

BAY OF BENGAL COAST



THIS region includes the extensive coastal wetlands which extend from the Sundarbans of India and Bangladesh along the coasts of Bangladesh and Myanmar to the Irrawaddy delta. The highest known counts of Spotted Greenshank and Spoon-billed Sandpiper are from shifting intertidal mudflats and islands (known as chars) in the outer Ganges–Brahmaputra–Meghna delta in Bangladesh, and it is possible that this area and the poorly known coastal wetlands of Myanmar will prove to be the main wintering grounds of both species. The coast of Bangladesh also supports an important concentration of non-breeding Indian Skimmers.

- **Key habitats** Coastal wetlands.
- **Countries and territories** India (West Bengal); Bangladesh; Myanmar.

	Threatened species			Total
	CR	EN	VU	
●	—	—	2	2
✈	—	—	—	—
🐦	—	1	2	3
Total	—	1	4	5

Key: ● = breeding in this wetland region.
✈ = passage migrant.
🐦 = non-breeding visitor.

The Bay of Bengal coast region overlaps with part of Conservation International's Indo-Burma Hotspot (see pp.20–21).

The shifting mudflats and islands in the Ganges–Brahmaputra–Meghna delta in Bangladesh are believed to be one of the main wintering areas for both Spotted Greenshank and Spoon-billed Sandpiper. PHOTO: PAUL THOMPSON



