

LOWER YANGTZE BASIN



THE extensive lakes and marshlands in the lower Yangtze basin support huge numbers of wintering waterbirds. These include many threatened species, notably almost the entire global populations of Oriental Stork and Siberian Crane, and significant proportions of the populations of Swan Goose, Lesser White-fronted Goose, White-naped Crane, Hooded Crane and Marsh Grassbird. The lower Yangtze basin is also thought to be the main wintering area of the poorly known Swinhoe's Rail.

- **Key habitats** Freshwater wetlands on riverine plains.
- **Countries and territories** **China** (Hubei, Anhui, Jiangsu, Jiangxi, Hunan).

	Threatened species			Total
	CR	EN	VU	
●	—	—	—	—
✈	—	—	—	—
🐦 ¹	1	3	7	11
Total	1	3	7	11

Key: ● = breeding in this wetland region.

✈ = passage migrant.

🐦 = non-breeding visitor.

¹ The Conservation Dependent Dalmatian Pelican is also a non-breeding visitor to this region.

Almost the entire global population of Siberian Crane winters at Poyang Hu lake in Jiangxi.

PHOTO: RON SALDINO





Table 1. Outstanding Important Bird Areas in the lower Yangtze basin.

IBA name	Status	Territory	Threatened species
1 Chen Hu NR	PA	Hubei	Wintering Oriental Stork, Swan Goose, Baer's Pochard and Hooded Crane
2 Caizi Hu lake	PA	Anhui	Wintering Oriental Stork, Swan Goose and Hooded Crane
3 Shengjin Hu lake	PA ^{AP}	Anhui	Wintering Oriental Stork, Swan Goose and Hooded Crane, passage Siberian Crane
4 Poyang Hu lake	(PA) ^{AP,R}	Jiangxi	Supports >95% of the global population of Siberian Crane, and large numbers of Oriental Stork, Swan Goose, Lesser White-fronted Goose, White-naped and Hooded Cranes, Swinhoe's Rail and Marsh Grassbird
5 Dong Dongting Hu NR	PA ^R	Hunan	Large numbers of wintering Oriental Stork, Swan Goose and Lesser White-fronted Goose, also Baer's Pochard, Siberian, White-naped and Hooded Cranes and Marsh Grassbird

Note that more IBAs in this region will be included in the *Important Bird Areas in Asia*, due to be published in early 2004.

Key IBA name: NR = Nature Reserve.

Status: PA = IBA is a protected area; (PA) = IBA partially protected; — = unprotected; AP = IBA is wholly or partially an Asia-Pacific waterbird network site (see p.35);

R = IBA is wholly or partially a Ramsar Site (see pp.31–32).

OUTSTANDING IBAs FOR THREATENED BIRDS (see Table 1)

Five IBAs have been selected, all lake systems with large wintering populations of threatened waterbirds. Poyang Hu and Dongting Hu lakes are exceptionally important for several species, most notably the wintering population of Siberian Crane at Poyang Hu.

CURRENT STATUS OF HABITATS AND THREATENED SPECIES

The lower Yangtze basin supports more than 300 million people, and the wetlands there have been much reduced and degraded by economic activities, principally reclamation for agriculture. The total area of lakes has been reported to have declined by 61.5% in c.30 years, from 17,198 km² in the 1950s to only 6,605 km² in the 1980s. More than 1,100 lakes have been totally reclaimed, notably in Hubei province where there were 1,066 lakes with a total surface area of 8,300 km² in the 1950s, but only 83 lakes with a total surface

of 2,484 km² in the 1980s. The surface area of Poyang Hu lake has been reduced from 5,000 km² to 3,600 km², and of Dongting Hu lake from 4,350 km² to 2,740 km², while the area of farmland in Jiangnan plain and Dongting Hu lake area was c.8,660 km² in 1949, with an agricultural population of about seven million, but the farmland area has now increased to c.15,300 km² and the population of farmers to 15 million. Although the total area of wetlands is still large, their quality has been greatly reduced by development, pollution, overfishing and human disturbance, and the wintering waterbirds are mainly concentrated in the relatively few remaining suitable areas of shallow wetland.

CONSERVATION ISSUES AND STRATEGIC SOLUTIONS (summarised in Table 3)

Habitat loss and degradation

■ WETLAND CONVERSION AND AGRICULTURAL CHANGE

Conversion and degradation of wetlands is continuing in many parts of the Yangtze basin. Paddyfields inside

The lower Yangtze basin is thought to be the main wintering area of the poorly known Swinhoe's Rail.

PHOTO: PETER LOS/BIRDLIFE



Table 2. Threatened birds of the lower Yangtze basin.

