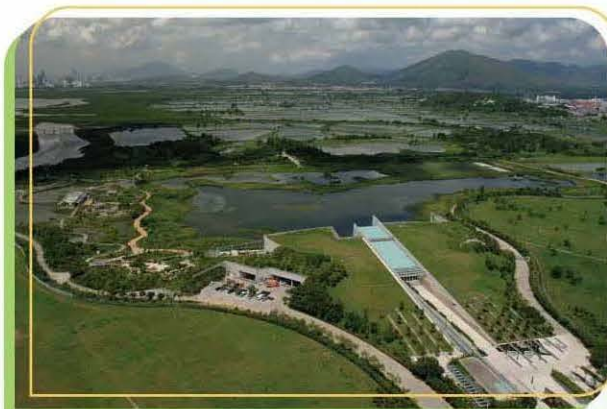


# 香港濕地公園的生態監察 Ecological Monitoring in Hong Kong Wetland Park

在生態系統中，所有生物都擔當著不同角色，生物之間有著如捕獵、競爭或共生的相互關係。物種受著自然環境或生物群落的變化影響，而擁有豐富多樣性的生態系統，相對比較穩定。

All living organisms and their environment are inseparably inter-related and interact upon each other. These interactions include predation, competition and symbiotic relationship. Living organisms also interact with the physical environment. Any changes in the living constituents or the physical environment might lead to an increase or decrease in the population of a species. An ecosystem which contains a high diversity of plants and animals is considered to be more stable.



香港濕地公園是建築在一片補償濕地上的大型設施，現時有各種不同的濕地生境，包括人工河溪、淡水沼澤、蘆葦床、季節性沼澤、魚塘、濕農地、紅樹林等  
Hong Kong Wetland Park is built on a mitigated wetland, currently it comprises of a variety of habitats including artificial stream, freshwater marsh, reedbed, seasonal marsh, fishpond, wet farmland and mangrove

香港濕地公園建築在人工濕地上，為檢討公園的建設是否能切合本地野生動植物的需要，我們會定期收集園內野生動植物的多樣性、分佈及其習性的資料。

自2003年，我們展開了生態監察工作。歷年來累積的資料，有助我們評估所施行的生境管理措施，是否達到保育濕地物種多樣性的目的。我們也評估遊人對這人工濕地的影響，從而在管理策略上作出相應調整。除此以外，有關資料還可以讓我們了解香港濕地公園內各生境中成員的互動關係，這有助發展教育或生態旅遊項目。

本資料頁介紹幾種生態調查方法和原理。

Hong Kong Wetland Park (HKWP) is an infrastructure built on a re-created wetland. To enable us to review whether habitat design meets the need of native wildlife, we conduct regular ecological surveys to collect data on diversity, distribution and habitats of animals and plants here.

In fact, ecological monitoring surveys in HKWP commenced in 2003, when the project was still under construction. The cumulative data allow us to review whether the habitat management strategies meet the aims of conserving wetland biological diversity. The data also helps to review the impact of tourist on this re-created wetland. In addition, the collected ecological information including interactions of different inhabitants found here, also help us to develop education and ecotourism programmes.

This factsheet introduces the principle and methodology of the surveys.



在這片重建的濕地上，多年來不斷進行生態監察工作  
In this re-created wetland, ecological surveys have been carried out regularly for many years

## ■ 香港濕地公園的生態監察 Ecological Monitoring in HKWP

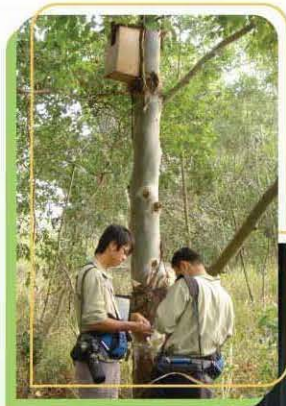
### 雀鳥的監察 Monitoring of Birds

雀鳥擁有較容易辨別的外形和獨特的叫聲。進行雀鳥監察時，調查人員會沿特定的路線及在指定的觀察點上利用單筒或雙筒望遠鏡點算鳥種及數量。

此外，設於公園內樹林中的人工巢箱都裝設了小型攝錄機監察雀鳥使用率及在不影響「住客」的情況下監察牠們。



在濕地覓食及棲息的水鳥  
Waterbirds utilise wetlands as  
feeding and roosting sites



調查人員監察人工巢箱內的鳥類繁殖狀況  
Surveyors monitor the condition of  
breeding birds in artificial nests



觀鳥屋內的觀鳥記錄讓訪客在參觀時知道  
近期出現的雀鳥品種  
Recent sightings of birds are shown at  
bird hides for visitors' information

Birds have the advantage that they are often conspicuous. For example, they have diagnostic calls or songs. Surveyors count birds along a fixed route and from vantage points with the help of binoculars and telescopes.

In addition, artificial nest boxes are installed within HKWP. Occupants are monitored by in-built video cameras within the nest box to minimise disturbance to the young birds.

