



WWF

FRESHWATER

CASE STUDY

2017



© Yao Yi/WWF

WWF-China / WWF Freshwater Practice

# PARTICIPATORY WETLAND CONSERVATION

## Tools for wetland conservation in the Yangtze river basin: the Protected Area Network and ‘Nature School’ platform

### Learning about this work

Read this practice note

Contact WWF-China

[www.wwfchina.org](http://www.wwfchina.org)

[wwfchina@wwfchina.org](mailto:wwfchina@wwfchina.org)



Map of the Yangtze river basin

### Introduction

The extensive wetlands of the central, lower and estuary Yangtze are critical to the functioning of the whole Yangtze ecosystem, which in turn provides essential services to the hundreds of millions of people that live within the basin (e.g. regulation of water quality, fish production, flood control). These same wetlands also support a high concentration of rare and endemic species, including Chinese or Yangtze alligator (*Alligator sinensis* – assessed in the IUCN Red List of Threatened Species as Critically Endangered) and Yangtze finless porpoise (*Neophocaena asiaorientalis* subsp. *asiaorientalis* – also Critically Endangered), and provide the wintering grounds for over one million waterbirds of more than 100 species.

However, up until about ten to fifteen years ago, poor conservation capacity, insufficient coordination among protected areas – which all were established by different level of authorities largely under the State Forestry Administration – and the lack of a platform for participation and sharing of experience made it difficult or impossible to respond effectively to the threats causing widespread loss and degradation of Yangtze wetlands. These included climate change, poorly planned water control and energy infrastructure as well as other major construction projects and unsustainable

agricultural practices. In many cases lakes and other floodplain wetlands were artificially cut off from the main Yangtze River, stopping them from functioning normally and preventing them from fulfilling their ecologically and socio-economically critical roles.

Furthermore, the day-to-day running and management of wetland protected areas were largely restricted to government officials, scientists and protected area staff, with little or no engagement with wider society. This created a serious risk that lack of opportunity to experience and get involved with protected wetlands would translate into lack of motivation and commitment to ensure the conservation of threatened sites.

The Yangtze Basin Protected Area Network (YBPAN) and the Nature School platform are two approaches to facilitate and enable more effective conservation management of wetland protected areas through mobilising and linking stakeholders, sharing experience and building capacity.

In relation to specific conservation goals set by WWF-China, the YBPAN and Nature School initiatives have contributed directly to Goal 1 of the Yangtze Ecoregion Action Programme (2010–2020): *“By 2020, five million hectares of the Yangtze Conservation Network including protected areas, corridors, co-management zones that safeguard flagship species and other High Conservation Value areas in the Yangtze basin are effectively managed,”* and to Goal 2 of the Yangtze Strategy 2015–2025: *“By the end of 2025, High Conservation Value wetland ecosystem and habitats in the basin conserved through demonstration and magnification of effective management of Protected Areas, practicing water stewardship in industry and agriculture, and lobbying on the effective wetland policy.”*



Map of the Yangtze Basin Protected Area Network: each dot represents a member Protected Area



Pied Avocets © Yao Yi WWF



Siberian Cranes © Yao Yi WWF

## What did we do and how did we do it?

### THE YANGTZE BASIN PROTECTED AREA NETWORK (YBPAN)

#### What is the YBPAN and how is it organised?

The YBPAN started in 2004 with a provincial-level pilot Protected Area initiated by WWF in collaboration with the Hubei Forestry Department. Following early successes, in 2007 the achievement was recognized by China's State Forestry Administration (SFA), and five other provincial forestry bureaus and departments in the central and lower Yangtze region bought into the concept and the Network expanded accordingly. The SFA promoted in 2010 the expansion of the Network to the whole Yangtze basin, covering 12 provinces and municipalities. WWF acted as the main initiator, driving force and provider of both technical and funding support, while the SFA was the main source of funding and policy-level inputs. The SFA showed strong interest in the Network and played a very important coordination and leadership role.

