

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 **Central Asian Flyway** is the shortest flyway in the world. Lying entirely within the Northern Hemisphere, it connects a large swathe of the Palaearctic with the Indian subcontinent. Separating the subcontinent from the Tibetan Plateau to the north are the Himalayas, which rise to over 8km and stretch 200km from north to south. Many of the migratory birds that breed in the mid-Palaearctic choose to avoid this formidable barrier and instead make a longer, south-westerly flight to Africa for the northern winter. There are however several Palaearctic breeders that do migrate to South Asia. Most 'squeeze' into the Indian subcontinent via routes at the two ends of the Tibetan massif. Others, like the Bar-headed Goose *Anser indicus*, follow a route directly over the Himalayan range. The species is the world's highest-altitude migrant, capable of clearing even Mount Everest.

Arriving in South Asia from the east Palaearctic are passerines such as the Dusky Warbler *Phylloscopus fuscatus*. From the west Palaearctic arrive birds such as the Citrine Wagtail *Motacilla citreola* and Paddyfield Warbler *Acrocephalus agricola*. Some travel vast distances; the Red-breasted



Flycatcher *Ficedula parva,* for example, travels from as far west as southern Sweden and Austria to winter in the Indian subcontinent.

The flyway is also important for migratory waders, with arctic-breeding species travelling from northern and central Siberia to winter in South Asia, principally along the east coast of India. Some species, such as the Great Knot *Calidris tenuirostris* (VU), even migrate to the subcontinent from fareastern Siberia. Many of the wader species, including the Curlew Sandpiper *Calidris ferruginea* and Little Stint *C. minuta*, appear to undertake a loop migration, entering India through the north and north-west during early autumn, before moving south-east to the east coast of India. In spring they pass back north along India's east coast.

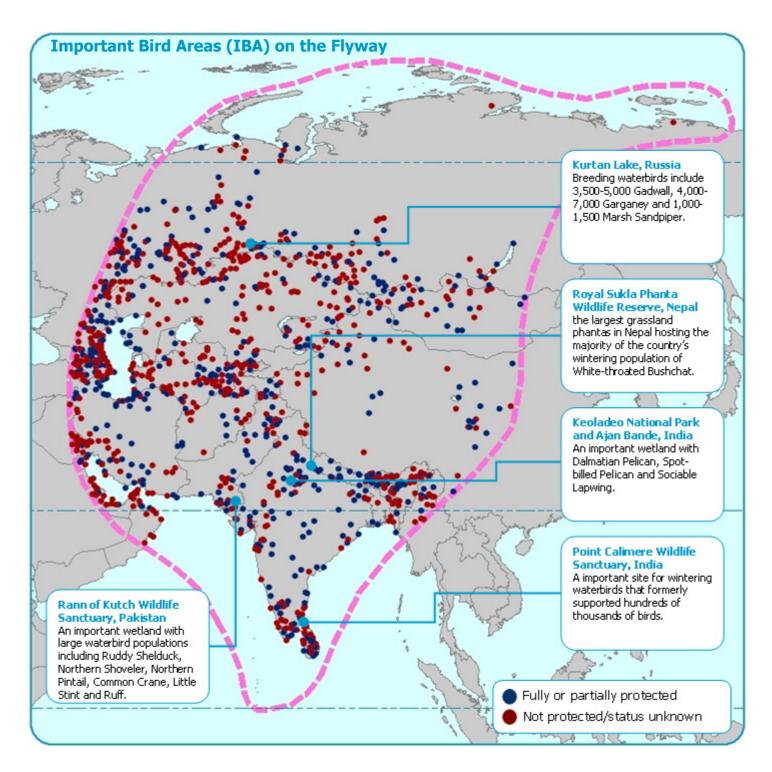


Indian Pitta © kishorebhargava

More than 300 species travel along the Central Asian Flyway. These include several species that undertake regular, seasonal movements within the Indian subcontinent. Among these are the Indian Pitta *Pitta brachyura*, Pied Thrush *Zoothera wardii* and Kashmir Flycatcher *Ficedula subrubra* (VU), all of which breed in the Himalayan foothills and winter in southern India and Sri Lanka.