Species			Distribution and population
Dalmatian Pelican <i>Pelecanus crispus</i>		CD	Small, declining wintering population
Oriental Stork <i>Ciconia boyciana</i>		EN	Almost the entire global population winters in this region
Swan Goose <i>Anser cygnoides</i>		EN	A high proportion of the global population winters in this region
Lesser White-fronted Goose <i>Anser erythropus</i>		VU	A high proportion of the Asian (and global) population winters in this region
Baikal Teal <i>Anas formosa</i>		VU	Formerly numerous in this region, but numbers now greatly reduced
Baer's Pochard <i>Aythya baeri</i>		VU	Concentrations of hundreds winter at several sites
Scaly-sided Merganser <i>Mergus squamatus</i>		EN	Scarce and local winter visitor
Siberian Crane <i>Grus leucogeranus</i>		CR	The entire eastern population winters in the region, mainly at Poyang Hu lake
White-naped Crane <i>Grus vipio</i>		VU	Large numbers winter at Poyang Hu and Dongting Hu lakes
Hooded Crane <i>Grus monacha</i>		VU	Flocks winter at several wetlands
Swinhoe's Rail <i>Coturnicops exquisitus</i>		VU	The main wintering grounds of this poorly known species appear to be in this region
Marsh Grassbird <i>Megalurus pryri</i>		VU	The main wintering grounds of the continental population of this species appear to be in this region

Other threatened waterbirds recorded from this region as rare visitors are: Chinese Egret *Egretta eulophotes*, Black-faced Spoonbill *Platalea minor*, Red-crowned Crane *Grus japonensis* and Saunders's Gull *Larus saundersi*. In addition to the waterbirds, Great Bustard *Otis tarda* (VU; see G01) occurs in winter on the riverine plains of this region.

= region estimated to support >90% of global non-breeding population, = 50-90%, = 10-50%, = <10%, = proportion of global non-breeding population unknown

Longgan Hu Nature Reserve in Hubei were converted into cotton fields and lotus ponds during the 1990s, leading to a decline in the number of wintering Hooded Cranes, and conversion of paddies to cotton fields has also reduced wetland habitat inside Dong Dongting Hu Nature Reserve in Hunan. The increased cultivation of perennial crops such as sugarcane means that fewer fallow fields are available for foraging waterbirds, and China's recent entry into the World Trade Organization could lead to many other changes in cropping patterns. At Chen Hu lake in Hubei local people are still illegally reclaiming parts of the lake for fishponds, despite the establishment of a nature reserve there.

Following the devastating floods of 1998, the Chinese government announced measures to protect wetlands and to stop reclamation; the rehabilitation and restoration of the middle and lower Yangtze basin is a priority project of the *National Wetland Action Plan for China*. At some locations, including Poyang Hu and Dong Dongting Hu lakes, many thousands of people are being relocated out of flood-prone areas, and low-lying farmlands and settlements are to be

converted back to lake and wetland. The impacts of these flood control measures and of agricultural change need to be monitored, to identify threats to key wetlands and opportunities to improve waterbird habitats. Any further encroachment into natural wetlands should be prevented, both inside and outside protected areas.

■ CHANGES IN RIVER FLOW

The construction and operation of the Three Gorges Dam will change the seasonal flow of water in the Yangtze River and could negatively affect the wetlands downstream. Artificially maintaining low water levels during the summer flood season and raising them (by an estimated average of one metre) in the winter may well change the character of the wetlands, and the shallow wetlands that most wintering waterbirds require for feeding will be greatly reduced in extent. Siberian Cranes may be particularly badly affected, through the reduced availability of the roots and tubers of aquatic plants that they eat, leading to starvation in late winter and early spring. High water levels caused by releases from the dam in March may force them to move closer to

The Three Gorges Dam is being constructed to control flooding and generate power, but once in operation it could negatively affect the wetlands downstream.



PHOTO: DI YUN/CHINA FEATURES

Table 3. Conservation issues and strategic solutions for birds of the lower Yangtze basin.