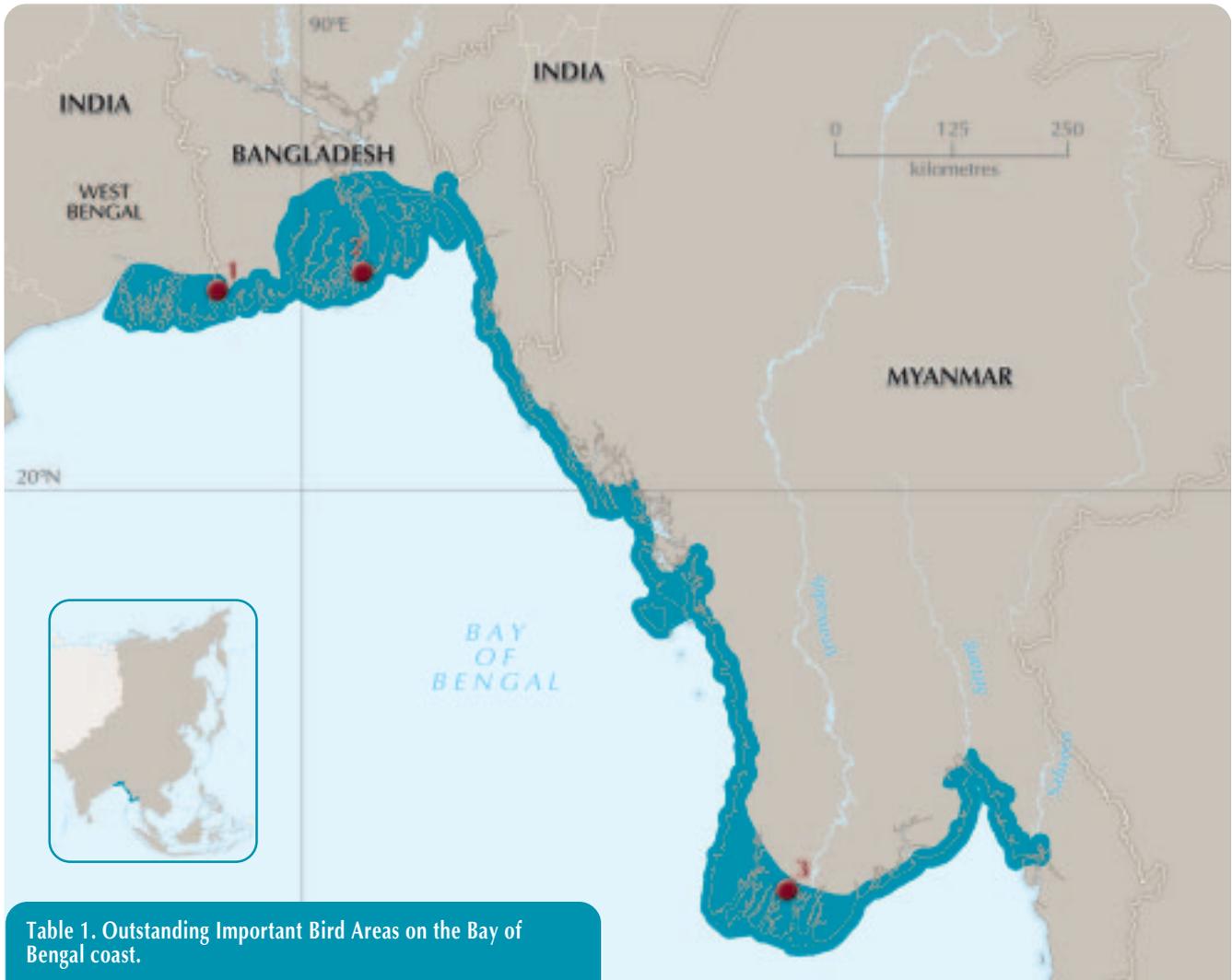


Table 1. Outstanding Important Bird Areas on the Bay of Bengal coast.

IBAName	Status	Territory	Threatened species
1 Sundarbans ^{F06}	(PA) ^{BR,R,WH}	India and Bangladesh	Huge area of mangroves supporting breeding Lesser Adjutant and Pallas's Fish-eagle
2 Ganges-Brahmaputra-Meghna delta	—	Bangladesh	Non-breeding Spoon-billed Sandpiper, Spotted Greenshank and Indian Skimmer
3 Irrawaddy delta	(PA)	Myanmar	Historical records of Lesser Adjutant, Greater Adjutant, Spotted Greenshank and Spoon-billed Sandpiper, but few recent surveys

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 Status: PA = IBA is a protected area; (PA) = IBA partially protected; — = unprotected; BR = IBA is wholly or partially a Biosphere Reserve (see pp.34–35); R = IBA is wholly or partially a Ramsar Site (see pp.31–32); WH = IBA is wholly or partially a World Heritage Site (see p.34); F06 = also supports a threatened forest bird of region F06.

The intertidal wetlands on the Bay of Bengal coast may prove to be the main wintering grounds of Spoon-billed Sandpiper.



PHOTO: SHIMPEI WATANABE

The Irrawaddy Delta and other coastal wetlands in Myanmar are probably important for wintering Spotted Greenshank.



PHOTO: RAY TIPPER

OUTSTANDING IBAs FOR THREATENED BIRDS (see Table 1)

Three very large IBAs have been selected, including the intertidal flats of the Ganges–Brahmaputra–Meghna delta, which support some of the largest known concentrations of Spoon-billed Sandpiper, Spotted Greenshank and Indian Skimmer. It is likely that the Irrawaddy delta and possibly other coastal wetlands in Myanmar will also prove to be important for these species.

CURRENT STATUS OF HABITATS AND THREATENED SPECIES

The coasts of this region are fringed with intertidal mudflats and mangrove swamps, with the most extensive areas of these habitats in the Ganges–Brahmaputra–Meghna and Irrawaddy deltas. Some of these wetlands have been converted for agriculture and aquaculture, but large areas of natural habitat remain. However, the mangroves in both deltas are heavily exploited and degraded, and the waterbirds there are also under pressure from hunting and human disturbance.

CONSERVATION ISSUES AND STRATEGIC SOLUTIONS (summarised in Table 3)

Habitat loss and degradation

■ **COASTAL RECLAMATION**

Large areas of coastal wetland in Myanmar are reported to

have been converted to agriculture, principally wet rice cultivation in lower-lying areas. Reclamation of intertidal mudflats in the Ganges–Brahmaputra–Meghna delta in Bangladesh is likely to proceed, but the impacts on shorebirds and skimmers are unknown, largely because these birds do not occur at fixed sites but shift their distribution as estuarine conditions change. However, sea-level rise associated with global warming is likely to reduce mudflat areas, as embankments limit the scope for settled or cultivated areas to revert to intertidal habitat. Reclamation of coastal wetlands for agricultural development needs to be better controlled, and prevented inside protected areas.

