



WWF

MAI PO

HK

2019



# Connect 2 Nature MAI PO COMMUNITY

# Mai Po Nature Reserve

A NATURAL TREASURE FOR ALL



Mai Po is an ideal place for family and friends to Connect2Nature and discover the importance of Ramsar sites.

Visit us at Mai Po



## Chairman & CEO Message

Tucked away in Hong Kong's northwestern Yuen Long Basin is a Ramsar site of international ecological importance that contains within it the Mai Po Nature Reserve. Situated on the eastern shore of Deep Bay, this site is WWF-Hong Kong's first – and from an ecological viewpoint arguably its most important – conservation site.

Not more than a few hundred hectares in size, this world-class wetland is a key way station and wintering site for some of the 50 million of migratory waterbirds that travel along the East Asia-Australasian Flyway each year and is home to a diverse range of flora, fauna, fish, insects and mammals.

With the generous support of a HK\$347.86 million capital funding grant from the Hong Kong Jockey Club Charities Trust, WWF is embarking on a project to rebuild the Peter Scott Field Studies Centre to meet the needs of our Mai Po Community, whilst bringing the facility up to today's environmental and building safety standards.

Since the early days, The Hong Kong Jockey Club has been one of Mai Po's most dedicated supporters. The grant is one of the largest it has ever given to support conservation work and one of the largest one-off donations across WWF's global network. The project is aligned to goals under the UN Convention for Biological Diversity to deliver a 21st Century Nature Classroom by 2021.

Edward M. Ho  
Chairman, Executive Council  
of WWF-Hong Kong

Peter Cornthwaite  
Chief Executive Officer,  
WWF-Hong Kong



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Read more on our project website.



# The Conservation Journey of Mai Po Nature Reserve

1940s

Traditional *gei wai* shrimp cultivation ponds are built at Deep Bay's inter-tidal area by mainland Chinese immigrants who settled around there after World War II.

1983

WWF began to develop and manage the land at Mai Po with the aims of increasing biodiversity and promoting it for educational and research purposes.

1985

The reserve's education programme launches school visits bringing in more than 1,300 students. Activities are designed to increase awareness of the significance of wetlands.

1990

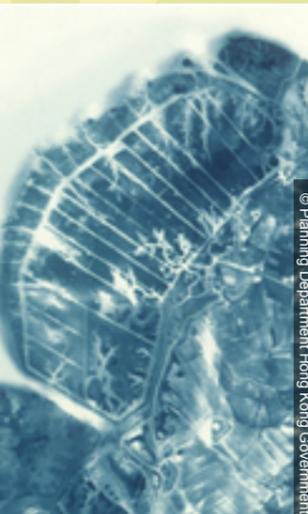
The Peter Scott Field Studies Centre is officially inaugurated, extending Mai Po's function as both a local and international wetland research and wetland management training centre.

2006

A pioneering research project on grazing at Mai Po is launched with water buffalo. They are selected for their ability to help maintain freshwater habitat conditions.

2015

In November, The Hong Kong Jockey Club Charities Trust approves a HK\$347.86 million grant for WWF-Hong Kong to launch the Mai Po Infrastructure Upgrade Project.



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1976

Mai Po Marshes is declared a Site of Special Scientific Interest. A decade later, the designation is extended to the entire Inner Deep Bay area.

1984

The first Big Bird Race, a 12-hour bird spotting event is held. A signature outdoor event that is attracting local and overseas birders, students, corporate sponsors and teams.

1986

Built with a HK\$2.9 million grant from the Jockey Club, the reserve's Education Centre opens with HRH Prince Philip, Duke of Edinburgh, presiding over the inauguration.

1995

Mai Po Inner Deep Bay is recognized as a Wetland of International Importance under the Ramsar Convention, largely due to a high concentration of waterbirds.

2013

WWF is the first Hong Kong conservation organization to receive the BirdLife International Conservation Achievement Award, recognizing its efforts in protecting the endangered black-faced spoonbill.

