

## 拉姆薩爾公約 Ramsar Convention

拉姆薩爾公約（又稱濕地公約）於1971年在伊朗的拉姆薩爾簽訂，是旨在促進各國及國際間濕地保育和善用的國際條約。直至2013年12月，全球已有168個締約成員。而超過2,160片，總面積逾二億六百萬公頃的濕地亦被列入國際重要濕地名錄內（亦稱拉姆薩爾濕地）。

Ramsar Convention (also called the Convention on Wetlands), adopted in the Iranian city of Ramsar in 1971, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. As at December 2013, there are 168 contracting parties all over the world. Over 2,160 sites, covering a total area of more than 206 million hectares, are designated as wetlands of international importance (also known as Ramsar sites).



## 什麼是濕地？ What are Wetlands?



濕地泛指水與陸地的相匯之處，約佔全球土地面積的6%。拉姆薩爾公約提到：濕地泛指沼澤、泥沼與泥炭沼地帶，當中的水體可以是天然的或是人造的；可以是永久存在的或是暫時性的。當中的水分可能是靜止的也可以是流動的；可以是淡的、是鹹的、也可以是半鹹半淡的；也包括退潮時水深不超過六米的海域。

濕地的例子包括有湖泊、河流、池塘、沼澤、泥炭沼、紅樹林、鹽沼、沙灘、珊瑚礁，以至人工魚塘或濕耕農地。

Wetlands are places where water connects to land and account for around 6% of the total surface area of the Earth. Wetlands are illustrated in the Ramsar Convention as: **“areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”**.

There are various examples of wetlands including lakes, rivers, ponds, marshes, swamps, peatlands, mangrove forests, salt pans, sandy beaches, coral reefs, and also artificial fishponds or wet farmlands.



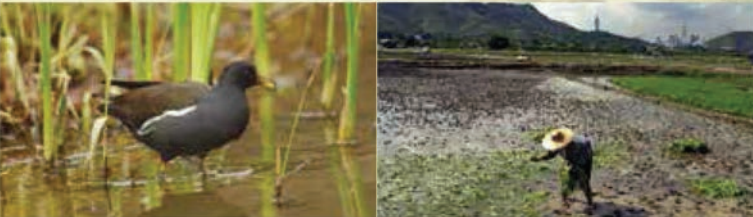
## 濕地與農業：共同成長的伙伴 Wetlands and Agriculture: Partners for Growth

每年的2月2日均被定為世界濕地日，以紀念拉姆薩爾公約的簽訂。全球各地的政府機構、非政府組織，以及不同團體都藉世界濕地日提高公眾對濕地保育的意識。

為了響應聯合國的「國際家庭農業年」，2014年世界濕地日的主題定為「濕地與農業」。其重點為提出濕地對農業的重要性，及如何從農業發展、水資源運用和濕地保育之間取得平衡，善用濕地。

2 February each year is marked as the World Wetlands Day. It is a day for commemorating the adoption of the “Ramsar Convention”. On this day, government agencies, non-governmental organisations, and groups of citizens at all levels of the community take the opportunity to raise public awareness of values and benefits of wetlands.

In support of the UN International Year of Family Farming, Ramsar’s theme for World Wetlands Day 2014 is **Wetlands and agriculture**. It highlights the importance of wetlands in supporting agriculture, and the wise use of wetlands by finding the **right balance of interdependencies between agriculture, water and wetlands**.



## 濕地與農業 – 縱橫交織於環境中 Agriculture and Wetlands – Interactions in a Complex Setting



在人類所提取的地表水及地下水當中，大約七成都會用於農業。這些水資源能維持濕地，並作以下用途：

- 為農業供應土壤和水；
- 提供食物和其他農業產品；
- 孕育文化發展；
- 改善人類生活。

濕地以不同形式支持農業，有些濕地是天然的農耕地，有些被轉化或改造作農業用途。另外，有些濕地乃人工建造或管理作農業用途，有些則依靠持續的農業活動來維持其生態特色。

About 70% of all withdrawals from surface water and groundwater are used for agriculture. This water sustains wetlands that

- support agriculture by providing soils and water;
- provide food and other agricultural products;
- nurture the development of cultures; and
- improve people’s livelihoods.

Wetlands used for agriculture can be maintained in a natural state for production and harvesting; they can be converted or modified. Meanwhile, some wetlands are constructed or managed for agricultural purposes, and some are dependent on continued agricultural activities to maintain their ecological character.



