

# 水、濕地與我們的關係

## Water, Wetland, and Us - What is the link?

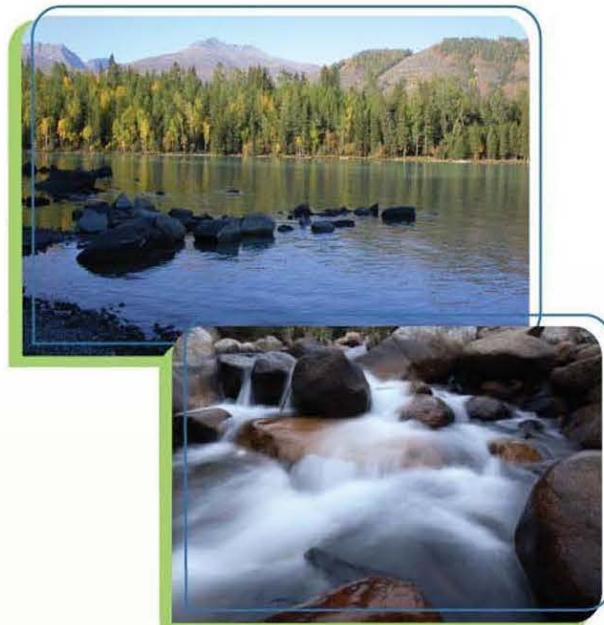
### 地球上的水資源 Water on the Earth

人們都以「藍色星球」描述我們居住的地球，這個名稱的確十分貼切。當中藍色的部份是被水覆蓋的地方，約佔地球表面面積70%。

大部份被水淹蓋的地方是海洋，其餘是湖泊、水庫、池塘、溪流、沼澤等淡水生境。事實上，地球的水還包括儲存在冰冠及冰川的水以及地下水。然而，可供我們使用的淡水，只佔全球水量的0.3%。

Many people describe the Earth as a "Blue Planet". It is an appropriate description indeed because almost 70% of the Earth's surface is covered by water.

The majority of the inundated areas are oceans; others are freshwater habitats such as lakes, reservoirs, ponds, streams and marshes. In fact, earth's water also includes those stored in ice caps, glaciers and underground. However, the volume of usable freshwater is only 0.3% of the total volume of earth's water.



部份地面上的水存在於湖泊、溪流等地方  
Part of the surface water can be found in lakes and streams

### 水循環 Water Cycle

水分不斷循環於大氣、地面與及地底之間，這個周而復始的轉移運動稱為「水循環」，過程中牽涉到能量的轉移。

Water cycle, also known as the hydrologic cycle, describes the continuous movement of water on, above, and below the surface of the Earth. Apart from the water movement, energy transmission also takes place through the cycle.

1. 凝結：水蒸氣凝結成小水點，產生雲和霧  
**Condensation:** the transformation of water vapour into droplet forming clouds and fog
2. 降水：大氣中的水以雨水、冰雹和雪等方式降落地面  
**Precipitation:** water falls in forms of rain, hail or snow to the earth surface
3. 地表徑流：水在地表上(例如河溪)流入海洋  
**Surface run-off:** water flows across the land surface, as rivers and streams, to enters oceans
4. 下滲：地表的水份向下滲。部份水份會留在土壤中，被植物吸收；部份則繼續滲透至地下儲水層  
**Infiltration:** the flow of water from the surface into soils. Some water is absorbed by vegetations, the rest percolates downward to the underground aquifer
5. 蒸發作用：一般指水份蒸發成水蒸氣  
**Evaporation:** the transformation of water from liquid state to gaseous state
6. 蒸騰作用：水分透過葉子被蒸發  
**Transpiration:** the loss of water in plants through leaves
7. 地下水流：地下水依地質結構流動  
**Ground water flow:** ground water will flow according to the subterranean geology





## 淡水對人類的重要性

### The Importance of Freshwater to Man

長久以來，人類會聚居在靠近河流、湖泊或有地下水源的地方，因為穩定的淡水供應對人類非常重要。

人體血液中，約80%是水份。血液攜帶氧氣和養份到細胞，然後將二氧化碳及廢物從細胞帶走，再分別由肺部及泌尿系統排出體外。此外，水份亦是汗液的主要成份，而我們會透過排汗來調節體溫。

當人體的水份不斷減少，血液會變得黏稠而難以在體內循環，影響各生理系統的正常運作。因此我們每天需要喝2至3公升(約8杯)的水，以補充水份。

我們在烹飪、清潔家居、種植和灌溉農作物和園藝植物，飼養牲畜以及工業上都使用大量淡水。

Historically, people settled near rivers, lakes and sources of underground water. A stable freshwater supply is critically important to human.

Water makes up 80% of our blood. Blood carries oxygen and nutrients to cells. It also transports carbon dioxide to lung and other waste products to urinary system for gaseous exchange and excretion respectively. In addition, we sweat to regulate body temperature.

When we are dehydrated, our blood will become too viscous to circulate in our bodies, our normal physiological functions will be affected. Hence, we need to drink 2 to 3 litres (about eight glasses) of water daily.

We also consume freshwater for cooking, cleaning, planting, irrigating crops, raising livestock and manufacturing of various products.