2017-present

The completion of a two-year biodiversity survey looking at Mai Po's current ecological situation, raises the number of record wildlife species to over 2,050. The species counts continue with the biodiversity checks by One Planet Youth and City Nature Challenge activities each April.



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# The Mai Po Nature Reserve Today

To maintain Mai Po's position as an important regional wetland contributing to the integrity of the East Asian-Australasian Flyway, its staff must undertake day-to-day management on a variety of interconnected habitats and species, as well as ecological monitoring and surveys.

Mai Po's diverse number of habitats is high for a reserve of its size, requiring active management by staff to support a great diversity of important species.

## Not Only a Bird Paradise

The completion of WWF-Hong Kong's wetlands biodiversity survey raised the number of species recorded in Mai Po to over 2,050 and provided invaluable data for long-term ecological monitoring and habitat management decisions. The previous similar research project was conducted three decades ago.



\*As of May 2019

## Six Wetland Habitats

Around Mai Po Nature Reserve you can find six types of wetland habitats, all of which need careful management to safeguard and maximize biodiversity, which in turns enhances the area's potential for education, training and scientific research purposes.

The core zone consists of the intertidal mudflats and mangroves along the open coastal area with the highest biodiversity.

The reedbeds in the reserve are the largest in Hong Kong. Together with *gei wai* and freshwater ponds, they comprise the Biodiversity Management Zone which serves as habitat for a large variety of birds and other wildlife.

Many of the fish ponds serve as a buffer for the reserve as well as an important cultural element.

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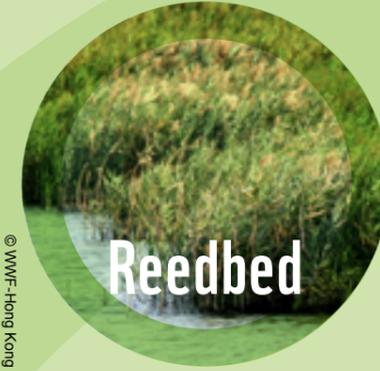
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“An area of the biologically rich mudflats and mangrove swamps should be set aside as a scientific and educational study area, but it might be desirable to link it with a group of fish ponds in the Mai Po marshes thereby adding a substantial ornithological interest to the reserve.”

**Sir Peter Scott**  
WWF's Founding Father



“Despite its relatively small size, Mai Po Nature Reserve is a role model for wetland management in Hong Kong and across Asia and it has stimulated many of the students, researchers, guides and even staff who have passed through the reserve. Mai Po with its wonderful facilities, such as the Deep Bay floating hide, immerses you into the wetland, with its sights, sounds and smells, especially the flowering mangroves in April. My best wishes for the infrastructure improvements works and may Mai Po continue its great work!”

**Lew Young**  
Ex-Mai Po Nature Reserve  
Manager and Senior Advisor of  
Ramsar Secretariat

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## Friends of Mai Po



**David Melville**  
Ex-Executive Director of WWF-Hong Kong

“At the time WWF-Hong Kong was set up, WWF international was going into China to start work on giant pandas and the initial idea was that Hong Kong would be a great conservation centre. It became apparent early on that WWF needed a project that Hong Kong people could relate to and that could show how the environment had some relationship to them. WWF wanted to do something that was meaningful for conservation in Hong Kong, with genuine biodiversity benefits, and Mai Po fitted the bill.”



**Mike Chalmers**  
Ex-member of the Executive Committee and  
the Mai Po Management & Development  
Committee, WWF-Hong Kong

“The Jockey Club funded our initial low-budget developments of Mai Po in the 1980s and I am delighted that they are continuing their support with a very generous grant for the further expansion and upgrading of facilities. Over the past 30 years, local interest in Mai Po has blossomed and its international reputation has become firmly established. Hong Kong is very fortunate to have such a great facility within easy reach of so many and it is very good to see its original dual aims of education and conservation being taken forward with such confidence and ambition.”