## 農業活動對濕地的影響 Impacts on Wetlands by Agricultural Activities

農業的增長對土地及水資源的需求，令濕地處於危機邊緣。缺乏妥善管理的農業活動會對濕地帶來以下不良的影響：

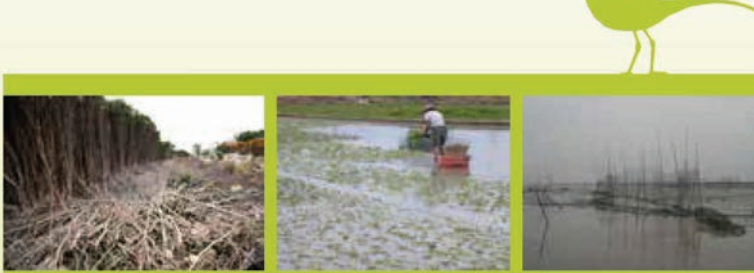
水質	水量	濕地轉化及干擾
<ul style="list-style-type: none"><li>● 上游的用水需求改變水的鹽度</li><li>● 水中污染物增加，如農藥及化肥</li></ul>	<ul style="list-style-type: none"><li>● 興建堤壩改變河水流動的時間和模式</li><li>● 抽取地表水和地下水減少了水流</li></ul>	<ul style="list-style-type: none"><li>● 濕地轉化為耕地或水產養殖場</li><li>● 引進外來入侵物種和病媒</li><li>● 干擾濕地動物群的生態</li></ul>

為避免永久喪失濕地和其為人類帶來的益處，我們在規劃生產糧食和其他農產品時，必須考慮濕地的功能和經濟價值。

Wetlands are at risk from agriculture’s growing demands for land and water. Poorly managed agriculture can negatively impact wetlands:

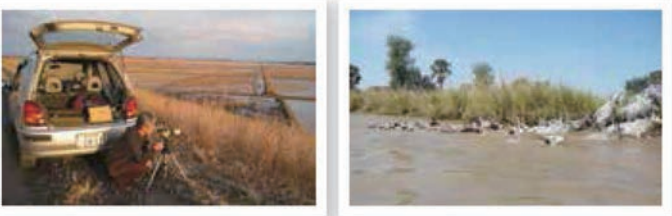
Water quality	Water quantity	Wetland conversion and disturbance
<ul style="list-style-type: none"><li>● Variation of salinity due to upstream water demand</li><li>● Increased loads of pollutants such as pesticides and fertilizers</li></ul>	<ul style="list-style-type: none"><li>● Changes in timing and patterns of river flow caused by building of dam</li><li>● Decrease of water flow due to abstraction of surface and groundwater</li></ul>	<ul style="list-style-type: none"><li>● Conversion of wetlands to cultivated lands or aquaculture</li><li>● Introduction of invasive species and disease vectors</li><li>● Disturbance of ecological patterns of wetland fauna</li></ul>

To avoid permanent loss of wetlands and their benefits to people, the functions and economic values of wetlands must be considered in planning for the production of food and other agricultural products.





善用濕地作農業用途  
Wise Use of Wetlands for Agriculture



我們需要妥善地管理濕地與農業的互相關係，在進行農業活動的同時，保持濕地的生態特色和其供給、支援、調節和文化服務。

減少農業對濕地影響的方法

- 增加生產效益：
  - 高效灌溉技術
  - 種植耐旱和/或耐澇的作物
  - 利用先進科技預報天氣
  - 使用再用水和廢水利用
  - 運用市區的水資源
- 透過建立多功能水壩，以有利於農業、水力發電、漁業和休閒娛樂，並使用本地小型的存水項目，如小型水庫，來綜合規劃水資源。
- 執行保護性耕作、有機耕作、病蟲害綜合管理和結合生產系統，如：利用禽畜糞便，作施肥和養殖水產。

It means managing agriculture-wetland interactions in ways that maintain the ecological character and essential wetland ecosystem services including provisioning, supporting, regulating and cultural services.

Ways to reduce impacts of agriculture on wetlands

- More “crop per drop”:
  - High efficient irrigation technologies
  - Drought and/or flood-tolerant crops
  - Modern information technology on weather forecasts
  - Water re-use and use of wastewater
  - Water resources from urban areas
- Integrated water resources planning by building multi-functional dams benefiting agriculture, hydropower, fisheries and recreation, and using small local storage options such as small reservoirs.
- Conservation tillage, organic farming, integrated pest management and combined production systems such as utilizing livestock manure to fertilize crops and aquaculture.

