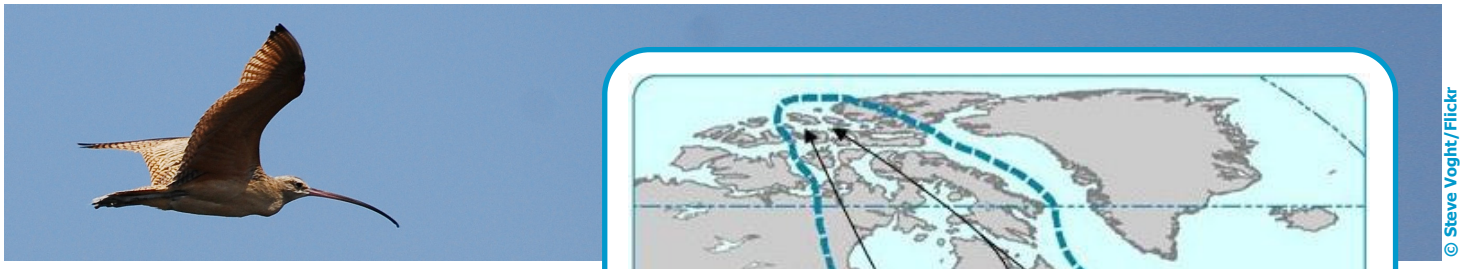
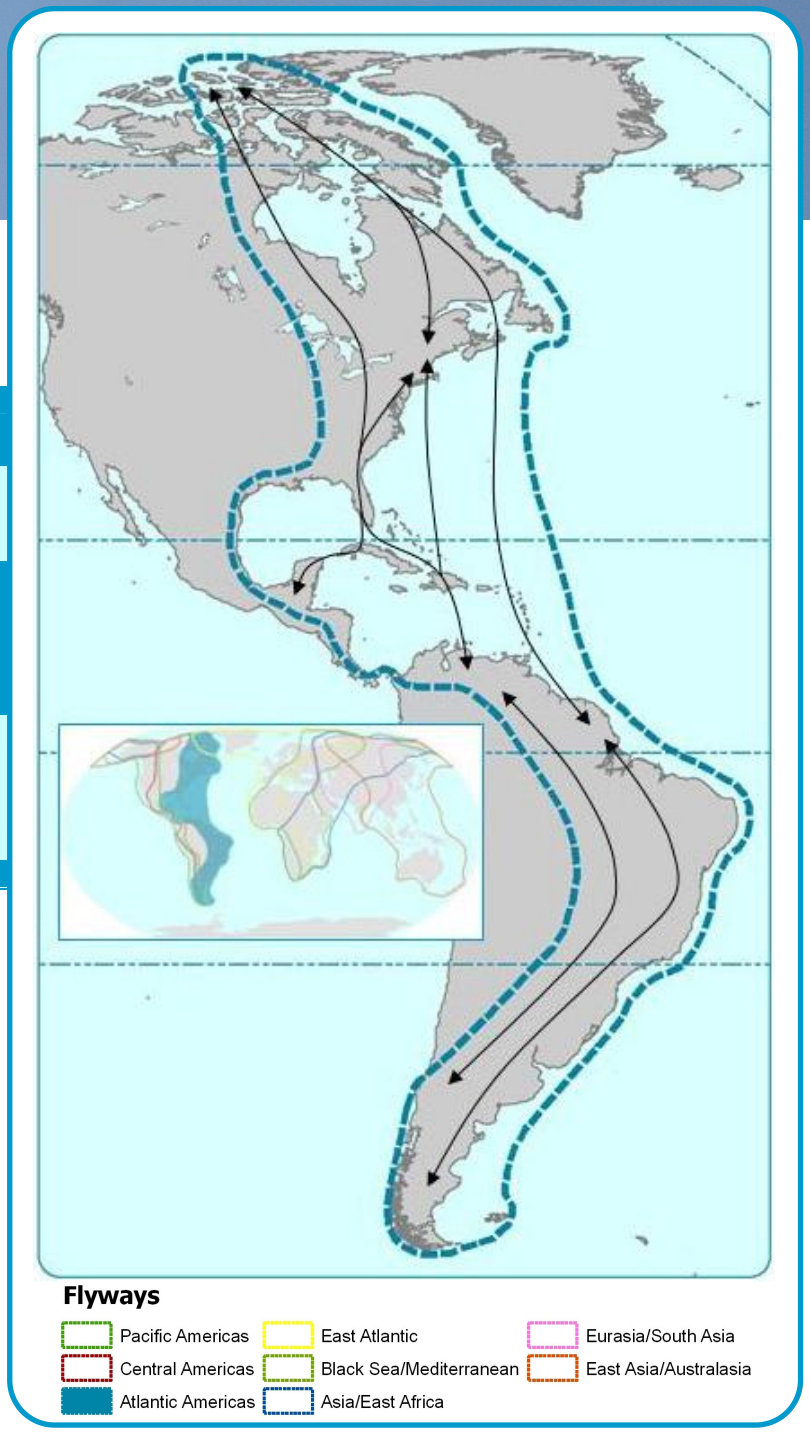