■ **CONVERSION TO AQUACULTURE**

Shrimp ponds are proliferating along the coasts of Bangladesh and Myanmar, seriously encroaching on natural wetlands. Protected areas should be kept free of aquacultural developments, and elsewhere traditional, extensive aquacultural practices should be promoted, to maximise the value of shrimp- and fish-ponds for waterbirds.

■ **CUTTING OF MANGROVES**

The mangrove forests of the Sundarbans are heavily exploited for timber, pulpwood and fuelwood, and those in the Irrawaddy delta are now mainly degraded, presumably because of excessive extraction of forest products. Logging (presumably of mangroves) apparently eliminated a colony of Greater Adjutant in the Sundarbans, and the species no longer breeds in the area. The sustainable use of mangroves

Table 2. Threatened birds of the Bay of Bengal coast.

Species		Distribution and population
Lesser Adjutant <i>Leptoptilos javanicus</i>	○ VU	Small breeding population in the Sundarbans of India and Bangladesh
Pallas's Fish-eagle <i>Haliaeetus leucoryphus</i>	○ VU	Small and declining breeding population
Spotted Greenshank <i>Tringa guttifer</i>	🐦 EN	Significant numbers winter in the Ganges–Brahmaputra–Meghna delta, and possibly in Myanmar
Spoon-billed Sandpiper <i>Eurynorhynchus pygmeus</i>	🐦 VU	Significant numbers winter in the Ganges–Brahmaputra–Meghna delta, and possibly in Myanmar
Indian Skimmer <i>Rynchops albicollis</i>	🐦 VU	Large non-breeding congregation in Ganges–Brahmaputra–Meghna delta

Other threatened waterbirds recorded from this region as rare visitors are: Spot-billed Pelican *Pelecanus philippensis*, Greater Adjutant *Leptoptilos dubius* and Sarus Crane *Grus antigone*. In addition to the waterbirds, Greater Spotted Eagle *Aquila clanga* (VU; see F01) occurs in winter. Note that Masked Finfoot *Heliopais personata*, which occur in forested wetlands in the Sundarbans (and possibly elsewhere in this region), is covered in F06.

○ = region estimated to support <10% of global breeding population; 🐦 = region estimated to support 50–90% of global non-breeding population, 🐦 = 10–50%

Large areas of wetland in the Irrawaddy Delta have been converted to rice paddies.



PHOTO: TAKASHI KUROSAKI

by local communities and commercial companies should be promoted, including the maintenance of areas of mature growth (to provide nesting trees), and further mangrove protected areas established in suitable areas in Myanmar. Where suitable nest trees are not available, artificial nest platforms could be considered for adjutant storks and Pallas's Fish-eagle. An education and awareness programme is needed to inform decision-making bodies and local communities about the importance of healthy, well-managed mangrove forests as spawning grounds for fish.

■ **DEVELOPMENT (URBAN, INDUSTRIAL, ETC.)**

Estuarine areas are likely to be considered for industrial and urban expansion as Bangladesh and Myanmar develop. Enhancement of accretion has been used over the last two decades to create new land for human settlement and agriculture in the Ganges–Brahmaputra–Meghna delta in Bangladesh, contributing to constant changes in the intertidal areas. Development projects affecting coastal wetlands need to be carefully considered and regulated, with environmental impact assessments conducted and reclamation projects cancelled if they would cause large-scale environmental damage.

■ **REDUCED FOOD SUPPLY**

There is intense over-fishing of shrimp fry and fish larvae in some coastal areas of Bangladesh, which may be reducing the food supply of some threatened species. For their own sustainability and the benefit of wildlife, fishing communities should be helped to implement conservation measures such as local fish sanctuaries, closed seasons, and reduced use of fishing gear that target fry or have a high bycatch.