都市農業  
Urban Agriculture

提高在濕地以外地區的農業生產力，將有助於減少把濕地轉化為商業農地的需要。

都市農業可視為一種能提供食物給城市的可行選擇，及有助於先善用其他土地作農耕用途，以避免轉化濕地作農地。

Increasing productivity on agricultural land outside wetlands will help to reduce the need to convert wetlands for commercial agriculture.

Urban agriculture can be as a viable option for providing food to cities, helping to ensure that productivity of other available land is taken into account before converting wetlands into agricultural land.

濕地修復  
Wetland Restoration

修復位於農地的濕地能幫助管理雨季的洪水，改善土壤的水分，在乾燥的季節時提供更多的本地蓄水作灌溉，並為下游的生態系統提供水源。這可確保水資源的分配，以維持濕地的生態特徵。

Restoring wetlands in agricultural landscapes can help to manage flood waters in the wet seasons, improve soil moisture conditions, provide more local water storage for irrigation in the dry season, and provide water for ecosystem downstream. This can secure water allocations to maintain the ecological character of wetlands.



香港的基圍  
Gei wai in Hong Kong

香港有多樣化的濕地生境，均具生態、功能和康樂價值。當中包括河溪、天然沼澤、紅樹林、潮間帶泥灘、人工漁塘、水塘及基圍。

基圍是傳統的潮間帶蝦塘，展示了濕地和農業之間的密切關係。在米埔內后海灣拉姆薩爾濕地的基圍是本港可持續水產養殖的代表性例子。

In Hong Kong, there are diverse wetland habitats with ecological, functional and amenity values. These include streams, rivers, natural marshes, mangroves, intertidal mudflats, artificial fishponds, reservoirs and *gei wai*.

*Gei wai* are traditional tidal shrimp ponds that demonstrate a close relationship between wetlands and agriculture. *Gei wai* in the Mai Po Inner Deep Bay Ramsar Site is a representative example of managing aquaculture in a sustainable way in Hong Kong.



早在四十年代中期，香港已引入基圍養蝦的方法。基圍是指在河口地區由基堤圍繞的淺水蝦塘，四周可找到紅樹林的蹤影。

海水經過紅樹林流入基圍，而設於基圍邊的水閘可控制水流。潮水把幼蝦和魚類帶到基圍，牠們以紅樹落葉和底棲生物等有機物為食。在收成期，漁民會把基圍放乾收集成熟的蝦和魚。低經濟價值的魚蝦將會成為鳥類和其他動物的食物。基圍蘊藏的豐富自然資源孕育了廣泛的生物。

The shrimp rearing techniques using *gei wai* was introduced into Hong Kong in the mid 1940's. *Gei wai* are shallow water shrimp ponds enclosed by bunds constructed in estuarine areas, where mangrove stands could be found.

The dredged channels at the mangroves allow inflow of sea water, and sluice gates were installed to control the inflow. The tidal water brings juvenile shrimps and fishes into the *gei wai*, where they feed on organic matters from fallen leaves of mangroves and benthos. During harvest time, fishermen drain the *gei wai* to collect mature shrimps and fishes. Creatures with little economic values are food for birds and other animals. *Gei wai* are highly productive habitats that support vast numbers of wildlife.

香港濕地公園的濕地與農業  
Wetlands and Agriculture at Hong Kong Wetland Park



香港濕地公園是一個集合教育、保育及生態旅遊功能於一身的設施。公園設有一個訪客中心和60公頃的濕地保護區，擁有多樣化的生態環境。

公園的「濕地工作間」為您提供一個認識各種濕地農作物和淡水魚的機會。這裡的農作物乃作展示用途，而它們的葉子、花朵、果實和種子雀鳥和昆蟲的重要食糧。在收成的季節時，來到訪我們的田野吧！

Hong Kong Wetland Park (HKWP) is a facility incorporating functions of education, conservation and ecotourism. The Park comprises a Visitor Centre and a 60-hectare Wetland Reserve with diverse habitats.

The “Wetlands at Work” of HKWP provides you with an opportunity to get familiar with a variety of wetland crops and freshwater fishes. The leaves, flowers, fruits and seeds of these wetland crops on display are food for diverse wildlife. Let's visit the field in the season of harvest!



香港濕地公園  
Hong Kong Wetland Park

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