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. The Central Asian Flyway is the most poorly studied flyway, with little known about the status of the birds which



use it. It is likely, however, that many populations are in decline and there are currently several species regarded as globally threatened. These include the Siberian Crane *Grus leucogeranus* (CR), Lesser Florican *Sypheotides indicus* (EN) and Egyptian Vulture *Neophron percnopterus* (EN).

Over the full length of the flyway, important habitats for migratory birds are being rapidly degraded by a range of anthropogenic threats. Wetlands are particularly imperilled. The Aral Sea, for example, which once supported huge waterbird breeding colonies, has been steadily shrinking since the 1960s due to **diversion of rivers for agriculture**. The water level has fallen by 16m and the area covered by the lake has diminished by over 10%. Along India's east coast, many important wader habitats have been severely degraded by a range of threats including the depletion of groundwater, **saltwater intrusion**, intensive **illegal hunting** and the **extension of salt-based industries**. At the Point Calimere Wildlife Sanctuary, an IBA in Tamil Nadu, ringing and census data show that there has been a dramatic decline in many species of waders since the 1980s. Populations of the two most common sandpipers, the Little Stint and Curlew Sandpiper, have decreased by over 70%, and once numerous species such as Pied Avocets *Recurvirostra avosetta* and Black-winged Stilts *Himantopus himantopus* are now scarce.

Larger migrants are also at risk through **collision with man-made structures** such as powerlines. Furthermore, poorly designed medium-voltage lines pose a significant risk of electrocution for large perching species like raptors. One study from Kazakhstan recorded 311 raptor electrocutions over a 100-km section of powerline in a single year. In central Mongolia, electrocution has been found to be the principal cause of adult mortality for the Endangered Saker Falcon *Falco cherrug*.

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.



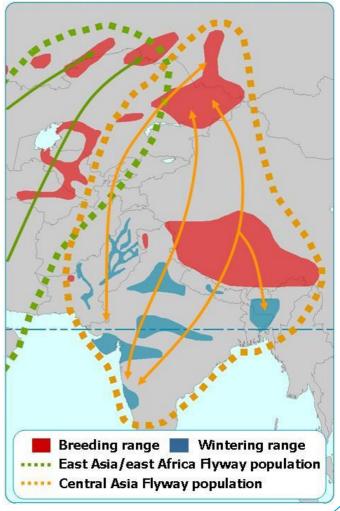
Ferruginous Duck

The Ferruginous Duck *Aythya nyroca* is widely distributed in the Palaearctic, breeding in a discontinuous band from Western Europe to western China (Sinkiang and northern Szechuan) and western Mongolia.

The species is primarily migratory, wintering from North Africa and the Middle East to South-East Asia. The current global population is estimated at around 163,000 to 257,000 individuals with the largest proportion, perhaps 100,000 birds, occurring within the Central Asia Flyway. Recent surveys have found that high numbers, perhaps into the tens of thousands, breed within Inner Mongolia, and it is apparently also common on the Tibetan Plateau and mainland China. Within South Asia, the species winters in Pakistan, India, Nepal, Bhutan and Bangladesh.

the species range fluctuates Asia, considerably from year to year, however the overall population trend is likely to be declining. In Europe, where the species is far better studied, the Ferruginous Duck has certainly undergone a large, long-term decline and, consequently, the species is listed as Near Threatened on the IUCN Red List of globally threatened species. Across species range, the principal threats to the Ferruginous Duck are the loss degradation of its wetland habitat. Other threats include human disturbance, droughts (likely to occur more frequently as climate change takes effect), over-hunting and lead poisoning.