The YBPAN is coordinated through a small Secretariat, led by an officer of WWF and a Division Chief from within the SFA. The Secretariat's main tasks include reviewing progress, preparing annual work plans, running training workshops, organising the YBPAN annual conference, designing training and communication materials, etc. At local government level, the Wetland Management Department of each province within the Yangtze Basin has appointed a liaison officer to work with YBPAN, e.g. to distribute notice of training workshops, etc. The Secretariat is supported by four volunteer Expert Groups including 'protected area effective management', 'waterbird monitoring', 'wetland pioneer', and 'communication', composed of numbers of leading wetland experts from different scientific research institutes. There is at least one meeting per year of the provincial liaison officers and the Expert Group to discuss and review the annual work plan drafted by the Secretariat.

#### How is the Network funded?

WWF contributed RMB 10 M (= approx. USD 1.4 M, as of January 2017) to YBPAN, using funds provided by HSBC, Coca-Cola and WWF-NL. SFA provided RMB 1881 M (= approx. USD 271 M). Provincial governments have also provided some funding. Members themselves do not contribute financially to the Network (i.e. there is no membership fee).



Protected Area visitors ©WWF-China



Tongli Wetland Park © Xiaodong Sun / WWF-UK



Nature School teaching session ©WWF-China

## How can a protected area become a member of the Network?

To join YBPAN, a prospective member must first submit an application form; this includes basic information about the protected area, e.g. size, year of establishment, number of staff, secured funding, ability to support itself, as well as general information about infrastructure, scientific research, protection targets, the natural environment, land ownership, community work, etc. The applicant must then be recommended by the relevant provincial Wetland Management Department and the candidacy is then verified by the SFA.

## What are the advantages of membership?

By joining, YBPAN members gain access to capacity building, information, knowledge and experience sharing opportunities and are also more likely to benefit from supportive policies, funding or other support from both SFA and WWF.

A training workshop is organised at each annual meeting of the Network and information about successful pilot projects and 'best practice' approaches is shared. The YBAN annual conference is open to all members and is hosted by each basin province in turn; it usually lasts three days and offers training and workshops on topics that interest and challenge the members. In 2010 WWF and SFA used the platform of YBAN to launch an 'Award for Best Wetland Management and Conservation in the Yangtze region'. A compilation of 'Case Studies of Effectively Managed Wetlands in the Yangtze region' was also published. In addition to the training workshop held during the annual meeting (which is usually attended by higher-level representatives and therefore tends to be more general in nature), more specialised technical workshops and training activities are organised throughout the year. These have covered subjects such as wetland monitoring; communication, education and public awareness (CEPA) for wetlands; wetland management; and photographing wetlands.

Since the YBPAN became the SFA's key wetland-related activity, provincial Wetland Management Departments have been inspired to establish more protected areas in the region and to have them to join the network.

## THE 'NATURE SCHOOL' PLATFORM

### What are Nature Schools and why are they needed?

Nature schools are a tool WWF has been promoting since 2012, and are aimed at promoting better management of protected areas. A Nature School is a platform for engagement and outreach, education, awareness-raising, capacity building and training to support more effective conservation management

and restoration of individual protected areas, including both Nature Reserves and (especially) Wetland Parks. The Nature School concept – which uses the word ‘school’ in a very broad sense, covering both adults and children in a wide range of settings – was developed by WWF and brought to the attention of the YBPAN.

Many wetland protected areas within the YBPAN have now established pilot Nature Schools as a way to move beyond the traditional triangle of key players – government, scientists and nature reserve staff – towards a more participatory model in which NGOs, the business sector and the general public are also strongly engaged through dedicated interpretation, outreach and special events. Nature Schools can help local decision makers better understand the importance of wetlands and help to mainstream wetland conservation within local governments. This in turn could greatly improve the conservation status of protected areas since in most cases wetland management departments have less power than water resource or agriculture departments. This initiative also harnesses two important socio-economic trends in China: first, growing prioritisation within the business sector – especially larger corporations – of corporate and social responsibility (CSR) issues; secondly, rising income levels that have given more citizens the opportunity to improve the quality of their lives by getting closer to nature and participating in conservation-related activities.

