

濕地 - 野生生物之家

Wetlands - Homes to Wild Animals

水是濕地的主要成份，也是濕地動植物出沒的主要決定因素。不同的供水量及水質，會構成不同類型的濕地環境，例如泥炭沼、氾濫森林、蘆葦床、海岸、紅樹林和珊瑚礁。

濕地孕育著各式各樣的生物，包括雀鳥、兩棲動物、爬行動物、魚類、昆蟲等。濕地為這些生物提供食物與庇護所。本資料頁會介紹幾個主要的濕地類別，並簡介水文如何控制生活在濕地的動植物種類。

Water dominates the wetland habitat and determines precisely which plants and animals can live there. The availability of water leads to the development of a variety of wetland habitats including peat bog, flooded forest, reed marsh, seashore, mangrove swamp and coral reef.

Wetlands support the life of a number of organisms including birds, amphibians, reptiles, fishes and insects by providing food and shelter. In this factsheet, it introduces several major groups of wetlands as well as some general information regarding how the hydrology of wetlands control the types of plants and animals living there.



水是構成不同類型濕地環境的主要因素
Water is an important element forming different types of wetlands



濕地孕育著各式各樣的生物
Wetlands support the life of a number of organisms

泥炭沼 Peat Bog

泥炭沼分佈於地球的溫帶地區，也有分佈於潮濕的熱帶高山地區。這些地方都是降雨頻密、溫度較低、水份蒸發量低，因而構成該地長期積水。泥炭沼長年被水淹浸，造成酸性及含氧量低的環境，自然堆積的植物只能部份分解及炭化。

有些泥炭沼的土層可厚達10米，而且具有多種植物群落。

Peat bog mostly occurs in temperate regions but it can also occur in the wet tropics on high mountains where evaporation is low. These areas used to have the characteristics of frequent rainfall, together with a generally cool climate and consequently low evaporation rates. These lead to permanent waterlogged environments which are acidic and hypoxia (lack of oxygen), so plant materials do not decay completely. The soil layer can be as thick as 10 metres with different types of flora.



中國四川省的若爾蓋高原的泥炭沼澤地
Peat bog in Xogge, Sichuan Province, China

苔原 Tundra

苔原是指在北半球北部的永久凍土層上的濕地環境。苔原植被非常矮小，包括苔蘚、地衣和短小的灌木叢，匍匐生長或長成墊狀。

冬季時，苔原環境極為寒冷和黑暗。夏季時，氣溫上升，凍土表層融化，雨水或融雪積聚在凍土上，形成濕潤環境。苔原環境可找到沼澤、湖泊和河溪等濕地。很多水鳥（例如黑頸鶴、黑腹濱鷸、黑尾塍鷸、金斑鴉）和水禽（如鴨、雁、天鵝）於四至五月期間遷徙至這個地區繁殖，利用較長的日照時間，以及充足的無脊椎動物供應，讓幼鳥獲得充份的蛋白質而成長。

苔原生境支持著有限度的食物鏈，除了讓昆蟲有短暫的生長季節以外，還能提供食草性遷徙動物的食物來源。

Tundra is a type of habitat in the far Northern Hemisphere. It is a layer above the permafrost covered by mosses, lichens and dwarf shrubs.

During winter, it is dark with extremely low temperature. During summer, the temperature rises, and the top layer of permafrost melts, leaving the ground very soggy and wet. The tundra is covered with marshes, lakes and streams during warm months. Many waterbirds migrate to these regions in April or May to breed, for example, Black-necked Crane, Dunlin, Black-tailed Godwit, Golden Plovers and a number of waterfowls including ducks, geeses and swans. They make use of the long hours of daylight, and take the advantage of an abundance of invertebrates as food, which provides their youngs with a rich source of protein, and allows them to grow rapidly.

Tundra supports only limited organisms in the food webs. Apart from providing habitats for the short growing season for insects, they are also used by migratory grazing herbivores.