**Dr Philip Kwok**  
Founding Chairman and current Trustee  
of WWF-Hong Kong

“I participated in Big Bird Race nearly every year, enjoying the great fun of bird watching with veteran bird watchers. By witnessing the development of Mai Po over the years, I am very impressed with WWF's wetlands management which has been maximizing Hong Kong's biodiversity. I hope local communities, nature lovers and regional experts can utilize the new facilities to enhance their knowledge of this world-renowned wetland.”



**Mr Hans Michael Jebsen**  
Ex-Chairman and current Trustee of  
WWF-Hong Kong

“Across more than 30 years, Mai Po Nature Reserve has acted as a nature classroom for visitors, not only to watch the stunning scene, of thousands of birds, but to learn about the importance of this ecological asset. I hope the transformation of Mai Po will nurture the next generation as nature guardians.”



**Prof Brian Morton, DSc, OBE, JP**  
Ex-Chairman of the Mai Po Marshes Education  
Committee

“My first visit to Mai Po was in the early 1970s when the wetlands were still operating as prawn and fish ponds. I am proud of witnessing its historical developments, from my early researches for the book *Mai Po Marshes*, to producing the educational materials for the proposed Wildlife Education Centre and participating in its inauguration in 1986. I believe the upcoming transformation of the education centre and its facilities will inspire and enhance the enjoyment felt by all visitors, young and old, to this wondrous wetland jewel.

SPRING

SUMMER

AUTUMN

WINTER

## A Wetland for

## All Seasons

The alternation of the seasons brings with it an array of opportunities to observe Mai Po's delicate interplay of habitats, opening a rare world of flora and fauna in a mix of education and conservation.

Spring hosts the reserve's longest-running event, Big Bird Race, a unique bird-watching competition used to raise funds for wetlands conservation and habitat work at Mai Po. The event has grown from modest beginnings with only two teams to one of the region's most anticipated gatherings for bird lovers.

The dog days of Summer sees the launch of the Night Safari and *Gei Wai* Harvesting tours. Under the rising moon visitors can catch a glimpse of the wetland's nocturnal inhabitants, including bats, moths, fireflies, Eurasian otters and the small leopard cat,

while the harvesting tours provide an insight into the traditional management practices of *gei wai*.

Walk for Nature, a five-kilometre stroll around areas of Mai Po usually closed to the public, is autumn's standout event. Through activities held along the walking route, participants learn about the importance of environmental conservation and the need to protect Hong Kong's natural environment.

Winter sees an average of 60,000 waterbirds, including migrants from northern China, Russia, Korea and Japan visiting to spend their non-breeding season at Mai Po and Inner Deep Bay. With patience and a little luck, you may catch sight of the globally threatened species such as black-faced spoonbill, Saunder's gull and Nordmann's greenshank.



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# Mai Po Infrastructure Upgrade

The Mai Po upgrade project is funded by a HK\$347.86 million grant from the Hong Kong Jockey Club Charities Trust. The grant covers elements that make it possible for the Mai Po Community to have the facilities needed by students, teachers, and those interested in wetlands research and wetlands training. Welcoming some 24,000 students and public visitors annually, the WWF facilities are used by guided groups and other visitors. In past years, guided visitor numbers have reached a peak of 40,000 and are expected to be around 32,000 in 2023.



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# Peter Scott Field Studies Centre (PSFSC)

The Peter Scott Field Studies Centre in the village outside Mai Po Nature Reserve welcomes students, teachers, public visitors, families and community groups as well as dedicated researchers and birdwatchers, all of whom are our local Mai Po community. The facility and community also welcome international researchers and educators, being a key training facility for both wetland managers and those involved in the protection of wetlands across the region. We are connecting our community to nature.