#### **Nature Schools and CSR**

“Through both indoor and outdoor programmes, businesses are provided with conservation-focused opportunities to enhance staff motivation and development, customer engagement, partnership building and other elements of CSR.”

Lei Jinyu, Yangtze species program manager, WWF-China

WWF-China sees an emphasis on business and public engagement as vital for effective conservation of the most important wetlands in the Yangtze Basin, since this can only be achieved by raising the awareness of, and establishing practical links with, an increasingly urbanised population. China’s laws and regulations provide for free and open access to wetlands by the general public; this makes it even more important that there is effective outreach to educate people about the value of wetlands and the importance of respecting and protecting them.

Although all Nature Schools are established on the basis of the common overall approach described above, each one focuses on the specific priorities and needs of the protected area in which it is located. It is the hope of WWF-China that Nature Schools will eventually become integral to the majority of protected areas in the Yangtze Basin.

#### **Nature School activities**

Depending on the priorities identified by each Nature School, activities may (for example) include: citizen science and nature investigation/exploration projects to encourage direct



Nature School pupils ©WWF-UK



Nature School activity ©WWF



Nature School pupils ©WWF-UK



Nature School activity ©WWF

participation and new experiences; practical conservation work (e.g. reed planting, trail maintenance); or training of trainers to enhance the reach and sustainability of the Nature School. While the specific activities vary from one Nature School to another, a set of common principles is applied, among them:

- Making the activities locally relevant by highlighting local characteristics and local environmental issues;
- Focusing on the positive experience of participation in a natural environment;
- Focusing on teaching methods based around inquiry and exploration, including 'learning by doing' and self-guided exploration;
- Emphasising sustainable practices and solutions;
- Providing opportunities for follow-up actions and engagement.

### Funding and management of Nature Schools

Nature Schools are self-funded and self-managed. WWF provides training and technical support (e.g. how to design and build communication/interpretation facilities) and lobbies government (SFA) to allocate more resources to facilitate Nature School activities such as training courses.

Nature Reserves in China are government-funded but the status of Wetland Parks is more complicated. Though some rely on government funding and some charge visitors for entry tickets, more and more new ones depend on funding from corporations that support the establishment of Wetland Parks. Examples include property developers who could benefit from the increased in property prices in nearby areas or companies who could generate income through selling the products from the wetlands (e.g. fish, aquatic plants, etc.). Establishing a Nature School can help Wetland Parks to generate more income by engaging more social funding and thus to be more likely to secure their financial sustainability in the long term. From a conservation perspective, Nature Schools can raise the quality of interpretation through capacity building, and improve management by public education/awareness-raising and training of volunteers.

Key steps in setting up each pilot Nature School include:

- Appointment of a core team to lead the Nature School (usually drawn from existing staff, at least initially);
- Establishment of a 'seed fund' from existing resources;

- Designating a theme for the Nature School based on local conservation goals and identification of the features with the most significance and education potential;
- Inventory of existing infrastructure and equipment suitable for Nature School use;
- Planning and design of interpretation system and education programme;
- Training to strengthen technical capacity and management ability of the team;
- Programme implementation on a pilot basis;
- Evaluation and adaptive management to optimise the programme.

