# PROTECT WETLANDS TOGETHER WITH MCF

MCF 红树林基金会

## Projects Funded by MCF

- **Shaohua Project 2021 & 2022**
- **Qianhong Project 2022**

Mangrove Foundation (MCF) is the first environmental conservation foundation with public-fundraising certificate launched by civil society in China. It dedicates itself to protecting wetlands and their biodiversity, as well as conserving nature through public engagement. Currently, MCF is working on its three strategic projects: The Guardian of Shenzhen Bay, Saving Spoon-billed Sandpipers, and Mangrove Conservation and Restoration Program.

In July 2012, MCF was jointly founded by SEE (Society of Entrepreneurs and Ecology Conservation), entrepreneurs with philanthropic spirit and relevant departments of Shenzhen municipal government. Wang Shi and Ma Weihua served as presidents (founding chairman); Zhang Bigong, Ai Luming, Sun Lili and Chen Jinsong served as honorary chairman of the board; Lei Guangchun, served as chairman; and Liu Mingda served as executive board chairman.

### MCF has launched two signature funding projects

Shaohua Project and Qianhong Project. While paying attention to domestic funding opportunities, MCF has been exploring the international opportunities. Overall, the projects are divided into three categories: conservation and monitoring, scientific research, and CEPA.

## Domestic Projects Funded by MCF

### Shaohua Project 2021

Shaohua Project 2021 provides financial support for two long-term projects and four short-term projects.

The Project aims to promote the migratory birds conservation with the social participation model, and support the effective actions based on scientific conservation, education and research, and ultimately contribute to the collaborative conservation of key shorebirds represented by Spoon-billed Sandpipers and their habitats along the EAAF.

### Focus areas

- Study on the threats, risks and strategies of migratory birds and their habitats
- Protection, restoration and management for migratory birds and their habitats
- Public communication activities based on the themes of World Wetlands Day and World Migratory Bird Day

### Monitoring and Conservation of Spoon-billed Sandpipers in Weitou Bay, Quanzhou, Fujian


Weitou Bay in Quanzhou of Fujian province is known as an indispensable and important migratory stopover and wintering site for the spoon-billed sandpipers. To protect this rare population and promote habitat conservation and population expansion, the Quanzhou Birdwatching Society will implement a series of action plans on scientific research and conservation.

## Shaohua Project 2022

Shaohua Project 2022 supports six projects with small amount of grants.
The Project focuses on the migratory birds represented by the spoon-billed sandpipers in EAAF, and supports the scientific research and conservation, so as to promote the collaborative conservation of birds and their habitats along the flyway.

### Priority Bird Species

Spoon-billed sandpiper, Great knot, Red knot, Bar-tailed godwit, Eurasian whimbrel, Yellow-breasted bunting, Dunlin, Curlew sandpiper, Lesser white-fronted goose, Black-faced spoonbill, Chinese crested tern, Red-crowned crane

## Research on Environmental DNA (eDNA)-based Monitoring Technology for Waterbirds in Guangdong


The projects are expected to build a set of eDNA-based monitoring technology systems for waterbirds in Guangdong, applying this technology to monitor rare and endangered waterbirds including black-faced spoonbills, bar-tailed godwits, Eurasian whimbrels, and great knots, and to promote the research and conservation of waterbirds and their habitats. The application of eDNA in the field of waterbird monitoring, when the technology becomes more mature, can be extended to the whole coastal and EAAF migratory areas in China in the future, and can be used as a best practice for other projects.

## Impacts of *Spartina alterniflora* Cutting on Habitat Utilization and Feeding of Red-crowned Cranes in the Yellow River Delta


In this project, the *Spartina alterniflora* cutting control area in the Yellow River Delta Nature Reserve and the adjacent *Suaeda salsa* tidal flat and intertidal zone are selected to carry out a survey on the habitat utilization, feeding behavior and food resources of red-crowned cranes, and to evaluate the role of *Spartina alterniflora* cutting control in the utilization and restoration of wintering habitats of red-crowned cranes. The research findings are expected to help optimize *Spartina alterniflora* management mode and improve the quality of coastal waterfowl habitats.

## Simultaneous Monitoring of Chinese Crested Tern Habitat in Jiaozhou Bay, Qingdao


The project plans to conduct comprehensive and simultaneous monitoring of the Chinese crested tern inhabiting Jiaozhou Bay, Qingdao City of Shandong Province from July to November each year. Through this monitoring, the project will obtain data on the

population of the bird species in Jiaozhou Bay, their distribution, stress factors, fledging, adult to juvenile ratio, and changes in the population of migrating and departing birds. With the consent of the project team, the project will interact with the breeding sites of the Chinese crested tern to analyze and compare the information on the migration sites of the bird species in Jiaozhou Bay by consulting the migration time and flag information. The collection of these basic data will provide data support for the conservationof the global Chinese crested tern population. The data will also be used as a basis for the subsequent conservation of the bird species.

