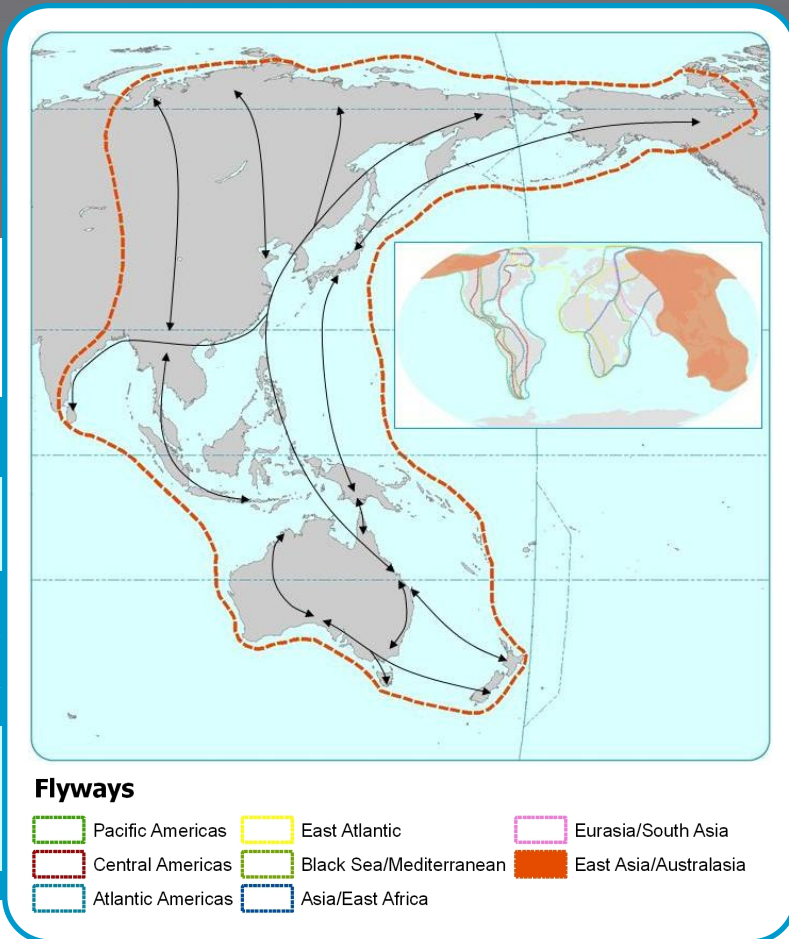




East Asia/ Australasia Flyway

No. of migratory species		492
CR	EN	VU
7	10	33
NT	LC	
14	428	
Flyway area		84,765,020 Km ²
No. of countries		37
IBAs triggered by migrants		1184
Fully protected		337
Partially protected		272
Not protected/status unknown		575
Sites with over a million birds		0



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Migration remains one of the most compelling aspects of the avian world. Twice a year, billions of birds migrate vast distances across the globe. Typically, these journeys follow a predominantly north-south axis, linking breeding grounds in arctic and temperate regions with non-breeding sites in temperate and tropical areas. Many species migrate along broadly similar, well-established routes known as flyways. Recent research has identified eight such pathways: the East Atlantic, the Mediterranean/Black Sea, the East Asia/East Africa, the Central Asia, the East Asia/Australasia, and three flyways in the Americas and the Neotropics.