Conservation issues	Strategic solutions
Habitat loss and degradation	
<ul style="list-style-type: none"> ■ WETLAND CONVERSION AND AGRICULTURAL CHANGE ■ CHANGES IN RIVER FLOW ■ POLLUTION/PESTICIDES ■ REDUCED FOOD SUPPLY ■ DISTURBANCE 	<ul style="list-style-type: none"> ➤ Prevent encroachment into natural wetlands, and monitor the impacts of ongoing flood control measures and agricultural changes ➤ Develop a programme to monitor the effects of the Three Gorges Dam on wetlands and waterbirds ➤ Enforce laws to reduce pollution, and inform farmers about the wise use of fertilisers and pesticides ➤ Improve management of fisheries, particularly in protected areas
Protected areas coverage and management	
<ul style="list-style-type: none"> ■ GAPS IN PROTECTED AREAS SYSTEM ■ WEAKNESSES IN RESERVE MANAGEMENT 	<ul style="list-style-type: none"> ➤ Establish new wetland reserves at key sites in Hubei, Anhui and Jiangsu ➤ Expand the boundaries and core area of Poyang Hu Nature Reserve ➤ Give nature reserve management offices more authority to control land use inside their reserves ➤ Strengthen reserve management through improved funding, infrastructure and staff training
Exploitation of birds	
<ul style="list-style-type: none"> ■ HUNTING 	<ul style="list-style-type: none"> ➤ Formulate new national and local regulations to improve management of hunting ➤ Increase the protection status of Swan Goose, Lesser White-fronted Goose and Baikal Teal in China ➤ Strictly enforce hunting legislation, particularly to prevent the sale of illegally hunted waterbirds in markets
Gaps in knowledge	
<ul style="list-style-type: none"> ■ INADEQUATE DATA ON THREATENED BIRDS 	<ul style="list-style-type: none"> ➤ Survey poorly known species, notably Swinhoe's Rail and Marsh Grassbird ➤ Conduct regular, coordinated counts at major wetlands, to monitor the numbers of threatened birds and the effects of hunting and other pressures

human settlements and make them more susceptible to poison baits. More predictable water levels may also allow increased encroachment for agriculture and other economic activities. A coordinated programme is therefore needed to monitor (a) the water levels and condition of the key wetlands in the lower Yangtze basin and (b) the numbers of waterbirds and the effects of habitat changes on their distribution and behaviour. The dam authorities should be kept fully informed of the conditions required by Siberian Cranes and other threatened species at Poyang Hu lake and elsewhere in the Yangtze basin, and alerted when any decline in the quality of these wetlands is attributable to water flow.

■ **POLLUTION/PESTICIDES**

Industrial wastes, oil leakage, pesticides and fertilisers have entered the water system and severely polluted wetlands in the Yangtze basin. The ongoing conversion from rice to cotton results in pesticides used in the cotton fields polluting the adjacent wetlands. Improved laws and their enforcement are required to reduce pollution, together with campaigns to inform farmers about the wise use of fertilisers and pesticides, to minimise their environmental impact.

■ **REDUCED FOOD SUPPLY**

Fishermen and eel-catchers now use very fine mesh nets, leaving almost no food for the waterbirds in many wetlands.

Fishing needs to be better controlled inside protected areas, and the management of fisheries improved throughout the region, with conservation awareness campaigns targeted at local communities and governments pointing out that such intensive exploitation (particularly of small fish) cannot be sustainable.

■ DISTURBANCE

Disturbance is a problem at most wetlands in the lower Yangtze basin, caused by poaching, fishing, lotus-rhizome digging and other human activities, as well as burning and grazing. This needs to be reduced through improved protected area management (see below), to ensure that undisturbed areas are always available for feeding and roosting birds.

Protected areas coverage and management

■ GAPS IN PROTECTED AREAS SYSTEM

Many of the most important wetlands in the lower Yangtze valley are officially protected, but some new nature reserves need to be established, e.g. at Shaobo Hu lake in Jiangsu. Several of these wetlands are degraded, and habitat restoration may be required following their designation as reserves to enhance their value for waterbirds. The nature reserve at Poyang Hu lake only includes a small part of the lake, and it should be expanded to include Nan Hu lake in Yongxiu and Xingzi counties, Dalianzi Hu lake in Boyang county, Saicheng Hu lake in Jiujiang county and Tangyin in Duchang county, and the core area of the reserve should be enlarged. Similar changes may be required at some other wetland protected areas, when surveys show that the current boundaries and reserve zonation are inadequate.

■ WEAKNESSES IN RESERVE MANAGEMENT

Although many important wetlands in this region are officially protected, they are not necessarily secure because of inadequate budgets, lack of experienced personnel and poor communication between agencies (agriculture, fisheries, irrigation, etc.). A general beneficial measure would be to give the management offices of nature reserves more authority to control land use inside their reserves. The National Endangered Plant and Wildlife Protection and Nature Reserve Construction Program is a new Chinese government initiative to improve the existing protected area system and establish new reserves, and it provides a mechanism to address the current management problems. It has the potential to provide stable funding for reserves and to improve reserve management, by improving their infrastructure, staff training, staff working conditions and the livelihood of local communities. Specific measures proposed at Poyang Hu Nature Reserve (also relevant to many other wetland reserves) are that ownership of the core area should be transferred to the nature reserve management office and a development plan drafted. There is a need to improve enforcement of wildlife conservation laws and regulations in the reserve, and for education of the general public to help prevent poaching. The water level of the lake should be artificially controlled: two different levels should be used (if necessary by legal enforcement) to maintain the wetland ecosystem at Poyang, a flooding cycle to submerge the grasslands under 17–18 m of water for 50–100 days, and then the maintenance of optimal water levels for feeding of Siberian Cranes and other waterbirds in winter. Control of fishery practices should be improved in the reserve, including compensation of fishermen for not

draining the lakes, and regulation of the size of fish that can be taken.