種植農作物需要使用大量淡水  
Freshwater is consumed for planting crops



水塘儲水及東江水供應了香港市民生活上淡水所需  
Freshwater from reservoirs and Dongjiang River provide Hong Kong people necessary water supply

## 我們的用水量

### Our Water Consumption

根據水務署提供的資料，香港人在2006年平均每日耗用了264萬立方米的食水。相同份量的水能注滿約1,056個奧運標準泳池。

香港的食水主要來自珠江的其中一條支流—東江。東江流經江西省及廣東省。隨著廣東省內城市的急速發展，對東江水的需求也相繼提高。

According to the information provided by Water Supplies Department, daily consumption of freshwater of Hong Kong citizen in 2006 was 2.64 million cubic meters. The same volume of water can fill up 1,056 Olympic standard pools.

In Hong Kong, tap water is sourced mainly from Dongjiang, one of the tributaries of the Pearl River. Dongjiang flows through Jiangxi and Guangdong provinces. Because of rapid development of cities in Guangdong province, demand of freshwater from Dongjiang has been increased drastically.



## 過度耗用水的影響

### The Subsequence of Over-exploitation of Water

從前人們進行耕作、灌溉、清潔或煮食，取水時都需要付出大量勞力，使用者對每一滴水都會非常珍惜。時至今日，我們利用水管將清水送到家居，淡水被誤認為是唾手可得並用之不竭的資源。若耗水量遠超於降雨量及溶雪量的話，河流的流量及濕地的儲水量都會大大降低，河流及濕地甚至有可能乾涸，這影響我們獲取穩定的食水供應。

當上游及中游的流量降低，沿河地區排放到河流的污染物便難以被稀釋。最終威脅到下游及河口的濕地生物，同時亦影響到漁業及旅遊業的發展。另一方面，流量下降亦會增加海水倒灌和鹹潮發生的機會。

過度抽取及耗用淡水資源對人類以及其他濕地生物都會造成負面影響。

In the past, people have employed a great deal of effort to extract and collect freshwater for farming, irrigation, washing and cooking, they treasured every droplet of water. Nowadays, in Hong Kong, we can easily obtain freshwater by turning on the tap. This simple action makes us overlook the preciousness of availability of freshwater. If the water usage exceeds the replenishment from rain and melting snow, wetlands would dry up. Over exploitation of water resources affects our water supply.

If the volume of water flow at upper and middle courses of river diminishes, pollutants discharged along rivers cannot be diluted. This will threaten the wildlife, and reduce the productivity of fisheries and affect tourism another activities. Decreased water discharge will result in aggravated seawater back flow and salt tide.

Over-exploitation of water resources results in negative impacts both on wildlife and us.



儲存的淡水被耗盡，水塘底部出現龜裂  
Cracked bottom of reservoir is due to exhaustion of freshwater stored

## 香港濕地公園—善用淡水的例子

### Hong Kong Wetland Park – A model of wise use of freshwater

香港濕地公園濕地保護區大部份淡水生境都是使用天水圍兩水渠收集的雨。這些雨水透個蘆葦床過濾，不斷在各淡水生境中循環再用。

The freshwater habitat of Hong Kong Wetland Park, all use surface runoff of Tin Shui Wai. Rain water filtered through the reedbed is circulated throughout and re-use in different freshwater habitats.



香港濕地公園的蘆葦床可以淨化濕地的水質  
Reedbed in Hong Kong Wetland Park purifies water of wetlands



淡水會在香港濕地公園的各個濕地生境中不斷循環再用  
Recycle freshwater is kept circulating throughout wetland habitats in the Hong Kong Wetland Park



## 我們能做甚麼？

### What Can We Do?

假若我們不珍惜寶貴的水資源，最終我們要為過度耗用水的行為付上沉重的代價。其實善用淡水資源有很多方法，以下是一些節約用水的秘訣：

If we do not conserve water resources, we have to pay for over exploitation of available freshwater. Here are some tips for saving water:

1. 當洗手、刷牙、嗽口、洗衣物和蔬菜時，不應持續開啟水龍頭  
Do not keep tap water running when washing hands, brushing teeth, rinsing mouth, washing clothes or vegetables
2. 於廁所儲水箱內擺放立體硬物，以排水方法減少水廁的沖水量  
Add water hippos in toilet cisterns to displace water and to reduce flushing water
3. 收集衣物或碗碟一起清洗  
Clean the clothes or dishes in full loads
4. 立即維修漏水的水龍頭或水管  
Repair leaking tap or pipe promptly
5. 以濕透的毛巾和海棉，代替用水沖洗車輛  
Use soaked towel or sponge to wash your cars instead of a running hose
6. 利用洗米水灌溉植物  
Rice-rinsing water can be re-used for watering plants
7. 以淋浴取代浸浴，淋浴時應使用低流量的蓮蓬頭(花灑)  
Take shower instead of bath. Use shower head with low water flow

希望大家透過這份資料認識到水、濕地與人的關係，並善用水資源

After reading this factsheet, hope you will know more about the relationship between water, wetlands and human beings. Please use water wisely.



每當我們用水時，要謹記珍惜食水  
Whenever we open the tap, don't forget to save water