



## **Hong Kong Wetland Park** **Habitat Management Plan**

1. The 60-hectare outdoor wetland reserve of the Hong Kong Wetland Park (HKWP) is composed of diverse habitats such as freshwater marsh, pond, reedbed, mangrove, mudflat and woodland (Annex 1). In general, the habitats of the HKWP are managed for the purposes of demonstrating the diversity of Hong Kong's wetland ecosystem and providing an education and recreation venue with a theme on the functions and values of wetlands for use by local residents and overseas visitors.
2. Habitat management in the HKWP is mainly conducted through enrichment planting, controlling water level, creating suitable micro-habitats and removal of invasive exotic species. Different habitats in the HKWP are managed according to their respective management objectives in Annex 2.

### Management for habitats for waterbirds

3. The freshwater marshes were maintained in several ways to provide habitats for different waterbirds. Islands with less vegetation and open water were designed for ducks, herons, egrets and cormorants. Dense emergent vegetation are provided for “shy” birds such as White-breasted Waterhen (*Amaurornis phoenicurus*) and Common Moorhen (*Gallinula chloropus*). Areas of floating-leaved plants are targeted for Pheasant-tailed Jacana (*Hydrophasianus chirurgus*) and Little Grebe (*Tachybaptus ruficollis*).
4. To provide habitats for waterbirds such as Black-faced Spoonbill (*Platalea minor*), ardeids and shorebirds, sluice gates in the mudflat are carefully controlled to manage the water level and mud exposure throughout the year to control growth of vegetation in summer, and create an environment favourable for waterbirds in winter. Vegetation and debris on the mudflat are removed in late summer to prepare for roosting and feeding grounds for massive migratory waterbirds especially waders arriving in winter. Common Reedgrass (*Phragmites australis*) is removed regularly in order to maintain an open landscape in the areas as feeding and roosting habitats for

birds such as ducks and egrets, and facilitate visitors to enjoy bird watching. Otherwise, human disturbance to the mudflat is kept minimal.

#### Management of mangrove habitats

5. Mangroves are the key flora of the HKWP in terms of ecological importance and public enjoyment. A wide range of fauna species, ranging from *Pteroptyx maipo* and Small Asian Mongoose (*Herpestes javanicus*), have been recorded in the mangroves. To encourage more luxuriant mangrove growth, selective locations along the cross channel in the HKWP have been sowed with mangrove droppers. In addition, seedlings of the locally uncommon true mangrove Coastal Heritiera (*Heritiera littoralis*) have been planted in the landward side of the channel.

#### Management of habitats for odonates and butterflies

6. In order to enhance the habitats for odonates, slow flowing streams with gentle slopes and shallow water level are maintained in selective locations in the HKWP. Along the Stream Walk, various isolated freshwater pools free of predatory fish are maintained to encourage the growth of odonate larvae. Various emergent plants are also planted in the pools to facilitate the emergence of the odonate adults.

7. Selected vegetation was planted in the Butterfly Garden to provide larval food plants and nectar plants for butterflies. India Birthwort (*Aristolochia tagala*) has been planted as larval food plant for the uncommon butterfly Common Rose (*Pachliopta aristolochiae*) and protected butterflies Common Birdwing (*Troides helena*) and Golden Birdwing (*Troides aeacus*). King Snake Creeper (*Passiflora moluccana*), the larval food plant of Red Lacewing (*Cethosia bibles*), was also planted and has attracted this uncommon butterfly to breed in the HKWP. The expansion of Butterfly Garden in 2010 and continuous habitat management brought positive impacts by recording more butterfly species and increasing visitors' viewing opportunities of butterflies.