### 兩棲動物及爬行動物的監察 Monitoring of Amphibians and Reptiles

大部份的兩棲動物在黃昏較為活躍。調查人員會沿指定監察路線選用不同的技巧進行監察，如直接觀察、分辨鳴叫聲、提取卵及蝌蚪樣本等。

調查爬行動物時主要是搜尋牠們常常躲藏的地點如木塊下面，以及在樹下的枯葉堆。

Most species of amphibians are active around dusk. Surveyors follow fixed routes during each visit and apply a combination of techniques such as direct observation, identifying the frogs by their call, sampling eggs and tadpoles for ex-situ identification etc.

When conducting reptile survey, surveyors search for them in their shelters, for example, areas underneath wooden planks and amongst fallen leaves.



花狹口蛙  
Asiatic Painted Frogs



調查人員尋找濕地保護區的爬行動物  
Surveyors search for reptiles in the  
Wetland Reserve



以捕捉方式記錄淡水沼澤的魚類品種  
Fishes in the freshwater marsh are recorded by trapping methods

## 哺乳動物的監察 Monitoring of Mammals

大部份香港濕地公園出沒的哺乳動物都是晝伏夜出的。除蝙蝠外，其他品種的數量並不多。

濕地保護區設有數個紅外線感應的照相機，只要恆溫動物進入拍攝範圍內，感應器便啟動，並即時拍攝。這個方法特別適用於一些害羞的夜行動物。

調查人員亦會設陷阱餌誘小型哺乳動物如鼠類，辨認及記錄後，即時釋放。



公園內裝設了數個紅外線感應的照相機拍攝夜行動物  
Infra-red-trigger cameras are installed for recording nocturnal animals

## 昆蟲的監察 Monitoring of Insects

蜻蜓、豆娘和蝴蝶品種、其數量和生境種類、以及牠們使用的植被有很大關係。調查人員沿指定的監察路線利用望遠鏡點算沿途看到的蜻蜓、豆娘和蝴蝶。

Diversity and abundance of dragonflies, damselflies and butterflies have close relationship with types of habitats and vegetation. They are surveyed with the aid of binoculars along fixed observation routes.

## 蟹的監察 Monitoring of Crabs

近期，無脊椎動物調查亦包括蟹。調查方法主要是在紅樹林浮橋附近觀察，進行辨認品種及記錄牠們的數量。

Recently, monitoring of invertebrates has been extended to crabs at Mangrove Boardwalk area. The survey method involves identification of crab species as well as their relative abundance in mangroves.

## 淡水魚類的監察 Monitoring of Freshwater Fishes

進行魚類調查時，我們會用刺網、魚籠及網捕捉在淡水沼澤的魚類以作記錄。

The fish population of HKWP are surveyed annually by gill nets, pot traps and hand nets.



紅狹獺  
Small Asian Mongoose

Most of mammals in HKWP are nocturnal and occur at low density except bats.

Several infra-red-trigger cameras are installed in the Wetland Reserve. The camera operates automatically when warm blooded animals get into the detection area. This is an efficient tool for recording shy nocturnal mammals.

Small mammal traps are set up with baits for attracting mammals. Traps are checked, and the animals are released soon after identification.



調查人員捕捉昆蟲作進一步鑑別  
Surveyor catch the insects for further identification

## 植物的監察

### Monitoring of Plants

調查人員亦會監察植物群落(特別是水生植物)在新建生境內的生長情況，並記錄物種的生長週期、生長狀況(如疾病、噬食等)以及植物種類的變化。這些都是生境管理工作中相當重要的一環。

在進行植物監察時，調查人員會沿淡水沼澤岸邊設置樣線，定期調查樣線內的植物分佈和種類。調查人員亦會在蘆葦床設置樣方，抽樣記錄樣方內蘆葦的生長狀況。

Growth of plant communities (especially aquatic plants) in the newly constructed habitats are monitored. Surveyors record and monitor life cycle of aquatic plants, their condition (such as disease and herbivory) and the extent of natural colonisation. This is crucial information for managing the habitats.

When conducting the plant survey, surveyors observe the percentage coverage and growth condition of terrestrial and aquatic plants on transects set along the shorelines of freshwater marshes. Surveyors also monitor the growth condition of reeds in Reedbed by using quadrats.



調查人員正調查植物的生長情況  
Surveyors are investigating the growth condition of plants

## 環境變量的監察

### Monitoring of Environmental Variables

水是濕地的重要元素，因此監察水質非常重要。調查人員會量度水體的溫度、混濁度、鹽度、酸鹼度、懸浮固體、含氮基或磷基的有機及無機化合物、溶氧量、生化需氧量等。監測數據用來評定香港濕地公園內人工濕地的水質及蘆葦濾水床的功效。

As water is the principal component of a wetland, water quality monitoring is also vital to the wetland habitats. Water temperature, turbidity, salinity, conductivity, pH, total suspended solids, organic and inorganic components of water such as nitrogenous and phosphorus compounds, dissolved oxygen and BOD (Biological Oxygen Demand) are parameters that account for the water quality. The data collected are used to review the water quality of these re-created wetlands and the filtering efficiency of the Reedbed.



調查人員在野外收集水樣後，帶回實驗室進行水質測試  
Surveyors conduct water quality test at the laboratory after collecting samples from the field