### What have we achieved?

---

General outcomes at basin level are that:

- Wetland management/conservation in the region has been mainstreamed into the work of different levels of government, with increased policy and funding support for wetland protected areas as a result.
- Basin-wide joint actions have been carried out by YBPAN (e.g. a synchronised survey of wintering waterbirds in the whole of the Central & Lower Yangtze was organised in 2004, 2005, 2011 & 2015 to help increase understanding of waterbird status and trends – a vital indicator of the health of wetland ecosystems and one that can help to identify management requirements).
- Provincial wetland conservation legislation, promoted by the YBPAN, has been issued in Sichuan, Tibet, Qinghai, Guizhou, Anhui and Jiangsu. Previously a lack of national or provincial legislation relating to wetlands made it difficult to control the conversion of wetlands – even those designated as protected areas – for agricultural use and urban development. YBPAN used a variety of channels to lobby decision makers at different levels, including the SFA, provincial wetland management departments and the National People’s Congress. YBPAN also organised a preliminary study of the current status of wetland conservation legislation, an advocacy workshop, as well as training and study tours.
- Through Nature Schools public awareness of, and engagement in, wetland conservation has been raised significantly. Public support for wetland protected areas is



Mrs Liu, Nature School Teacher and Protected Area Manager, East Dongting, Hubei Province, China ©WWF-UK

Mrs Liu has worked in East Dongting for more than 20 years. She says the biggest change over the past 15 years has been public awareness of the issues. Mrs Liu says the local government have definitely started to pay more attention to the wetland protection as well and she herself has become more knowledgeable and passionate about the environment.

"The training I have received has made an impact on my life, not only am I more knowledgeable and can bring my knowledge to the nature school but I have also had the opportunity to meet and share experiences with other protected area managers."

She believes that the nature schools are really making a difference to the community and education of the next generation.

"I have confidence that the younger generation can influence their parents and the older generation in caring for the environment and that they will then pass this on to their children, this gives me hope for the future."

now a significant factor in decisions affecting those sites, including the way in which threats are dealt with.

More specific achievements and milestones include the following:

### Yangtze Basin Protected Area Network

- By 2016 there were 252 member protected areas of the YBPAN, between them covering 29 million hectares. The network covers the whole Yangtze river basin.
- 4,247 km<sup>2</sup> of protected areas in the Yangtze basin have taken practical conservation actions. Wintering waterbird populations in the wetlands have increased from around 516,000 in 2004 to more than 923,000 in 2015.
- Compared with 10 or 15 years ago, the capacity of members of the Network – and of the SFA itself – to engage in wetland conservation has been raised significantly. More than 3,000 wetland managers, government officers and YBPAN staff members have received training.
- Through the YBPAN Expert Group, scientific research is now much more closely linked with conservation work than was previously the case.
- Prior to the Network's existence, there was no secured or dedicated SFA funding for wetland conservation; since, there has been a remarkable increase in such funding.

### Nature Schools

- The Nature School approach has been successfully piloted in 50 Yangtze Basin wetland protected areas, resulting in increased capacity for delivery of wetland-related communication, education and public awareness (CEPA) as well as much greater engagement between protected areas and more diverse sectors of society. Examples of positive impacts on the conservation of specific wetlands are given in the Case Study boxes below.
- A 'WWF Wetland Environmental Education Curriculum' was published in 2016 by WWF in partnership with SFA, while a manual on 'Interpretation System Planning – From Theory to Practice' was published in 2015 by WWF and Shanghai Chongming Dongtan Nature Reserve. The Wetland Education Curriculum was distributed by SFA to all Wetland Parks in the whole of China and, from 2016, is being used in national-level CEPA training courses. In addition, four National Guidelines on CEPA, Interpretation, Wetland Monitoring and Wetland



Restoration are in preparation by WWF and SFA and will be issued by SFA later in 2017.

- Neither the YBPAN nor the associated Nature Schools are dependent on WWF funding, though WWF continues to be active in providing technical support and in lobbying government to strengthen enabling conditions (regulatory framework, provision of funding). There are encouraging signs that both initiatives are sustainable in the long term and are already being replicated successfully outside in other regions of China.

### Case Study 1 – East Dongting Lake

One of the most important wetland Nature Reserves in China, East Dongting Lake – recognised globally as a Ramsar wetland of international importance and one of only two lakes still naturally connected with the main channel of the Yangtze – was selected as the location of a YBPAN pilot project for assessing management effectiveness using the Management Effectiveness Tracking Tool (METT). As a result of unique hydrological processes the lake has exceptionally rich biodiversity and is one of the most important sites for wintering waterbirds in the whole of East Asia.