Atlantic Americas Flyway

No. of migratory species	**395**

CR	EN	VU	NT	LC
2	2	7	13	371

Flyway area	**33,893,171 Km²**
No. of countries	**46**
IBAs triggered by migrants	**543**
Fully protected	78
Partially protected	77
Not protected/status unknown	388
Sites with over a million birds	4



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 Americas is the longest north-to-south landmass on Earth. Stretching along its eastern edge, the **Atlantic Americas Flyway** connects the Canadian Arctic Archipelago to South America's southern tip, Tierra del Fuego. Numerous arctic breeding birds move south along the flyway for the northern winter. Some, such as the Red Knot *Calidris canutus,* travel the flyway's full length twice each year - an incredible round trip of 30,000km. On leaving their breeding grounds Red Knot fly south through northeastern Canada, past Hudson Bay, to the Northeast seaboard of the United States. North

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America's Atlantic coast is a heavily used avenue of travel by passage migrants. Each spring, thousands of waterfowl and waders follow the coast southward to Florida on their way to wintering quarters in Cuba, Hispaniola, and Puerto Rico. Other nearctic breeders fly south-eastward to Labrador and Nova Scotia before embarking on a direct oceanic crossing to the Lesser Antilles and mainland South America. This route is favoured by a number of wader species, such as the American Golden Plover *Pluvialis dominica*, but is also used by some passerines. These include the Blackpoll Warbler *Dendroica striata*, which completes the 3,000km ocean crossing in a single flight lasting up to 88 hours. It achieves this feat by nearly doubling its body mass prior to departure and because it has evolved a highly efficient metabolism. During the flight the species loses only 0.06% of its weight per hour, compared to to a rate of 1.2% in similar species that use overland migration routes. Most passerines and near-passerines however favour more land-bound routes. Some, such as the Bobolink *Dolichonyx oryzivorus*, 'island hop' from Florida to Cuba and then Jamaica before making the 800km Caribbean Sea crossing to South America. Many more travel in a south-westerly direction from Florida across the Gulf of Mexico to eastern Mexico where they join migrants moving south along the Central Americas Flyway.

Very little is known about bird migration systems in South America compared to other continents. From what little is known, however, it appears that numerous species which breed in the temperate latitudes migrate northwards towards the Amazon basin for the austral winter. For example, the mainland population of Ruddy-headed Goose *Chloephaga rubidiceps* migrates between breeding grounds in southern Patagonia and wintering quarters in the Buenos Aires province of Argentina.