#### Installation of artificial bird nest and bat boxes

8. Different sizes of artificial nest boxes for birds have been installed in the visitation area and woodlands of the HKWP. Monitoring of these nest boxes is conducted twice a month in the breeding season from April to August. While the small nest boxes have been occupied by birds such as Great Tits (*Parus major*) and Oriental Magpie Robins (*Copsychus saularis*), the big nest boxes have been used by Collared Scops Owls (*Otus lettia*) and Asian Barred Owlets (*Glaucidium cuculoides*)

for breeding. Bat boxes of different designs have also been set up at various locations in the HKWP to provide roosting places for bats including Japanese Pipistrelle (*Pipistrellus abramus*) and Lesser Yellow Bat (*Scotophilus kuhlii*).

#### Control of invasive exotic species

9. Exotic species are plants, animals and other organisms introduced either unintentionally or deliberately to areas outside their natural geographical ranges. Some exotic species which have fast growth rate, high reproduction rate, strong dispersal ability and tolerance to different environment are invasive in nature and would affect native species in the same habitat.

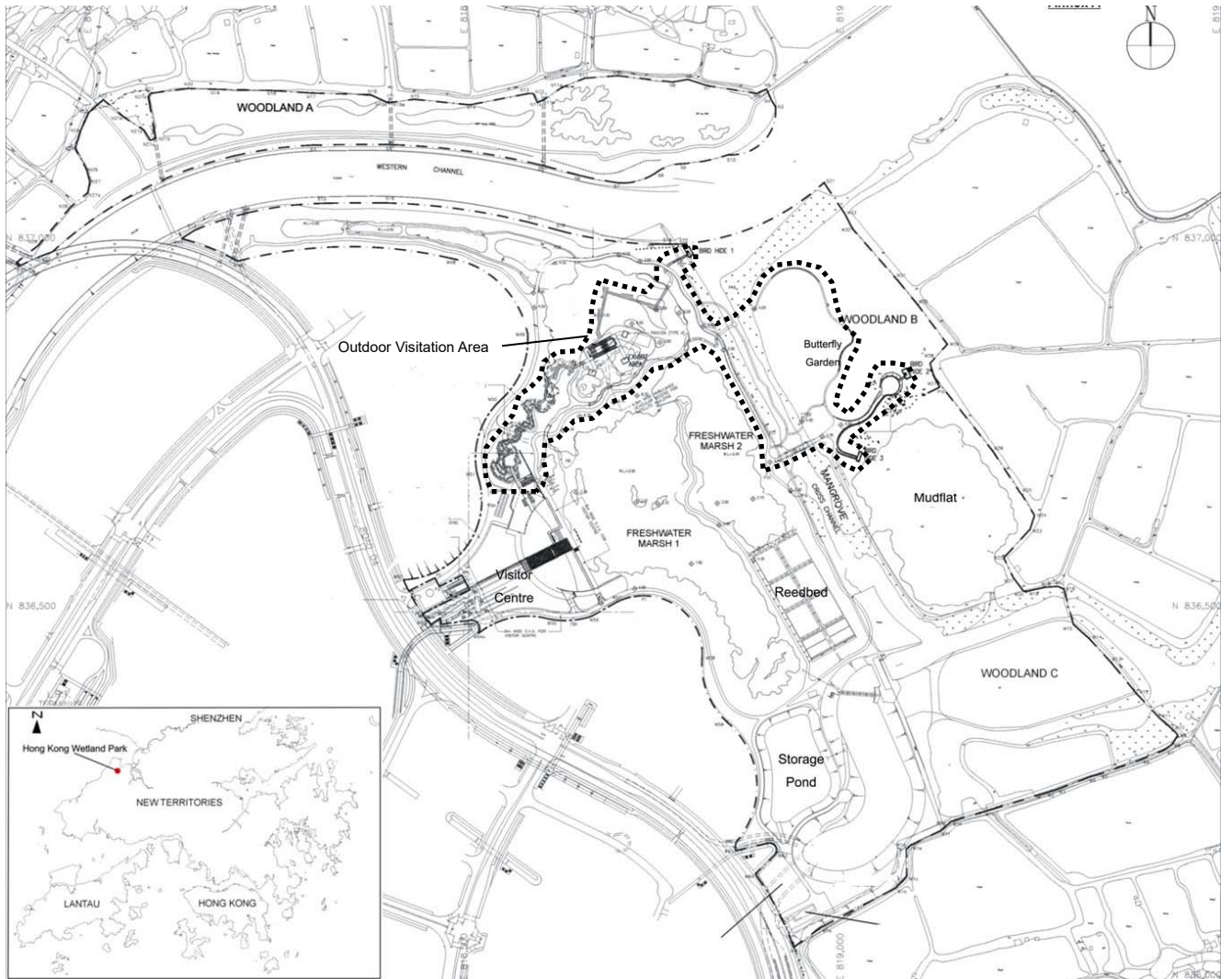
10. Invasive exotic plant species, namely the creeper Mile-a-minute Weed (*Mikania micrantha*), White Popinac (*Leucaena leucocephala*), Salvinia (*Salvinia* sp.) and the exotic mangrove Sonneratia (*Sonneratia* spp.) have been found in the HKWP, and removal of these species has been taken place regularly in order to control their impacts on the native plants in the HKWP.