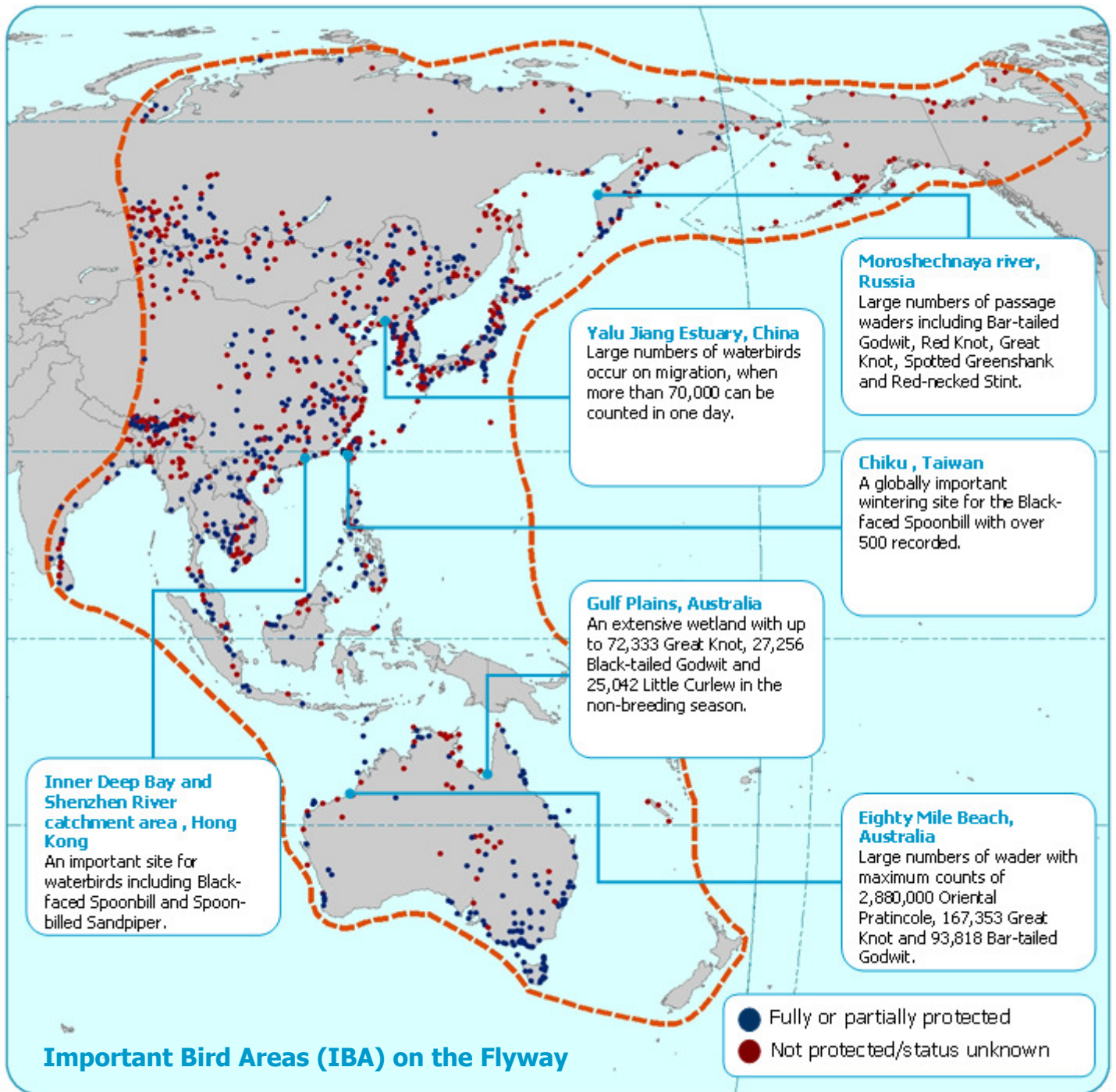
The **East Asia/Australasia Flyway** extends from Arctic Russia and North America to the southern limits of Australia and New Zealand. It encompasses large parts of East Asia, all of Southeast Asia and includes eastern India and the Andaman and Nicobar Islands. The scale of avian movement along the flyway is awesome, with over 50 million migratory waterbirds, including 8 million waders, using the route annually. Flyway population estimates for migratory waders include 2.88 million Oriental Pratincole *Glareola maldivarum* and up to one million Marsh Sandpiper *Tringa stagnatilis*. Many waders travel all the way from their high arctic breeding grounds to spend the northern winter in the temperate latitudes of the southern hemisphere. For the Bar-tailed Godwit *Limosa lapponica*, this can entail an 11,000 km non-stop flight from Alaska to New Zealand. Some species, such as Red-necked Stint *Calidris ruficollis* and Spotted Greenshank *Tringa guttifer* (EN) also cross Bangladesh to spend the winter in eastern India.

Waders moving along the East Asia/Australasia Flyway utilise a number of traditional 'staging' sites during their migration. The importance of these sites can be tremendous, for example 90% of the

Flyway's Lesser Sand Plover *Charadrius mongolus* are believed to pass through the Yellow Sea area (South Korea, North Korea, China) on their northward migration, whilst all of the Flyway's Whimbrel *Numenius phaeopus* may use Moroshechnaya Estuary (Russia Federation) during southward passage.

