Four threatened waterbirds occur in the Philippine archipelago. The freshwater wetlands support the endemic Philippine Duck and the only known non-breeding population of Streaked Reed-warbler. The Philippines also appears to be the main non-breeding area of Chinese Egret, which inhabits coastal beaches, mangrove swamps and estuaries. There were formerly breeding populations of Spot-billed Pelican and Sarus Crane, but these both appear to have declined to extinction.

- **Key habitats** Coastal and freshwater wetlands.
- **Countries and territories** Philippines.

The Philippine wetlands region is within Conservation International’s Philippines Hotspot (see pp.20–21).

Large areas of mangroves have been cleared in the Philippines, but mangrove plantations on open mudflats actually cause further harm by reducing the feeding habitat available to coastal waterbirds. PHOTO: SIMBA CHAN
Table 1. Outstanding Important Bird Areas in the Philippine wetlands.

<table>
<thead>
<tr>
<th>IBA name</th>
<th>Status</th>
<th>Territory</th>
<th>Threatened species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candaba Marsh</td>
<td>—</td>
<td>Luzon</td>
<td>A regular site for Philippine Duck and wintering Streaked Reed-warbler, has recently declined in value but could be restored</td>
</tr>
<tr>
<td>Calituban and Tahong-tahong islands</td>
<td>—</td>
<td>Bohol</td>
<td>Important site for wintering Chinese Egret, with recent counts of several hundred individuals</td>
</tr>
<tr>
<td>Agusan Marsh WS³⁹</td>
<td>PA R</td>
<td>Mindanao</td>
<td>A vast complex of freshwater wetlands, likely to be important for Philippine Duck</td>
</tr>
<tr>
<td>Liguasan Marsh³⁹</td>
<td>—</td>
<td>Mindanao</td>
<td>A vast complex of freshwater wetlands, likely to be important for Philippine Duck</td>
</tr>
</tbody>
</table>

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: WS = Wildlife Sanctuary.
- Status: PA = IBA is a protected area; (PA) = IBA partially protected; — = unprotected; R = IBA is wholly or partially a Ramsar Site (see pp. 31–32); F09 = also supports threatened forest birds of region F09.

Table 2. Threatened birds of the Philippine wetlands.

<table>
<thead>
<tr>
<th>Species</th>
<th>Distribution and population</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese Egret</td>
<td>VII</td>
<td>The coastal wetlands of the Philippines appear to be the most important non-breeding grounds of this species</td>
</tr>
<tr>
<td>Philippine Duck</td>
<td>VII</td>
<td>Scarcely and declining Philippine endemic; breeds in freshwater wetlands but also occurs in coastal habitats</td>
</tr>
<tr>
<td>Spotted Greenshank</td>
<td>EN</td>
<td>Rare non-breeding visitor</td>
</tr>
<tr>
<td>Streaked Reed-warbler</td>
<td>VII</td>
<td>Its only known wintering grounds are in freshwater wetlands in the Philippines</td>
</tr>
</tbody>
</table>

Other threatened waterbirds recorded from this region are: Spot-billed Pelican Pelecanus philippensis (probably extinct), Oriental Stork Ciconia boyciana (rare visitor), Black-faced Spoonbill Platalea minor (rare visitor), Bar’s Pochard Aythya baeri (rare visitor), Sarus Crane Grus antigone (probably extinct), Bristle-thighed Curlew Numenius tahitiensis (rare visitor), and Spoon-billed Sandpiper Eurythrynus pygmeus (rare visitor).

= region estimated to support >90% of global breeding population; = region estimated to support >90% of global non-breeding population, = 50–90%, = <10%
OUTSTANDING IBAs FOR THREATENED BIRDS (see Table 1)

Four IBAs have been selected, which together support important populations of Chinese Egret, Philippine Duck and Streaked Reed-warbler, the species most reliant on Philippine wetlands for their survival.

CURRENT STATUS OF HABITATS AND THREATENED SPECIES

Large areas of natural freshwater wetland in the Philippines have been converted for cultivation, either through drainage or adoption of wet agriculture. The coastal wetlands have been greatly affected by conversion for aquaculture and cutting of mangroves for firewood, with the area of mangroves estimated to have declined by 67% in the past 60 years. This loss of habitat is one of the main reasons for the declines and extinctions of waterbird populations, but hunting and human disturbance are also likely to have been important factors.

CONSERVATION ISSUES AND STRATEGIC SOLUTIONS (summarised in Table 3)

Habitat loss and degradation

CONVERSION TO AGRICULTURE

Freshwater wetlands continue to be drained or converted to wet agriculture (rice paddies), severely limiting the amount of habitat available in the dry season. The clearest example is the drainage of Candaba Marsh, once the most important wintering site for Philippine Duck but now too dry to support large numbers. Moreover, the cultivation of rice instead of watermelon at Candaba entails draining the marshes in December or January instead of March or April. Even marsh vegetation is now patchy at the site (to the detriment of Streaked Reed-warbler). Wetland protected areas need to be established and their water levels managed.