中國青海省巴顏喀拉山口的苔原環境
Tundra at Bayankala Shan Pass, Qinghai Province, China



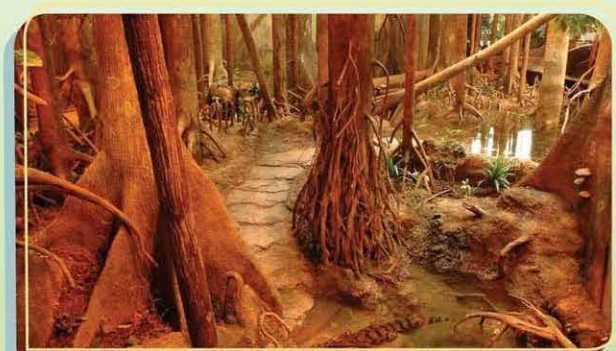
很多水鳥（例如黑頸鶴）於四至五月期間遷徙至苔原地區繁殖
Many waterbirds (e.g. Black-necked Crane) migrate to the tundra regions in April or May to breed

氾洪森林 Flooded Forest

氾洪森林經歷季節性的河水氾濫，被水淹沒的土壤上面的樹林，有多樣性的環境，讓動物如哺乳動物和雀鳥居住。

其中一個最佳例子是亞瑪遜盤地的濕地，這片濕地佔整個森林面積約四份之一。每年雨季來臨（四月至十月），洪水覆蓋土壤超過10米，這讓魚類有機會游到被淹浸的地方尋找食物。位於巴西境內的森林，每年六至八月，會被雨水及安第斯山脈的融雪淹蓋。這時多種魚類（約2,000至3,000種）例如大蓋巨脂鯉會游走於樹木之間，嚼食樹上掉下來的果實，部份魚類更因此協助了種子傳播。

氾洪森林在亞洲地區也有分布，例如馬來西亞的砂朥越、婆羅洲、巴布亞新幾內亞、蘇門答臘等地。這些森林的共同特徵是生長著高大的樹木，以及有很高的水位，經常發生的滂沱大雨，長年被水淹沒的泥土令地面上部份的植物因而發展了出水通氣根和板根。



熱帶沼澤展覽廊展示著氾洪森林的生境
Tropical Swamp Gallery demonstrates habitat of a flooded forest



Flooded forest is a woodland area which is being flooded seasonally. Trees growing on the waterlogged substratum which provide a range of habitats for animals.

In the world's greatest mass of flooded forest, one of the best examples is the Amazon Basin wetland system. This region makes up about a quarter of the entire Amazon forest. During annual floods (April to October), the area is inundated with water up to 10 metres. This creates opportunities for fishes to exploit resources that are unavailable for the rest of the year. In June, July and August, much of the forest region along the Amazon River in Brazil becomes flooded, following heavy rain and snowmelt in the Andes. Many species of fishes (possibly from 2,000 to 3,000) including Tambaqui (*Colossoma macropomum*) spread over new areas and consume fruits and seeds dropped into water by the surrounding trees. Some fish species also contribute to seed dispersal.

Flooded forest is also apparent in Southeast Asia, particularly in Sarawak, Borneo, New Guinea and Sumatra. These forests are characterised by tall trees and high water tables. The heavy rain and waterlogged substratum lead to presence of pneumatophores or massive buttress roots in some species.

蘆葦沼澤 Reed Marsh

蘆葦沼澤是以蘆葦為優勢種的沼澤，常見於經常被水淹蓋的地方。蘆葦為野生生物尤其是昆蟲，提供食物及隱蔽的棲息場所。

米埔自然護理區的蘆葦床是蘆葦沼澤的最佳例子，這裏曾錄得超過400種陸生無脊椎生物。雀鳥方面，蘆葦生境適合牠們築巢，亦是極佳的藏身地方，防止猛禽侵襲。

Reed marsh is a kind of wetland that is dominated by reed. Reed marshes can be found in areas that are flooded frequently. Reeds provide food and hiding places for many different living organisms, especially insects.



蘆葦沼澤
Reed marsh

For example, over 400 species of terrestrial invertebrates have been recorded at extensive reedbeds in the Mai Po Nature Reserve. For birds, the dense structure of reed marsh provides possibilities for building nests or for hiding, to get rid of raptors flying overhead.