## Survey and Conservation of Coastal Wetland and Island Birds in Zhuanghe, Dalian, Represented by the Black-faced Spoonbill


In 2022, this project plans to conduct monthly bird surveys of black-faced spoonbills and other shorebirds on Zhuanghe Island and along the coast, and GPS tracking of black-faced spoonbills to identify their feeding areas and activity trajectories in breeding grounds, as well as tracking their migration paths after October. The project will study the benthic organisms and black-faced spoonbills' food in the mudflat area of Zhuanghe. In addition, the level of threat to the birds in the area and the sources of threat are investigated and prevented. It also proposes to popularize knowledge of coastal birds and raise public awareness of bird conservation through nature education, museum lectures, and university publicity, etc.

## Qianhong Project 2022

Qianhong Project 2022 supports six projects with small amount of grants.
It aims to integrate scientific theory with practice regarding mangrove conservation and restoration. To improve the ecological service values in Asia-Pacific region, Qianhong Project implements and promotes the nature-based mangrove wetlands conservation and restoration solutions, as well as global mangrove conservation and collaboration.

### Priority topics

- Field survey on the population or research on breeding of rare and endangered mangroves
- Monitoring management of exotic mangrove trees and pests
- Sustainable management of mangrove wetlands and human activities surrounding them

## Distribution Survey and Breeding Technology Research of the Rare and Endangered Mangrove Plant Lumnitzera racemosa in Guangxi


Guangxi *Lumnitzera racemosa* is at risk of extinction due to habitat damage, failure of natural regeneration, as well as the absence of planted forest restoration. Therefore, it is imperative to carry out the resource survey, habitat research and seedling technology development of Guangxi *Lumnitzera racemosa*. This project intends to conduct a resource survey, habitat research and seedling technology development so as to provide theoretical guidance and technical support for the conservation and restoration of Guangxi *Lumnitzera racemosa*.

## Monitoring the Invasion of Spartina alterniflora Using High-resolution Images and Ensemble Learning algorithm in Guangxi Shankou Mangrove National Nature Reserve, China


This project proposes to select Guangxi Shankou Mangrove National Nature Reserve as the study area, and develop a set of high-resolution remote sensing monitoring plans on *Spartina alterniflora* based on RapidEye and SuperDove high spatial and temporal resolution images, using object-oriented analysis and rotating forest (RoF) deep learning method to improve the recognition accuracy and more accurately monitor the expansion intensity of *Spartina alterniflora.* Data on the distribution characteristics and invasion dynamics of the species in the study area for the past 10 years from 2011 to 2021 will be obtained to provide data support and decision reference for the control of *Spartina alterniflora* in Guangxi.

## Study on Restoration Modes of Xinying Native Mangrove Wetlands


The project hopes to provide strong data services and suggestions to support the scientific protection of Houshuiwan Wetland in Hainan Province and to explore a scientific and cost-effective pathway for the effort of returning ponds to forests and wetlands and the restoration of local mangrove wetlands. Priority is given to the monitoring of migratory birds in the winter, the investigation of human disturbance model focusing on harvest of shellfish in mudflat, and the simultaneous survey and monitoring of macrobenthos and birds in the sample plots of different mangrove restoration modes. In addition, the story of Houshuiwan wetland is told through *Mangrove Comics* to raise public awareness of wetland conservation.

# International Funding Projects

## Support of Spoon-billed Sandpiper head-starting project in Meinypil' gyno and overall Spoon-billed Sandpiper conservation in Russia


The goal of the project is to help save the Spoon-billed Sandpiper (SBS) from global extinction through a head-starting program (HS) at the largest known Spoon-billed Sandpiper breeding site – Meinypil'gyno and to continue monitoring, conservation and research activities on Spoon-billed Sandpiper in Russia.

## The four main objectives of the project are to

- Increase Spoon-billed Sandpiper productivity at Meinypil'gyno through head-starting, in order to facilitate and monitor rapid population response to reduced hunting mortality on the flyway;
- Keep main breeding population of SBS monitored in comparison with other breeding bird species in Meinypilgyno and continue ringing, marking and studies of species biology and ecology, evaluation of predation pressure and weather effects;
- Initiate habitat and feeding ecology studies and evaluate environmental change effects and migration studies on SBS in the Russian Far East and assess how this could help conservation; and,
- Continue education and awareness raising with local communities and decision makers.

## Spoon-billed Sandpiper conservation in Myanmar (January-June 2022)


The Spoon-billed Sandpiper ***(Calidris pygmaea)*** is a long-distance migrant which is a critically endangered, and highly charismatic shorebird species. Its population has declined by 26% annually during the 2000s, and then the loss rate has fallen to 9% thanks to the hunting mitigation actions. Myanmar is home to four main wintering sites of the bird species along the coast, namely Nanthar Island (a Ramsar Site), Meinmahla Kyun wildlife sanctuary and Ayawaddy Delta (a Ramsar Site), Gulf of Mottama (a Ramsar Site) and Tanintharyi coastal (Myeik and Bokepyin mudflat).

