bird seasonal migratory path and there is a large undeveloped area with vast natural vegetation in the adjacent Lantau Island, the Airfield Department of the Airport Authority Hong Kong (AA) has engaged a consultant to issue and maintain an Approved Plant Species List (APSL) in February 2000 in order to remove or limit the attractiveness of HKIA to birds.

Revisions 1, 2 and 3 were issued in February 2002, August 2003 and June 2007 respectively. The APSL was updated due to change of zoning of certain areas as a result of airport development and issued as Revision 4.0 in July 2013.

In view of the continuing large scale developments in airside and landside areas of the HKIA and in the vicinity of the airport island, the Airport Authority has issued this Revision 4.0.1 to supersede Revision 4.0. This revision includes the Hong Kong-Zhuhai-Macau Bridge and the Border Crossing Facility, and provides more descriptive guidelines based on the guiding principles and species in Revision 3 for easy reference by the Airport Authority and government departments in considering future planting proposals throughout all areas on the airport island and areas in the vicinity.

2 General Information

The airport island is divided into four zones based on the distances from runways and land use (**Figure 1**). Planting criteria in each zone are described as follow:

Airside

Only grass and ground cover of less than 200mm in height.

Zone 1

Only grass and ground cover of less than 200mm in height; climbers that do not produce fleshy fruit and should be planted in areas not exceeding 25m^2 and regularly pruned shrubs that do not produce fleshy fruit and are of less than 1.5m in height and 25m^2 in area size are allowed.

Zone 2

Climbers, palms, cycad, trees or shrubs are acceptable only if they do not produce fleshy fruit. As a precautionary measure, height restriction of **newly planted** palms, cycad and tree is normally 5-10m, and trees that could produce a spreading crown and/or develop into a tall structure should be avoided. Hence, selection of small trees is preferred as a long-term management and maintenance approach. For all existing, planted palms, cycad and trees, their suitability and horticultural maintenance practice will be regularly reviewed by AAHK, and will be monitored for bird activities and potential hazard to aircraft by AA's Wildlife Hazard Consultant. Given that the mature size of certain existing tree species (such as *Casuarina equisetifolia* and *Delonix regia*) is up to 10-15m, close monitoring on their bird attractiveness of these particular trees would be carried out. Height restriction of existing and newly-planted shrubs is 1.5m.

For initial planting, palm / cycad / ravenala / bamboo / trees should be in groups of 50 individuals or fewer. The area of each tree group should not exceed 150m^2, and shrubs / climbers should be planted in areas of no more than 500m^2. Routine horticultural maintenance should be carried out to maintain vegetation groups of smaller sizes as far as practical.

For all existing, planted palm / cycad / ravenala bamboo / trees as well as shrubs are monitored by AA's Wildlife Hazard Consultant for usage by birds, and by AAHK. The planted area can be no more than 500 m^2 for palm / cycad / ravenala / bamboo / trees and 1,000m^2 for shrubs / climbers. The linear segregation for adjacent groups of palms / cycad / ravenala / bamboo / trees / shrubs should be at least 50m; however, this segregation restriction can be relaxed if the plantation is assessed as not creating significant or hazardous attraction to birds by AA's Wildlife Hazard Consultant. Spread of tree crowns should be pruned to less than 3m for initial planting, and 6m for mature plants on the condition that the tree species does not produce fleshy fruits and that bird usage is monitored by AA's Wildlife Hazard Consultant.

Zone 3

In general, there is no restriction on the species planted in this zone. Trees, shrubs and palms are allowed. Large trees with complex structure encouraging birds' foraging and perching should be monitored for bird visitation. Existing plant species with fleshy fruits should also be monitored for bird attraction. In addition, to streamline long-term management and maintenance, planting of large groups of trees/ palms/ cycad/ ravenala that set fleshy fruits in the planting areas close to Zone 2 should be avoided.