海岸 Seashore

海岸是海洋和陸地交接的地方。根據其不同的基質可分為泥灘、沙灘及岩岸三大類。海岸環境受著潮汐的影響而被海水淹浸或外露。

生活在海岸的生物會根據環境的變化，發展出不同的適應性，並活躍於特定環境或位置形成不同的生物帶。例如一些較為耐旱的生物，可以在離海水較遠的位置棲息。

Seashore is the transition area between marine and terrestrial environments. The seashore is submerged, or exposed in a tidal cycle. Based on the physical features of substratum, it could be divided into muddy, sandy or rocky shore.

The wildlife living along this shore develop special body structures to live in a particular location forming different biological zonations. For example, wildlife that equipped to tolerate a longer exposure time can be found farther from sea.



反嘴鷸在潮間帶泥灘上覓食
Pied Avocet are looking for foods in intertidal mudflat



蟹(馬蹄蟹)在河口的沙灘和泥灘生活
Horseshoe Crab lives in estuarine sandy beach and mudflat

紅樹林沼澤 Mangrove Swamp

紅樹林沼澤是一個以紅樹為優勢種的濕地環境。在熱帶及亞熱帶地區，紅樹林的分佈差不多佔了該地區一半的潮間帶面積。由於水流較緩慢，水中的沉積物在這裡沉澱，紅樹落葉的有機物質，也落在根部附近的沉積物上。緊密幼細的沉澱物令泥土通氣不足形成缺氧環境。在紅樹林沼澤生存，植物必須能適應低氧份、高鹽份和因潮汐漲退而致的不穩定的環境。

紅樹林複雜的根部系統使它成為魚類和水生脊椎動物的庇護所。紅樹頑強的適應能力，令它們成為這生態系統中食物網的生產者，並提供育幼的場所，讓超過二千種的魚類和甲殼類在牠們的生命週期中獲得充足的養份及棲息地。

Mangrove swamp is a wetland habitat that is dominated by mangroves. It fringes about half of the intertidal areas in tropical and subtropical regions. The movements of water are relatively gentle and sediment accumulates steadily around the roots. Organic material from fallen leaves is also added to the sediment layers around the roots. The compact fine sediment cause poor aeration at the substratum and gradually develop an anoxic (completely lack of oxygen) environment. To survive in mangrove swamp, mangrove plant species need to cope with the lack of oxygen, high salinity and instability caused by tides.

The complexity of the submerged root systems of mangroves provides ideal shelter for fishes and aquatic vertebrates. The mangroves act as a key primary producers in the ecosystem, providing nurseries to more than 2,000 species of coastal fishes and crustaceans, and supporting a variety of living organisms.

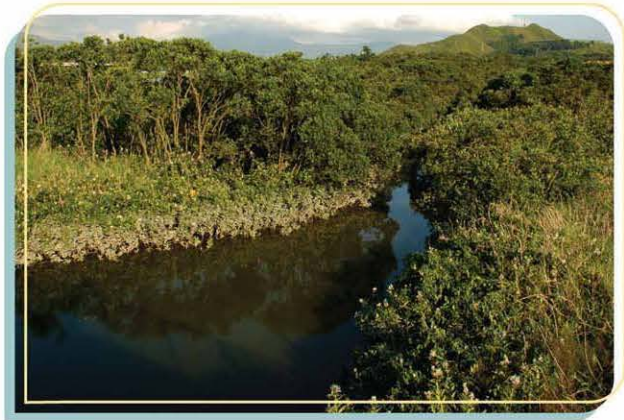
珊瑚礁 Coral Reef

珊瑚礁常見於熱帶及亞熱帶的淺海地區。

珊瑚礁由眾多的石珊瑚骨骼所組成，其複雜的結構為海洋中的生物提供食物和棲息的地方。超過四分之一已知的海洋魚類品種可在珊瑚礁找到。因此，珊瑚礁亦被稱作「海洋中的熱帶雨林」。

Coral reefs are mostly found in shallow seawater in the tropical and sub-tropical regions.

Coral reefs are a spatially complex habitat composing of exoskeleton of the hard corals. It provides shelter and food for a variety of marine wildlife. More than a quarter of known marine fishes are found at coral reef. Therefore, some people describe the coral reef as "rainforest of the ocean".



紅樹林沼澤
Mangrove swamp



在海下灣的珊瑚群落
Coral communities in Hoi Ha Wan