The Peter Scott rebuild can enhance capacity for wetland training and research, providing space for community forums and workshops. This can bring groups together to tackle threats to biodiversity and the issues surrounding the protection of Deep Bay wetlands and the East Asian-Australasian Flyway.

The centre rebuild can reinforce our community commitment to securing the biodiversity of Hong Kong in support of the UN Convention on Biological Diversity with the education focus on developing a voice for nature in our younger generation. The new centre has learning and activity areas to supplement outdoor learning. During Hong Kong's summer, especially during rainstorm warnings, the learning areas will be available.



## Bird Hides

Bird hides are one of the most important elements of Mai Po Nature Reserve, allowing visitors to observe the globally endangered and migratory birds that pass through the reserve without causing disturbance. The two proposed tower hides will provide opportunities for our Mai Po community, comprising students, teachers, public visitors, families and community groups as well as dedicated researchers and birdwatchers, to observe the reserve's feathered friends and connect to nature.

One of the tower hides will be located in the southern part of the reserve and cater to the needs of researchers, while the other tower

hide, set to be located in the northwestern part of the reserve, will mainly provide for public visitors and school groups.

The hides are designed to have natural ventilation, with fan cooling and LED floor safety lights powered by solar energy. Both hides will feature Wi-Fi to enhance the learning and sharing. Construction work will be carried out outside the bird migration season and will be aligned with the Mai Po Habitat Management Plan. The structures will be fabricated off-site, minimising noise and air pollution and the need for on-site concrete mixing.