Exploitation of birds

■ HUNTING

A study of hunting pressure in the middle and lower basins of the Yangtze River in 1987–1992 estimated that c.50% of the total wintering waterfowl were killed each year by local hunters, using netting, shooting and poisoning; most threatened waterbird species were found in hunters' bags during the study. The numbers of waterfowl in the lower Yangtze basin have declined greatly in the last 10 years, possibly indicating that hunting pressure may have intensified in recent years, and this is linked to the recent declines in the Swan Goose and the eastern population of Lesser White-fronted Goose. Poachers have recently been arrested for killing several hundreds of these two geese, many of which were openly on sale in local markets. Although ducks and geese are the main targets of the hunters, the poisons (rice soaked in strong pesticides) and mist-nets used to capture them also kills storks, cranes and other birds.

National and local hunting regulations should be formulated in China (using the results of scientific investigations), to control the length of the hunting season, to limit the number of hunters and the bag size of each hunter, and to ban inappropriate hunting methods such as the use of poisons. Most threatened waterbirds are already protected in China, but, given the hunting pressure on waterfowl, Swan Goose, Lesser White-fronted Goose and Baikal Teal should all be upgraded to a higher protection status. Increased efforts should be made to enforce the existing (and any new) hunting legislation, to control hunting at key sites in the lower Yangtze basin, and prevent the sale of illegally hunted waterbirds in markets. Appropriate training will therefore be needed for local police and officials. It is important to back up existing and new hunting legislation with publicity to support its vigorous enforcement, including the dangers that the use of

The eastern population of Lesser White-fronted Goose is affected by large-scale commercial hunting.

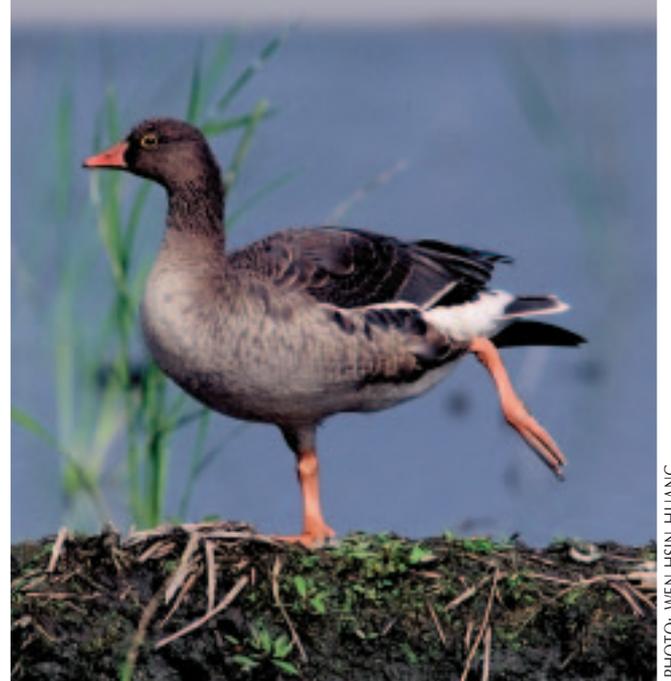


PHOTO: WEN-HSIN HUANG

Once the Three Gorges Dam is in operation, the numbers of cranes and other threatened waterbirds in the lower Yangtze basin will need to be closely monitored.



PHOTO: BIRDLIFE

poisons poses to wildlife and people. This publicity should target people in the remotest and poorest areas, where it will be necessary to create alternative job opportunities for local hunters.

Gaps in knowledge

■ INADEQUATE DATA ON THREATENED BIRDS

Waterbird counts are periodically conducted at the wetlands in the lower Yangtze basin, notably of cranes and storks. However, the distribution and numbers of several threatened waterbirds are incompletely known, and surveys

are required, notably for Swinhoe's Rail and Marsh Grassbird. Regular, coordinated counts are required at all of the major wetlands, to monitor the effects of the various threats to waterbirds and their habitats. Along with regular checks on the numbers of birds being sold for food in markets, this would help clarify the levels of hunting and the effects on waterbird populations. Once the Three Gorges Dam is in operation, these counts will be important for monitoring the numbers (and any changes in distribution) of Siberian Crane and other threatened waterbirds (see *Changes in river flow* above).