11. Control of invasive exotic animal species such as Mozambique Tilapia (*Oreochromis mossambicus*), Nile Tilapia (*Oreochromis niloticus*), Red Imported Fire Ant (*Solenopsis invicta*) and Golden Apple Snail (*Pomacea canaliculata*) are also carried out regularly. Tilapias and Golden Apple Snails have been found damaging aquatic plants in shallow water in the HKWP. Tilapias are controlled mainly by trapping, and Golden Apple Snails and their eggs are removed by handpicking. Red Imported Fire Ants are controlled by applying specific insecticide at the ant mounts and its population in the HKWP has substantially declined due to the continuous efforts over the years.

#### Landscape maintenance

12. Landscape maintenance work such as watering, fertilising, weeding and enrichment planting are carried out to keep the visitation area of the HKWP tidy and to maintain the vegetation as designed. Regular tree risk assessment is carried out to inspect the health and structural conditions of trees in the visitation area, particularly those near footpaths and structures, and identify if maintenance work to the trees such as pruning of dead branches or thinning of trees are needed.

**Map of the Hong Kong Wetland Park**



**Habitats in the HKWP and Their Management Objectives**

<b>Habitat</b>	<b>Area</b>	<b>Management Objectives</b>
Visitation Area	3.7 ha	To keep the vegetation in a neat, tidy and well-maintained condition for the enjoyment of visitors; to maintain the vegetation around Stream Walk, Wetland Discovery Centre and Succession Walk as designed; to provide diverse freshwater habitats for frogs and fishes, and aquatic macroinvertebrates especially odonates; plantings along access paths provide natural screen and landscape for amenity purposes.
Freshwater Marshes	4 ha	To provide islands with less vegetation for ducks, herons and egrets; to provide open water for ducks and cormorants; to provide dense emergent vegetation for waterbirds such as White-breasted Waterhen and Common Moorhen, and areas of floating-leaved plants for Pheasant-tailed Jacana and Little Grebe.
Reedbeds	0.9 ha	To maintain reeds in healthy condition. Reedbeds provide stormwater treatment and habitat for birds and insects.
Mudflat	2.2 ha	To maintain the surface of mudflat free of vegetation and to control the water level for waterbirds such as Black-faced Spoonbill, ardeids and shorebirds.
Mangroves	2 ha	To maintain mangroves in good condition and remove excessive climbers and invasive plants; to create viewing opportunities for visitors on floating board walk; to support crabs, mudskippers and other mangrove-dependent species.
Woodlands	16.3 ha	To improve the condition of the woodlands by enrichment planting; to provide disturbance-free breeding habitats for woodland birds and mammals; to monitor mammals through auto trigger cameras and trapping.
Butterfly Garden	0.2 ha	To provide abundant larval food plants and nectar plants for butterflies.
Storage Pond	0.7 ha	To store water for the freshwater circulation in the park.