■ **DISTURBANCE**

The large and rapidly increasing human population exerts huge pressure on wetlands and aquatic resources. The Sundarbans are disturbed day and night by large numbers of wood-cutters, fishermen and honey collectors. Any increased use of mudflats by people presumably threatens shorebirds and skimmers through disturbance. Human use

of important wetlands (particularly within protected areas) therefore needs to be managed, keeping some areas undisturbed so that waterbirds are able to roost, forage and breed successfully.

Protected areas coverage and management

■ **GAPS IN PROTECTED AREAS SYSTEM**

Parts of the Sundarbans and Irrawaddy delta are nature reserves, but the areas of intertidal mudflats and mangroves under protection in both should be expanded. In the Ganges–Brahmaputra–Meghna delta of Bangladesh, key areas of tidal creek and high-tide waterbird roosts should be officially protected, possibly as a network of seasonal wildlife sanctuaries. Surveys will be required in the poorly known wetlands of Myanmar to identify the most appropriate sites for official protection.

Exploitation of birds

■ **HUNTING**

Hunting of waterbirds is widespread, usually using mist-nets in Myanmar. Hunting of threatened bird species should be controlled, by patrolling wetland protected areas to intercept hunters, and reducing gun and net ownership at important sites. Education and awareness programmes are needed within communities throughout the region, to improve understanding of the effects of hunting on the threatened birds and the relevant laws.

Gaps in knowledge

■ **INADEQUATE DATA ON THREATENED BIRDS**

In Bangladesh, continued surveillance of coastal districts is necessary to monitor the numbers, distribution and management requirements of wintering Spotted Greenshank, Spoon-billed Sandpiper and Indian Skimmer. Extensive surveys are required in the coastal wetlands of Myanmar, principally the massive Irrawaddy delta, to improve understanding of the current status of threatened waterbirds, to identify priority wetlands for conservation (including the establishment of new protected areas), and to clarify the most important issues affecting these wetlands and waterbirds.

Table 3. Conservation issues and strategic solutions for birds of the Bay of Bengal coast.

Conservation issues	Strategic solutions
Habitat loss and degradation	
<ul style="list-style-type: none"> ■ COASTAL RECLAMATION ■ CONVERSION TO AQUACULTURE ■ CUTTING OF MANGROVES ■ DEVELOPMENT (URBAN, INDUSTRIAL, ETC.) ■ REDUCED FOOD SUPPLY ■ DISTURBANCE 	<ul style="list-style-type: none"> ➤ Control reclamation of coastal wetlands for agriculture, especially in protected areas ➤ Prevent conversion of wetlands for aquaculture in protected areas, and promote traditional, extensive aquacultural practices ➤ Promote sustainable use of mangroves by local communities and commercial companies, with mature trees retained for nesting waterbirds ➤ Assess the environmental impact of development projects affecting key wetlands ➤ Help local communities to improve management of their fisheries, for the benefit of people and waterbirds ➤ Regulate human activities at key wetlands to minimise disturbance
Protected areas coverage and management	
<ul style="list-style-type: none"> ■ GAPS IN PROTECTED AREAS SYSTEM 	<ul style="list-style-type: none"> ➤ Expand the existing protected areas in the Sundarbans and the Irrawaddy delta ➤ Protect key areas of tidal creek and waterbird roosts in the Ganges–Brahmaputra–Meghna delta, possibly as seasonal wildlife sanctuaries
Exploitation of birds	
<ul style="list-style-type: none"> ■ HUNTING 	<ul style="list-style-type: none"> ➤ Control hunting and trapping of threatened birds, including by patrolling protected areas, and reducing gun and net ownership at key sites
Gaps in knowledge	
<ul style="list-style-type: none"> ■ INADEQUATE DATA ON THREATENED BIRDS 	<ul style="list-style-type: none"> ➤ Monitor the numbers and distribution of wintering Spotted Greenshank, Spoon-billed Sandpiper and Indian Skimmer in Bangladesh ➤ Survey the coastal wetlands of Myanmar, principally the Irrawaddy delta, to identify priority wetlands for conservation action