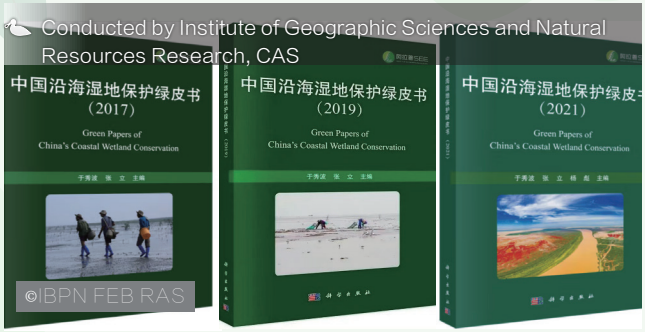
Myanmar is one of the most important wintering countries along the EAAF. Gulf of Mottama ,Nanthar Island, Mayyu Estuary and Meinmahla Kyun Wildlife Sanctuary have already been designated as wetlands of international importance (Ramsar sites), while Tanintharyi coast needs to be formally protected as a Man & Biosphere (MAB) reserve, or a Ramsar site. Moreover, as local community involvement in conservation is crucial, NCS is coordinating the existing local conservation groups in Nanthar Island, Gulf of Mottama and Tanintharyi coast for further necessary capacity building such as patrolling, bird watching, education and awareness (CEPA), and other activities.

## Support of artificial nest program to converse endangered Scaly-sided Merganser on the key breeding grounds in Russia


The Scaly-sided Merganser (Mergus squamatus ) is a globally threatened duck species, classified as endangered on the IUCN Red List since 2002. This is justified on the basis that it has a very small population, which is suspected to be undergoing a continuing and rapid decline as a result of habitat loss, illegal hunting and disturbance.

The species is endemic to East Asia. The majority of the population (85%) breeds in the Sikhote-Alin mountain range in Far Eastern Russia. Most of the remainder (14%) is found in the Changbai Mountains, straddling China and DPRK.
The aim of this project is to increase production of young Scaly-sided merganser through coordinated nest box programs.

## Other Key Projects Funded by MCF




Under the guidance of the State Forestry Administration (SFA), three organizations, i.e., SEE, MCF, and the Institute of Geographic Sciences and Natural Resources Research (IGSNRR), CAS jointly launched the "Green Papers of China's Coastal Wetland Conservation (2017, 2019 & 2021)" projects in Beijing. The topics of ***Green Papers of China's Coastal Wetland Conservation(2017, 2019 & 2021)*** include the progress of coastal wetland conservation in China, ten coastal wetlands that deserve the most attention, assessment of the value of coastal wetland ecosystem services, typical areas for coastal wetland conservation, etc.

The release of ***Green Papers of China's Coastal Wetland Conservation ((2017, 2019 & 2021)*** is an important initiative for the government, NGOs and research institutions to work together in wetland conservation. Its release can further raise the awareness of local governments and the general public on the importance and urgency of coastal wetland conservation, enhance the capacity building of coastal conservation departments and various wetland reserves, and further advance wetland conservation and restoration efforts in China.

## Future International Funding Projects

To jointly tackle the challenges and solve the problems facing mangrove ecosystem in Southeast Asia and migratory birds in EAAF, MCF has been supporting migratory birds (such as Spoon-billed Sandpipers, Scaly-sided Merganser) conservation projects in Russia and Myanmar. In the future, it will explore opportunities of international funding projects regarding mangrove wetland ecosystems.

## Future International Funding Sites

- Coastal wetlands: Mainly mangrove wetland ecosystems
- Migratory birds and their habitats

## Future International Conservation Areas

- where mangrove wetlands are distributed
- where significant habitats of key birds are located in every continent.

## Categorization of Future International Funding

### Conservation Monitoring Projects

- It is necessary to monitor our conservation targets (mangrove wetland ecosystems, migratory birds and their habitats). By understanding their status as well as the changing process, we can develop scientific and cost-effective conservation strategy that supports our implementations.

## Restoration Projects

- There has been quite a loss and degradation of mangroves and habitats of migratory birds, which need to be restored immediately in a science-based manner.

## Community-based Conservation Projects

- It is essential for local communities to be part of the conservation projects. Only in this way can conservation purpose be achieved effectively with local communities playing an important role as they live with mangrove and share mudflat with migratory birds.

## Public Education and Communication Projects

- Through raising awareness, the importance of conservation and our conservative actions can be acknowledged and supported by various societal actors, including governments, companies, and the general public.

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