Huge numbers of passerine and near-passerine migrants also use the Flyway; many travelling to Southeast Asia from breeding grounds in east and central Siberia. Some species, such as the Arctic Warbler *Phylloscopus borealis*, Orange-flanked Bush-robin *Tarsiger cyanurus* and Rustic Bunting *Emberiza rustica*, migrate to Asia from breeding sites as far west as Fenno-Scandinavia. With the exception of waders, very few species migrate from the northern hemisphere all the way to Australasia. Only ten species do so regularly, including the Yellow Wagtail *Motacilla flava*, Fork-tailed Swift *Apus pacificus* and Oriental Cuckoo *Cuculus optatus*, and most are rare or occupy only the northern fringes of the region. Even the Barn Swallow *Hirundo rustica*, which elsewhere in the world undertakes considerable journeys to the lower latitudes of the southern hemisphere, only reaches the north-western parts of Australia. Those Asian breeders that do reach Australia are likely to do so by passing along the Sunda Islands to New Guinea before crossing into Australia at the Torres Straits.

Very few Australian breeding birds migrate beyond the country's borders and of those that do (e.g. Channel-billed Cuckoo *Scythrops novaehollandiae*, Sacred Kingfisher *Todiramphus sanctus* and Rainbow Bee-eater *Merops ornatus*) none penetrate Asia beyond Wallace's Line. Few of Australia's birds are truly migratory and patterns of movement tend to be associated with levels of aridity and rainfall. Those species that are true migrants typically move north from southern regions in autumn and return in spring. A route frequented by many species, including the Scarlet Myzomela *Myzomela sanguinolenta* and the Yellow-faced Honeyeater *Lichenostomus chrysops* follows the Australian east coast. Several species which breed in Tasmania cross the Bass Strait to winter on the Australian mainland; these include the Swift Parrot *Lathamus discolor* (EN) and the Orange-bellied Parrot *Neophema chrysogaster* (CR). Very few of New Zealand's breeding birds are migratory, however the Double-banded Plover *Charadrius bicinctus* is one of a handful that do cross the Tasman Sea to spend their non-breeding season in Australia.



Threats along the Flyway

Unfortunately, many of the world's migratory birds are in decline. Many characteristics of migrants render them particularly vulnerable to a variety of threats. Undertaking such dramatic movements pushes birds to the limit of their endurance. They are reliant on favourable weather conditions and must find sufficient food resources at multiple sites throughout their migratory journey. Pressures on the flyway's migratory birds are considerable. It is predicted that by 2032 over 75% of the Asia-Pacific land surface will have been impacted by infrastructure development. The region contains 45% of the world's human population and some of the world's fastest-growing economies. The frenetic pace of economic development has taken a considerable toll on the environment; 62% of waterbird populations are in decline or have become extinct and long-term data for waders in eastern Australia indicates that populations have plummeted by 79% over a 24-year period. Fifty species that use the flyway are currently considered at risk of global extinction. These include the Siberian Crane *Grus leucogeranus* (CR), Spoon-billed Sandpiper *Eurynorhynchus pygmeus* (CR) and Chinese Crested Tern *Sterna bernsteini* (CR).

The most serious threat to the flyway's birds comes from the **modification of natural systems**. Over 80% of East and Southeast Asia's wetlands are classified as threatened and in China and South Korea, 37% and 43% of inter-tidal wetlands have already been lost through land reclamation. The Spoon-billed Sandpiper, which breeds in north-east Russia and winters along coastal South and South-East Asia, has declined by up to 70% since the 1970s and by 2005 just 350–380 pairs were thought to remain. The species has been particularly impacted by loss and degradation of its staging areas, especially recent massive land reclamation in the Saemangeum region of South Korea.

Over the coming decades, **climate change** is anticipated to have a dramatic impact on the distribution and survival of migratory birds. Already significant changes are being reported in the phenology, distribution and abundance of some birds. An analysis of data from south-eastern Australia revealed that on average the first arrival dates of migrants had advanced by 3.5 days per decade since 1960. A trend towards later departure of around 5.1 days per decade was also found, with short- to middle-distance migrants, such as Rufous Whistler *Pachycephala rufiventris*, now spending significantly longer periods at their breeding grounds.

Migratory waterbirds are particularly prone to periodic outbreaks of **infectious disease** at sites where they congregate. Avian botulism is arguably the most important disease affecting migratory birds world-wide. In 2002–2003, an outbreak in Taiwan killed more than 7% of the global population of Black-faced Spoonbill *Platalea minor* (EN). High Pathogenicity Avian Influenza can also result in significant waterbird die-offs. For example, 10% of the world population of Bar-headed Goose *Anser indicus* were killed by the virus on Qinghai Lake, China in 2005. Recently, the role of migratory birds in spreading avian influenza ("bird flu") to humans has received considerable attention. However, all evidence suggests that the role of infected migratory birds in spreading the disease is very minor. Far more serious is the trade in poultry and poultry products, the trade in caged birds and human movements. Unfortunately, misinformation and media hysteria has fuelled public paranoia and adversely impacted conservation efforts. These ill-founded fears have resulted in calls for wild-bird culls and the destruction of wetland habitats.