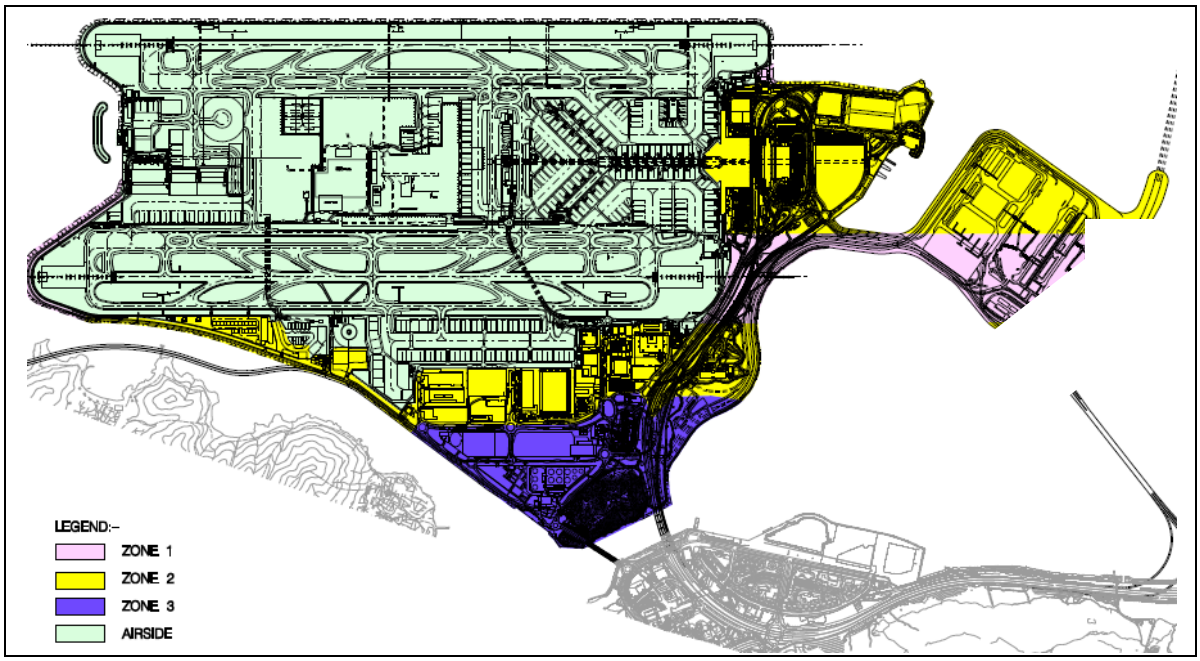

Figure 1. Zoning of the airport island

2 Approved Plant Species List (APSL)

The plant species allowed for planting in each zone are stated in the Approved Plant Species List (APSL). The acceptability of each species and management strategy has been evaluated based on their growth form and attractiveness to wildlife, particularly birds. The APSL (**Table 1**) provides a flora list to be followed in future planting proposals in each zone in the landside areas on the airport island; this was last reviewed in July 2015 by AA's Wildlife Hazard Consultant with update on the remarks based on Revision 3.

Flora species not in the APSL may be proposed to the Airport Authority for assessment by AA's Wildlife Hazard Consultant. Approval will be granted, with conditions given by the Airport Authority if appropriate, if the proposed species are not considered to pose unacceptable attraction to wildlife, particularly birds.

3 Plant species of Airport Island

Apart from planting, plants also naturally colonize and the plant community in the airport island will change with time. AA's Wildlife Hazard Consultant will conduct monthly landside bird survey and semi-annual vegetation survey, and submit reports on the plantation on the airport island with reference to the APSL, and assess whether planting at the Airport is providing unacceptable attractions to birds.

Table 1. FLORA SPECIES APPROVED FOR FUTURE PLANTING IN ZONES 1 AND 2

Scientific names	Approved in Zone 1	Approved in Zone 2	Remarks for planting and management
TREES			
Acacia confusa		✓	Require regular pruning
Albizia lebbeck		✓	
Bauhinia blakeana		✓	
Bauhinia purpurea		✓	
Bauhinia variegata		✓	
Callistemon viminalis		✓	
Cassia nodosa (New scientific name: *Cassia javanica* var. *indochinensis*)		✓	Require regular pruning
Cassia siamea		✓	
Cassia spectabilis		✓	Require regular pruning
Casuarina equisetifolia		✓	Require regular pruning
Cerbera manghas		✓	
Coccoloba uvifera		✓	Removal any fleshy fruits wherever possible; Require regular pruning
Delonix regia		✓	Require regular pruning.
Euphorbia cotinifolia		✓	Require regular pruning.
Ficus benjamina		✓	Require regular pruning and removal of figs.
Ficus microcarpa		✓	
Grevillea robusta		✓	
Jacaranda acutifolia (New scientific name: *Jacaranda mimosifolia*)		✓	
Juniperus chinensis		✓	Regular pruning to maintain height < 5m in Zone 2. Require regular pruning and removal of figs.
Plumeria rubra		✓	
Polyalthia longifolia 'Pendula'		✓	
Thespesia populnea		✓	Require regular pruning.
SHRUBS/HERBS			
Agave americana	✓	✓	Remove the flower spikes in both zones.
Agave angustifolia	✓	✓	Same as *Agave americana*.
Aglaia odorata		✓	
Aglaonema 'Silver King'	✓	✓	
Allamanda nerifolia (New scientific name: *Allamanda schottii*)		✓	
Allamanda cathartica		✓	Require removal of the flower spikes.
Alpinia zerumbet		✓	
Alpinia speciosa		✓	
Alternanthera versicolor (New scientific name: Alternanthera bettzickiana)	✓	✓	
Amaryllis spp. (*Hippeastrum* spp.).	✓	✓	
Asparagus sprengeri (*Asparagus densiflorus cv. Sprengeri*)		✓	
Begonia spp.	✓	✓	