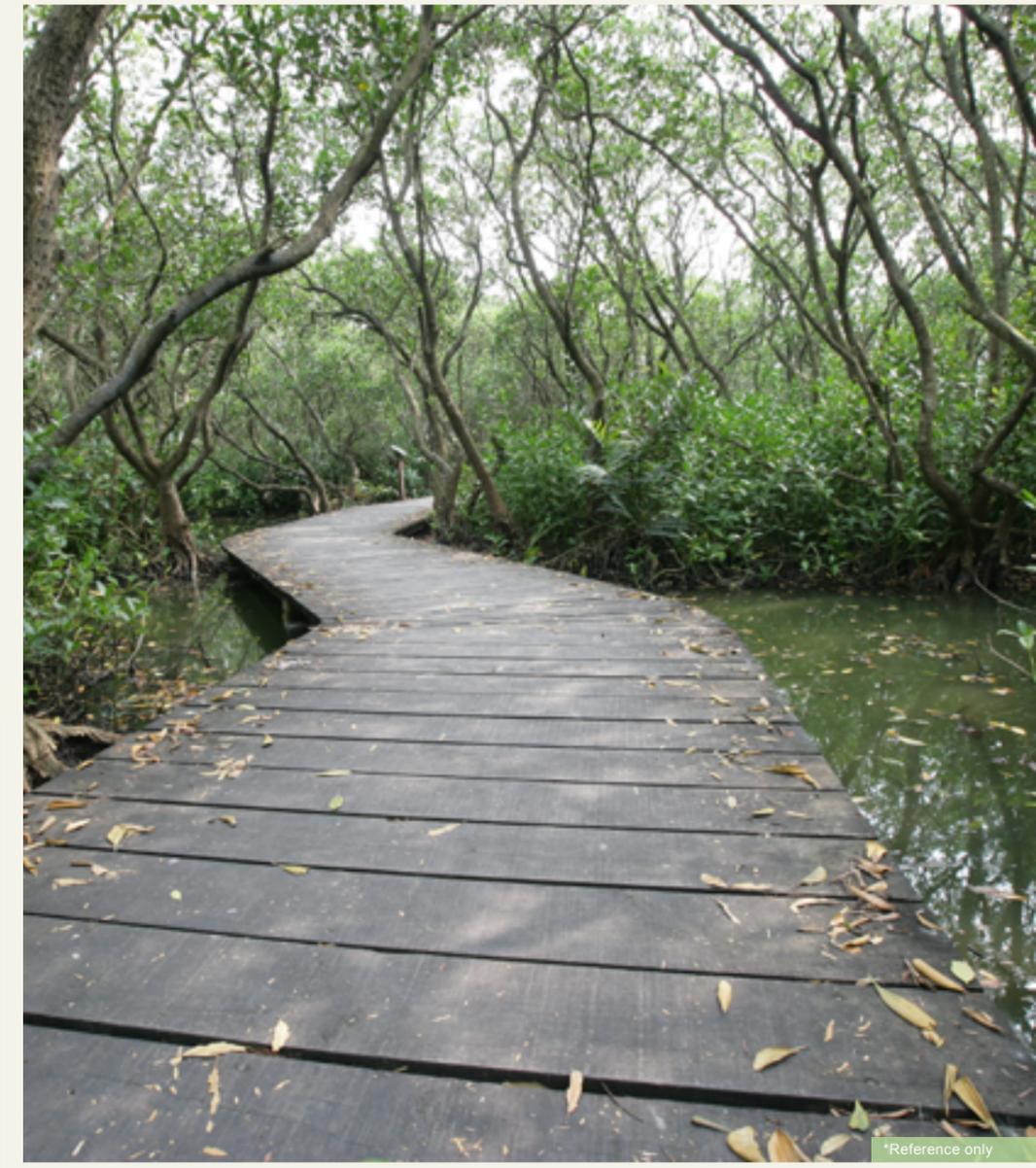


## Wooden Boardwalk

The existing concrete footpath that connects Mai Po's various public visit facilities will be updated to a wooden boardwalk, widening it to universal accessibility standards. The new boardwalk path will be built above the existing concrete footpath in keeping with the reserve's natural setting. The widened path will provide access to the nearby bird-watching hides, offering seating, viewing spots and student-class nooks.

The new boardwalk design will be a minimum width of 1.65 metres with a safety lip for wheelchairs. There will be in total six education areas with signage at points along the 1 km route, and seven passing bays for wheelchair users.

Scheduled to take place outside of the bird migration season, constructing the boardwalk above the existing concrete path, without any change to the current path, will negate the need to generate concrete spoil. The height between the existing concrete path and the new boardwalk will be a minimum of six centimetres to ensure no barrier for invertebrates and small mammals. In addition, the structure will be fabricated off-site and the construction method used will avoid concrete mixing.



# Wetland Guests

Mai Po has left an indelible impact on a wide range of people, from students and researchers to birdwatchers. They come to Mai Po to discover Hong Kong's rich local biodiversity, the latest scientific research methods and to learn about conservation. At Mai Po Nature Reserve our community can Connect2Nature to better understand the need to protect wetlands and biodiversity.



世界自然(香港)基金會  
World Wide Fund For Nature Hong Kong



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## Management training

Mai Po's cooperation with other wetland reserves in mainland China and Asia on the conservation of waterbirds led to the establishment of its Wetland Management Training Programme in 1990 with an initial intake 10 wetland managers. Since that first course, thousands of wetland managers have benefitted from the expertise at Mai Po, with many going on to have senior NGO or government roles.

Simba S.Y. Chan, who joined WWF-Hong Kong in 1987, was the programme's first training officer. He explains that through using Mai Po as a living case study, the mainland China authorities and reserve staff understand the needs of incorporating the concepts of conservation, management or education into reserve strategies. "Mai Po offered a good example of active management to Chinese reserve staff and a new perspective on the function of these reserves."



© Grace Lau

## Research studies

An interest in the way that plants respond and adapt to stress is what led Professor Cheryl Swift and her students from Whittier College's Department of Biology in Southern California to Mai Po to conduct mangrove studies. This is just one of the many types of research that is conducted in Mai Po by local and overseas institutions.