CONVERSION TO AQUACULTURE

Many coastal wetlands are being converted to shrimp- or fish-ponds, as are freshwater wetlands such as Candaba Marsh. The ongoing loss of coastal mangroves is of particular concern, as this must reduce the wintering habitat available to Chinese Egret, and also affect Philippine Duck, which is commonly found in this habitat. Awareness campaigns are required, targeted at local governments with jurisdiction over important wetlands, to inform them of the importance of these wetlands, and persuade them to control wetland conversion so that sufficient natural habitat remains for threatened birds. The existing laws that ban the conversion of mangroves must be more strictly enforced.

CUTTING OF MANGROVES

In addition to the clearance of mangroves for aquaculture, large areas are affected by cutting for fuelwood. The sustainable use of mangroves by local communities should be promoted (including the maintenance of some areas of mature growth where cutting is not allowed), especially near the critical habitats identified under the National Wildlife Act (which include National Integrated Protected Areas System [NIPAS] sites and the 117 IBAs identified by the Haribon Foundation), through education and awareness campaigns.

POLLUTION

Many Philippine wetlands are affected by pollution, including from untreated domestic sewage, industrial effluent, toxic chemicals used in aquaculture and agrochemical run-off from farmland. The existing laws to control pollution need to be more strictly enforced by the Department of Environment and National Resources (DENR).

DEVELOPMENT (URBAN, INDUSTRIAL, ETC.)

Wetland habitat in many lowland areas has been converted to industrial use, or encroached by housing, tourist infrastructure or roads. A site selection process should be followed.
for new roads and other proposed development projects, with the aim of avoiding new development in important wetlands, notably the critical habitats identified under the National Wildlife Act (including NIPAS sites and IBAs).

**Protected areas coverage and management**

- **GAPS IN PROTECTED AREAS SYSTEM**
  The protected areas system in the Philippines is currently being redeveloped through the National Integrated Protected Area System (NIPAS) process, and the recent Local Government Code legislation is likely to be a vital mechanism for the conservation of many sites (see F09 for details). There are currently few wetland protected areas in the Philippines, and more need to be proposed under NIPAS or designated and managed as local protected areas under the Local Government Code. The Haribon Foundation’s IBA analysis identifies several unprotected wetlands that are important for threatened birds, notably under the NIPAS process, and the recent Local Government Code legislation is likely to be a vital mechanism for the conservation of many sites (see F09 for details). There are currently few wetland protected areas in the Philippines, and more need to be proposed under NIPAS or designated and managed as local protected areas under the Local Government Code. The Haribon Foundation’s IBA analysis identifies several unprotected wetlands that are important for threatened birds, notably the outstanding IBAs listed in Table 1. However, given the general lack of data on waterbirds, a new survey initiative is required to identify further sites of importance for

The Philippines appears to be the main wintering area of Chinese Egret, but further research is required there to clarify its numbers and key sites.

**Table 3. Conservation issues and strategic solutions for birds of the Philippine wetlands.**

<table>
<thead>
<tr>
<th>Conservation issues</th>
<th>Strategic solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Habitat loss and degradation</strong></td>
<td>➢ Manage water levels in key wetlands to improve conditions for threatened waterbirds</td>
</tr>
<tr>
<td>➢ Conversion to agriculture</td>
<td>➢ Minimise wetland conversion, and strictly enforce laws banning the conversion of mangroves</td>
</tr>
<tr>
<td>➢ Conversion to aquaculture</td>
<td>➢ Promote the sustainable use of mangroves by local communities</td>
</tr>
<tr>
<td>➢ Cutting of mangroves</td>
<td>➢ Improve enforcement of laws to control pollution</td>
</tr>
<tr>
<td>➢ Pollution</td>
<td>➢ Avoid siting new roads and other developments in key wetlands</td>
</tr>
<tr>
<td>➢ Development (urban, industrial, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

**Protected areas coverage and management**

- **GAPS IN PROTECTED AREAS SYSTEM**
  ➢ Establish new wetland reserves under NIPAS or the Local Government Code
- **WEAKNESSES IN RESERVE MANAGEMENT**
  ➢ Produce a new directory of Philippine wetlands
- ➢ Increase the capacity of the Protected Areas and Wildlife Bureau, especially local offices

**Exploitation of birds**

- **HUNTING**
  ➢ Conduct education and awareness programmes around key wetlands, to reduce hunting of threatened species

**Gaps in knowledge**

- **INADEQUATE DATA ON THREATENED BIRDS**
  ➢ More information is required about the Philippine wetlands, and there are important gaps in knowledge of the distribution and ecology of the threatened species.
  ➢ Much more information is required about the Philippine Duck, including the identification (and subsequent protection) of the most important breeding and non-breeding areas, and detailed ecological and life-history studies to help determine the most appropriate management strategies. In particular (when the security situation allows), surveys are urgently required of the vast Agusan and Liguasan marshes on Mindanao. Studies are also required to identify the most important sites for non-breeding Chinese Egret, Streaked Reed-warbler and shorebirds, including work on the current status and habitat requirements of the warbler at Candaba Marsh. A small flock of Black-faced Spoonbill was located on the Batanes islands in the northern Philippines in winter 2001/2002, and monitoring is required to determine whether this is a regular site for the species.