In the face of such a diverse array of threats the conservation of migratory birds depends on international collaboration and a coordinated response along entire flyways. Key to this is the identification and management of a coherence network of critical sites for migrants. BirdLife International's Important Bird Areas (IBAs) programme provides the foundations for effective conservation action.

Bar-tailed Godwit

Recent research has found that the Bar-tailed Godwit *Limosa lapponica* undertakes one of the avian world's most extraordinary migratory journeys. Some individuals from the East Asia/Australasia Flyway population made a nonstop flight of over 11,000km, the longest continuous journey that has ever been recorded for a landbird.

The East Asia/Australasia Flyway contains two Bar-tailed Godwit subspecies: *L. l. menzbieri*, which nests in northeastern Siberia and spends the northern winter in Southeast Asia and western Australia, and *L. l. baueri*, which breeds in western Alaska and migrates to New Zealand and southeast Australia for the non-breeding season. The flyway population is estimated at 325,000; comprising roughly 170,000 *menzbieri* and 155,000 *baueri*.

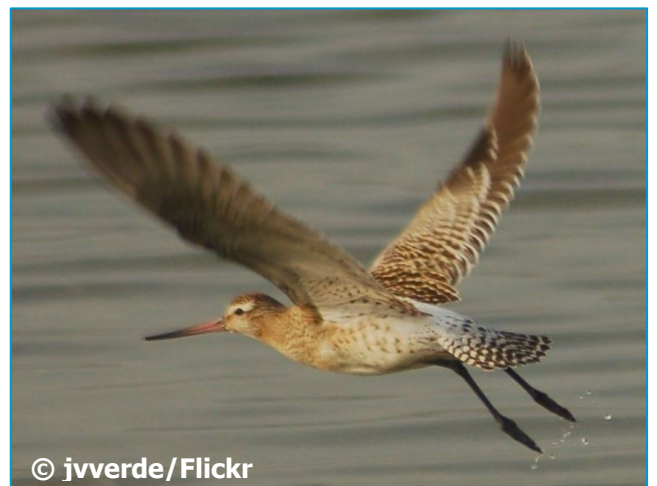
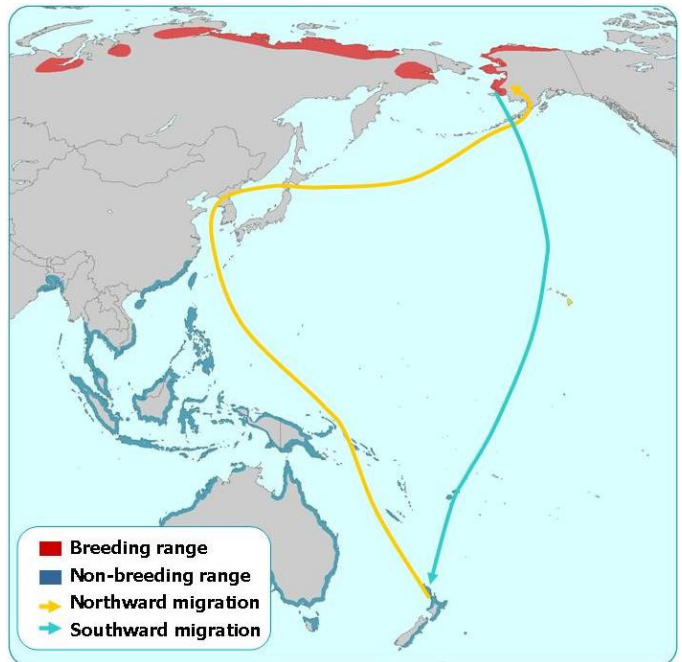


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Ornithologists have long suspected that the Black-tailed Godwit was capable of making immense journey in a single haul. However, the true scale of their migratory feats has only recently been confirmed. Researchers from the Pacific Shorebird Migration Project, a joint initiative between the U.S. Geological Survey (USGS) and PRBO Conservation Science, used satellite telemetry to follow the birds' migration. Individuals of the *baueri* race were fitted with small transmitter whilst on the 'wintering' grounds in New Zealand.