A National Nature Reserve was designated in 1982 and WWF has been working with the reserve since 1999 to help improve management and to deal with threats. During the period of the management effectiveness study (2012 to present) a new threat to the site emerged in the shape of proposals to dam the natural outlet from the lake to the river.

Through a combination of policy advocacy, mobilisation of expertise through the YBPAN, and the raising of public awareness through the Dongting Lake Nature School (e.g. the celebration of a ‘Bird Festival’ and the organisation of other CEPA-based events), the importance of maintaining the naturally-functioning link between lake and river was recognised by decision makers. For the moment the dam construction plans have been suspended and this is due in large part to the role played by the Protected Area Network and the associated Nature School.

### Case Study 2 – Chen Lake

Chen Lake - Chenhu (of which 11,579 ha is designated as a Nature Reserve) lies 40 km west of Wuhan City, in Hubei Province, along the middle reaches of the Yangtze. It plays an important role in flood alleviation and the provision of drinking water for Wuhan (population >8 million) and is notable in that it retains a semi-natural connection with both the Yangtze main channel and its longest tributary, the Han River. Chenhu supports over 25,000 wintering waterbirds annually – up to 100,000 in some years – with seven species occurring in internationally-important numbers.

Chenhu Nature Reserve joined the YBPAN in 2007 but has been working with WWF for more than 10 years. Recent work has focused on implementation of the Nature School approach at Chenhu as a means of enabling previously ‘excluded’ sections of society (e.g. the business community and the general public) to become involved with conservation and management work in the Nature Reserve. Public awareness-raising events include the Chenhu Wetland Festival, which is co-organised every two years by local government, the Nature Reserve and WWF.

Through participation in the Protected Area Network and establishment of a Nature School, Chenhu Nature Reserve has benefited from expert advice on wetland management and restoration (e.g. adaptive management of water levels based on e-flow requirements, including the use of ‘smart’ digitally controlled sluice gates), training on waterbird monitoring, and financial support from the business sector (e.g. RMB 900,000 = approx. USD 136,000) from Simic Meijia Group).

Thanks to the success of the Nature School, the local government gradually realised the value of this wetland and approved the designation of Chenhu as a Ramsar Site in 2013. In addition, since 2014 the local government has allocated RMB 10 million annually to compensate communities living around the site.



Nature School interpretation system ©WWF



Nature School activity ©WWF



Nature School interpretation system ©WWF



Developing a Nature School interpretation system ©WWF

## What went well? Ingredients for success

- Critical to the success of both the Protected Area Network and Nature Schools has been the establishment of an effective working relationship between WWF and different levels of wetland management departments, including the SFA. This in turn was based on long-term cooperation, initiated in 1999, under which WWF provided capacity building, technical and even financial support to the government departments in relation to wetland conservation and management, and Ramsar Site nomination. At the beginning of this collaboration the wetland management departments lacked experience and capacity in all of these areas.
- Both initiatives are easily understood and communicated, making them relatively easy to replicate within and beyond the Yangtze Basin.
- Both initiatives have been scaled up – using the ‘Wetland Environmental Curriculum’, four sets of national guidelines and the manual on interpretation system planning – to maximise impact, from pilot programmes to basin level (e.g. the YBPAN started in a single province, then expanded to cover the central and lower Yangtze, and finally the whole basin).
- The YBPAN was an initiative that met the needs of all of the key partners, from SFA to provincial wetland management departments (building of capacity and know-how to discharge effectively functions that had been assigned to them) and the protected areas themselves (e.g. better legislation, more effective implementation and enforcement of legislation, greater availability of funding).
- WWF provided seed funding in the initial stages. This was critical to securing the much larger, longer-term buy-in from government.