Scientific names	Approved in Zone 1	Approved in Zone 2	Remarks for planting and management
Bougainvillea glabra	✓	✓	Regular pruning to maintain dense low canopy in both zones.
Caesalpinia pulcherrima		✓	Regular pruning to maintain dense low canopy.
Canna x *generalis*	✓	✓	
Canna indica		✓	
Calathea spp.		✓	Regular pruning to maintain a dense low canopy
Calliandra haematocephala		✓	Regular pruning to maintain a dense low canopy.
Cassia surattensis		✓	Require regular pruning
Catharanthus roseus		✓	
Codiaeum variegatum		✓	
Coleus hybridus		✓	
Cuphea spp.	✓	✓	*C. hyssopfolia* acceptable in all zones. Other *Cuphea* spp. acceptable in Zone 2 with regular pruning.
Dieffenbachia amoena		✓	
Ervatamia divaricata		✓	
Ficus microcarpa 'Golden Leaf'		✓	
Gordonia axillaries		✓	Regular pruning to maintain height <1.5m in Zone 2.
Hibiscus hamabo		✓	
Hibiscus syricacus		✓	
Hibiscus rosa-sinensis		✓	
Hibiscus tiliaceus		✓	Avoid planting in clumps esp. in areas nearby Zone 1 and the runway.
Hymenocallis americana	✓	✓	
Iris tectorum	✓	✓	
Ixora chinensis		✓	
Ixora coccinea		✓	
Lagerstroemia indica		✓	
Ligustrum ovalifolium		✓	Require regular pruning to maintain dense low canopy.
Malvaviscus arboreus var. *penduliflorus*		✓	
Michelia figo		✓	
Nephrolepis exaltata (New scientific name: *Nephrolepis hirsutula*)	✓	✓	
Nerium indicum (New scientific name: *Nerium oleander*)		✓	
Nerium oleander (Same as *N. indicum*)		✓	
Osmanthus fragrans		✓	
Philodendron selloum		✓	
Phyllanthus myrtifolius		✓	
Pilea nummularifolia	✓	✓	
Polyscias guilfoylei		✓	
Rhododendron farrerae	✓	✓	Regular pruning to maintain height < 1.5m in both zones.

Scientific names	Approved in Zone 1	Approved in Zone 2	Remarks for planting and management
Rhododendron hybridum	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron indica	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron lateritum	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron mucronatum "Akemono"	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron mucronatum "omuraski"	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron pulchrum	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron simsii	✓	✓	Same as *Rhododendron farrerae*.
Rhododendron simsii "GR"	✓	✓	Same as *Rhododendron farrerae*.
Russelia equisetiformis	✓	✓	
Saintpaulia idantha (*ionantha*)	✓	✓	
Spathiphyllum commutatum	✓	✓	
Strelitzia reginae	✓	✓	
Tecomaria capensis (New scientific name: *Tecoma capensis*)		✓	
Vitex rotundifolia		✓	Acceptable only on retaining walls at roadside; close monitoring on bird use and fruiting density; remove any fleshy fruits wherever practical.
Yucca aloifolia	✓	✓	
GROUND COVER			
Ipomoea brasiliensis (New scientific name: Ipomoea pes-caprae)	✓	✓	
Lantana montevidensis	✓	✓	Cultivar 'Spreading Sunset' acceptable in all Zones; regular pruning to maintain dense low canopy.
Liriope spicata		✓	Close monitoring on bird use and fruit production.
Ophiopogon japonicus	✓	✓	
Rhoeo discolor (New scientific name: Tradescantia spathacea)	✓	✓	
Syngonium podophyllum	✓	✓	
Wedelia trilobata	✓	✓	Regular pruning to maintain dense low mat.
Zephyranthes candida	✓	✓	
Zephyranthes rosea	✓	✓	
Zoysia sp.	✓	✓	Regular cutting to prevent seed head production.
CLIMBERS			
Bauhinia glauca	✓	✓	
Bougainvillea spectabilis	✓	✓	Regular pruning to maintain dense low canopy in both zones.
Dalbergia benthamii	✓	✓	
Ficus pumila		✓	Close monitoring on bird visitation and fruiting density; remove any fleshy fruits wherever practical.
Monstera deliciosa	✓	✓	
Parthenocissus himalayana	✓	✓	Acceptable only on retaining walls at

Scientific names	Approved in Zone 1	Approved in Zone 2	Remarks for planting and management
(New scientific name: *Parthenocissus dalzielii*)			roadside.
Pyrostegia ignea (New scientific name: *Pyrostegia venusta*)	✓	✓	Acceptable only on retaining walls at roadside.
Scindapsus aureus (New scientific name: *Epipremnum aureum*)	✓	✓	Acceptable only on retaining walls at roadside.
PALMS/ BAMBOOS/ CYCADS/ RAVENALA			
Bambusa multiplex		✓	
Bambusa ventricosa		✓	
Bambusa vulgaris		✓	
Chrysalidocarpus lutescens		✓	
Cocos nucifera		✓	
Cycas revoluta		✓	
Elaeis guineensis		✓	
Phoenix roebelenii	✓	✓	Remove any bunches of fruits wherever practical.
Ravenala madagascariensis		✓	
Rhapis excelsa		✓	

4 References

Corlett, R.T. 1992. Plants attractive to frugivorous birds in Hong Kong. *Memoirs of the Hong Kong Natural History Society* 19: 115-116.

Corlett, R.T. 1998. Frugivory and seed dispersal by birds in Hong Kong shrubland. *FORKTAIL* 13: 23-27.