"There is this invasive vine," said Cheryl, who has extensively studied plant life, in explanation, "the mile-a-minute vine, and it's really impacted one of the *gei wai*. So we're looking at leaf behavior where the canopy isn't impacted by the vine and where the canopy is impacted."



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## Citizen science

WWF's One Planet Youth Education Programme empowers young people to take conservation action. Citizen science is a key focus and Mai Po plays a central role in these activities. Collaborating with youth organizations on a train-the-trainer approach, youth are taught biodiversity survey techniques.



"Mai Po Nature Reserve never disappoints me," said citizen scientist Anson Chan. She recalled, "One day, while I was checking photos taken by the infrared camera in Mai Po, I spotted an otter photo and I just couldn't help screaming! That is one of my happiest and most memorable moments in Mai Po."

## Learning experience

Visitors of all backgrounds and ages have been touched by their trips to Mai Po over the years. Since its early days, one of the largest visitor groups at Mai Po have been students, visiting the reserve to learn about its rich biodiversity.



The education activities cover everything from wildlife surveys to pond dipping, and learning about topics as diverse as bird migration and land use. One student remembers a study expedition at the mangrove swamps at Mai Po. She said, "We worked extremely hard and finally collected enough research samples with instructors' help. It was a tough experience, but we gained knowledge and lots of happy memories."



## Gei wai culture

Spread over the Mai Po Nature Reserve is a total of 16 traditionally-operated *gei wai*. The last of the *gei wai* fisherman left in 1997 and today some of the ponds are managed by WWF using the same traditional techniques brought to the city by immigrants from mainland China in the 1940s.

Positioned on the coast, the *gei wai* are constructed with sluice gates to allow shrimp and fish to be contained after they are flushed in during high tide. Shrimp harvesting usually takes place between May and September and when it is over, the *gei wai* are drained, providing a feeding and roosting habitat for thousands of fish-eating waterbirds.

## Connecting to Nature

WWF's vision is as an inclusive nature reserve that caters to a wide range of groups which make up the Mai Po community. The project funded by The Hong Kong Jockey Club Charities Trust will allow Mai Po to inspire and empower people with different needs.



### School Students

Every year, over 400 student groups can enjoy a variety of education activities once the upgrade is completed, particularly with the new exhibition and learning facilities in the Peter Scott Field Studies Centre. Primary and secondary school students will benefit from the upgraded labs, and outdoor activities, allowing them to have close encounters with nature.

### Nature with No Barriers

Mai Po's universal accessibility has been under constant improvement since the first visits took place in the 80s. A feature of the upgrade will be widening of Mai Po's main pathway, increasing wheelchair accessibility. Additionally, new ramps will provide access to facilities such as bird hides and the reserve will feature braille panels, audio devices and sign language-literate staff.

### Scientists and Researchers

This core group of Mai Po users will access additional training and research facilities at the Peter Scott Field Studies Centre. New accommodation areas will be provided for study and research groups that visit and stay at the reserve. WWF will continue to deliver wetland conservation management training at the new facilities. New bird hides provide improved facilities for specialist researchers and bird watchers.



### Public Visitors

Some 12,000-16,000 members of the public visit Mai Po each year. This includes participation in the annual Walk for Nature event as well as those who take part in seasonal wetland activities, like the *gei wai* shrimp harvest. A new bird hide will enable public visitors to appreciate the beauty of wetland ecologies and migrating birds, from October-April each year.



Join an eco visit today

# Mai Po Community

**HK\$347.86 million**

The grant from The Hong Kong Jockey Club Charities Trust to upgrade Mai Po

**16**

The number of *gei wai*, the last traditionally-operated shrimp ponds, being managed by WWF

**90,132**

The highest number of wintering waterbirds recorded in the Mai Po Inner Deep Bay area

**2,050+**

The number of species recorded in Mai Po after WWF's two-year biodiversity survey in 2015

**1983**

The year WWF-Hong Kong begins managing the Mai Po Nature Reserve as its first conservation project



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