## What didn't go so well? What are the key lessons learned?

There have been no major obstacles that significantly blocked progress, but keeping in mind the following factors could prove useful to others who might be thinking of developing similar approaches.

As noted earlier, the Protected Area Network and the Nature School platform are both approaches that facilitate and enable more effective conservation management of wetland protected areas through mobilising and linking stakeholders, sharing



Fisherman at sunset on Dongting Lake. Hunan Province, China  
©Michel Gunther / WWF



East Dongting Lake Nature Reserve Birdwatcher looking through a telescope for Siberian Cranes, Hunan Province, China  
©Edward Parker / WWF



Tongli Wetland Park © Xiaodong Sun / WWF-UK

experience and building capacity. The application of these approaches takes time to be reflected in practical 'on-the-ground' conservation results and it will rarely be easy to draw direct 'cause and effect' linkages between the existence of a Protected Area Network or Nature School and the conservation status of an individual protected area, habitat or species.

The YBPAN grew very quickly, possibly too quickly. At the beginning (2004) it was expected that activities and membership would be extended to the central Yangtze after ten years, but this actually took place within three years! Now the Network covers the entire Yangtze Basin.

The very success of YBPAN and its growth in terms of both the number of protected areas that are Network members (>200) and the number of provinces covered (10), means that it has become increasingly difficult to meet or manage the needs/expectations of all members.

In the past, it was possible for every member to participate in all training/capacity-building events. Nowadays the attendance of every member would make the events impractically large and costly to organise, so a more selective approach is needed.

There is so far no certification/accreditation or minimum standards requirement for Nature Schools. This may pose challenges for maintaining quality of delivery as the Nature School network continues to grow and could be something to consider implementing in the future. However, at the beginning, given that most Wetland Parks were starting from extremely low levels of knowledge and capacity, it was decided not to build in barriers (such as certification or similar processes) that might deter them from engaging with the Nature School concept.

### Where will we go from here?

WWF-China fully expects that YBPAN will be self-sustaining in the future, given the continued commitment and financial support of the SFA. WWF itself has supported three phases of YBPAN activities, the third of which is ending in 2016. At the time of writing it is not known whether WWF will secure and allocate funding for participation in a fourth phase. WWF has reduced its financial input to the Network in recent years, with current funding sufficient for one full-time WWF staff member and two part-time staff to work on YBPAN.

Based in large part on proactive sharing of the positive experiences and lessons learned from the Yangtze Basin, three additional Protected Area Networks have already been set up in China:

- Yellow River Wetland Protected Area Network established by SFA and Wetlands International in 2014;
- Coastal Wetland Protected Area Network launched in 2015 by SFA and the Paulson Institute;
- Amur-Heilong Flyway Network established in 2015 by WWF and the Forestry Bureaus for the provinces of Heilongjiang, Jilin and Inner Mongolia.

Prior to establishment of the new networks, the main stakeholders were invited to the Annual Meeting of YPAN to exchange experiences. Members of the networks have subsequently been invited to attend training workshops organised by YBPAN.

WWF's future focus under the Nature School initiative will be to:

- Help the pilot Nature Schools to improve the Nature School model;
- Magnify the concept through training and policy work, e.g. using and developing the concept in training curricula and/or endorsing and emphasizing it in the national guidelines on Wetland Parks, thereby promoting extension of Nature Schools to Wetland Parks beyond the Yangtze basin.
- Promote the use of the Nature School model as a means of dealing with conservation threats, i.e. by replicating the approach followed at the East Dongting & Chenhu pilot sites, assist protected area managers to identify threats and find possible solution, especially in relation to social participation, using the Nature School model to mobilise and engage society to help mitigate threats.
- Develop a monitoring and evaluation plan to measure management effectiveness.

#### FOR MORE INFORMATION

[www.wwfchina.org](http://www.wwfchina.org)

[wwfchina@wwfchina.org](mailto:wwfchina@wwfchina.org)