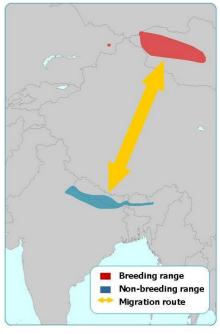






White-throated Bushchat

The White-throated Bushchat *Saxicola insignis* breeds locally in the mountains of central and western Mongolia and in the adjacent area of Russia. It is also presumed to breed in neighbouring Kazakhstan. The species winters on the floodplains and foothills of the eastern Himalayas in north-east India and Nepal. It has been recorded on passage between these regions in Bhutan and western China. During the breeding season the species favours alpine or subalpine meadows with scattered scrub, rocky outcrops and flowing streams. In winter, the species inhabits extensive patches of dry or moist grasslands, frequenting the large phantas (open short-grass plains) which once covered much of the Gangetic lowlands, but which are now largely restricted to a few scattered protected areas in southern Nepal and northern India.



Although detailed information is lacking, this poorly known chat is thought to have a small and declining population. Data accumulated to date, suggests that the global population falls between 2,500 and 10,000 birds and the species is consequently listed as Vulnerable on the IUCN Red List of globally threatened species. The species remote and sparsely inhabited breeding quarters are thought to be reasonably secure. However, the destruction and modification of its wintering grassland habitats is believed to have severely impacted the species. There have been huge declines in the area and quality of grasslands in South Asia. Virtually all remaining grasslands within the species wintering range is subject to intense pressures from drainage, conversion to agriculture, overgrazing, flooding, and thatch harvesting. The species occurs irregularly within several protected IBAs including Royal Sukla Phanta Wildlife Reserve, Koshi Tappu Wildlife Reserve and Royal Chitwan National Park in Nepal and Kaziranga National Park and Manas National Park in Assam, India. Despite this, much of the species wintering range falls outside of protected areas, and proposed extensions to protected areas are vital to safeguard the species. Even highly grazed open areas have the capacity to quickly regenerate into high-quality grassland habitat if properly protected and managed and can be re-colonised by the bushchat within one or two years.



Bibliography

BirdLife International (2001) Threatened birds of Asia: the BirdLife International Red Data Book. Cambridge, UK: BirdLife International.

Boere, G. C., Galbraith, C. A. and Stroud, D. A. (eds) (2006) *Waterbirds around the world*. The Stationery Office, Edinburgh, UK. 960 pp.

Available at: http://www.jncc.gov.uk/page-3891

Delany, S. and Scott, D. (2006) *Waterbird Population Estimates*. Fourth Edition. Wageningen: Wetlands International.

Kirby, J. S., Stattersfield, A. J., Butchart, S. H. M., Evans, M. I., Grimmett, R. F. A., Jones, V. R., O'Sullivan, J., Tucker, G. M. and Newton, I. (2008) Key conservation issues for migratory land- and waterbird species on the world's major flyways. *Bird Conserv. Int.* 18: S49–S73.

Moseikin, V. N. (2003) *The operation and construction of fatal power lines continues in Russia and Kazakhstan*. Poster: Sixth World Conference on Birds of Prey and Owls, 18—23 May 2003. Budapest, Hungary.

Newton, I. (2008) The migration ecology of birds. Academic Press.

Robinson, J. A. and Hughes, B. (2006) *International Single Species Action Plan for the Conservation of the Ferruginous Duck Aythya nyroca*. CMS Technical Series No. 12 & AEWA Technical Series No. 7. Bonn, Germany.

Scott, D. A. and Rose, E. M. (1996) *Atlas of Anatidae populations in Africa and Western Eurasia*. Wageningen: Wetlands International.

Further information

Waterbirds around the world

http://www.jncc.gov.uk/page-3891

BirdLife species factsheet – Ferruginous Duck

http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=476&m=0

BirdLife species factsheet – White-throated Bushchat

http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=6680&m=0