The birds began their northward migration in mid-March, typically completing the journey in two stages. First, the godwits follow the west Pacific Rim to the Yellow Sea, which lies between mainland China and the Korean peninsula. This leg, of over 10,000km, is completed in a single flight and takes between six and eight days. The North Yellow Sea, and particularly the area around the Yalu Jiang Nature Reserve, is an extremely important staging site, with almost the entire *baueri* race believed to pass through the area each spring. The birds remain here for several weeks before continuing on to their Alaskan breeding quarters. The Godwits remain on the breeding grounds for much of June and July. In August the birds 'bulk up' at coastal staging sites such as Kuskokwim Shoals off the mouth of the Kuskokwim River. Immediately prior to departure, their fat reserves constitute over half their body weight, whilst their gizzards and intestines, which are not needed during flight, shrink to almost nothing. The birds depart Alaska in late August, embarking on a remarkable non-stop flight directly across the central Pacific Ocean. Aided by strong tailwinds, the birds average 56km per hour and can complete the 11,000km journey in just over eight days. With a total round-trip of 29,000km it is likely that a typical Black-tailed Godwit of the *baueri* race will fly more than 460,000km during the course of its lifespan.

Route taken by one satellite tracked Bar-tailed Godwit.



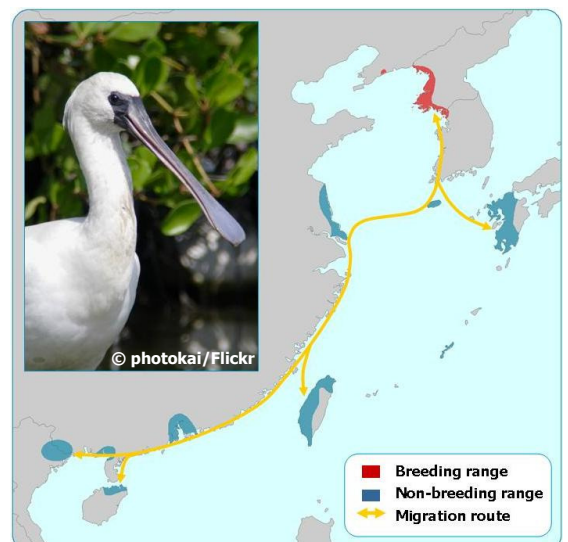
Black-faced Spoonbill

In the early 1990s, the Black-faced Spoonbill *Platalea minor* was a little known waterbird with a population estimated at just a few hundred birds. Thanks to concerted conservation efforts, the population now exceeds 2,000 individuals and the species has become one of the best known conservation stories in eastern Asia.

The Black-faced Spoonbill breeds in mixed colonies on small islets off the west coast of the Korean Peninsula and Liaoning province in mainland China. Birds have been reported in the Tumen estuary of Russia, and breeding was recorded in South Primorye for the first time in 2006. Post-breeding, the birds move south via important staging grounds, such as Ganghwa Island in South Korea. Much of the population crosses the Yellow Sea to northern Jiangsu on the Chinese mainland and then follows the coast south to principal wintering sites at the Tsengwen estuary of Taiwan, the Deep Bay area of Hong Kong, and the Chinese mainland and Hainan Island. The species also winters in Cheju, South Korea, Kyushu and Okinawa, Japan, and Red River delta, Vietnam, and there are recent records from Thailand, the Philippines, Macau and inland China. Wintering flocks are present from October to April but a few immature birds may stay on the wintering grounds during summer.

Despite the gradual recovery of the Black-faced Spoonbill, it is still a critically endangered species with vulnerable breeding colonies and deteriorating wintering sites. Habitat loss remains the greatest threat throughout its range as tidal flat reclamation continues at pace. The second largest wintering grounds, at Inner Deep Bay in Hong Kong/Shenzhen, are probably safe from major developments, but pollutants from nearby settlements and industrial estates may seriously reduce food availability. Fishing and shellfish collection in Mainland China and Vietnam also causes serious disturbance, as these activities are not well managed at key Black-faced Spoonbill sites.

Preventing habitat loss of the Black-faced Spoonbill should be the most important objective for the species conservation. Since 1995, there have been many achievements in research and public awareness. However, apart from the protection of the major wintering ground in Taiwan, the status of most sites remains the same, and some have even deteriorated or been destroyed. Coastal wetlands in South Korea, Japan and China are still under high development pressure. Within the past 15 years, two of the largest tidal areas in Japan and Korea, Isahaya and Semunguem respectively, have been reclaimed.



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Further information

The East Asian - Australasian Flyway Partnership (EAAFP)
www.eaaflyway.net

Pacific Shorebird Migration Program
http://alaska.usgs.gov/science/biology/shorebirds/pacific_migration.html

Waterbirds around the world
<http://www.jncc.gov.uk/page-3891>

BirdLife species factsheet – Bar-tailed Godwit
<http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=3005&m=0>

BirdLife species factsheet – Black-faced Spoonbill
<http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=3805&m=0>