Red Knot and other waders at Delaware Bay © US Fish & Wildlife Service

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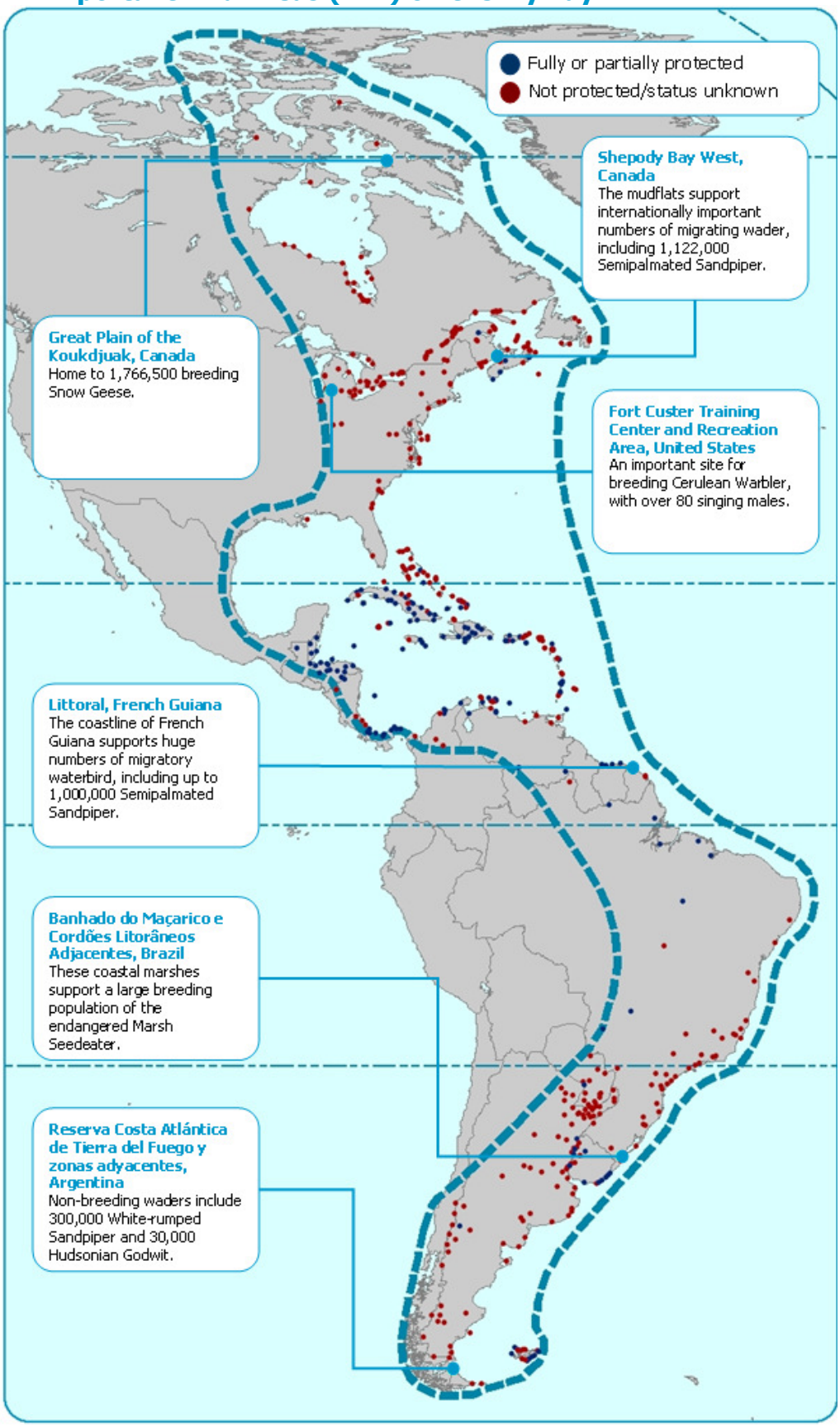
Important Bird Areas (IBA) on the Flyway



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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. Within the Atlantic Americas Flyway, several species are now regarded as globally threatened. These include the Bahama Swallow *Tachycineta cyaneoviridis* (EN), Bicknell's Thrush *Catharus bicknelli* (VU) and Pampas Meadowlark *Sturnella defilippii* (VU). The Bachman's Warbler *Vermivora bachmanii* (CR) and Eskimo Curlew *Numenius borealis* (CR) may sadly already be extinct. Long-term data sets in North America show over half of all Nearctic-Neotropical migrants have experienced substantial declines over the past 40 years. Less information is available for austral migrants in South America; however, these species are likely to be undergoing similar declines. For instance, seedeaters (*Sporophila* spp.), which breed on the pampas of Northern Argentina, Uruguay and southernmost Brazil and winter in the cerrado region of central Brazil could be at particular risk. Less than 3% of the pampas remains in a natural state and the Brazilian cerrado—one of the world's richest savannas—has been reduced to less than half its original size.

Along the flyway, important habitats for migrants are under threat from **infrastructure and housing development**, **energy development** (e.g. mining or drilling for fossil fuels), **tropical deforestation** and especially **agricultural expansion**. Many of North America's fastest declining birds are migratory grassland species, such as the Dickcissel *Spiza Americana* and Bobolink, whose habitats have been damaged by the spread and intensification of agriculture. For instance, since the 1960s the Bobolink population has declined by 51%. The rapid expansion in biofuels production (corn ethanol) currently underway is likely to further exacerbate the loss of grassland habitat in the region.

Wader populations along the flyway have also fared badly. Migrant waders depend on high quality feeding opportunities throughout their entire migratory cycle and, consequently, are highly susceptible to the loss and deterioration of "staging" areas along their route. For example, the **unsustainable exploitation** of horseshoe crab in Delaware Bay, USA was implicated in the collapse of the Red Knot populations that rely on the area during their spring migration.

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. In North America, over 200 species have experienced northward range shifts consistent with climate change. Data on the winter distribution of North American birds between 1975 and 2004 reveals a poleward shift in the mean northern range boundary of over 40km.

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.

Red Knot

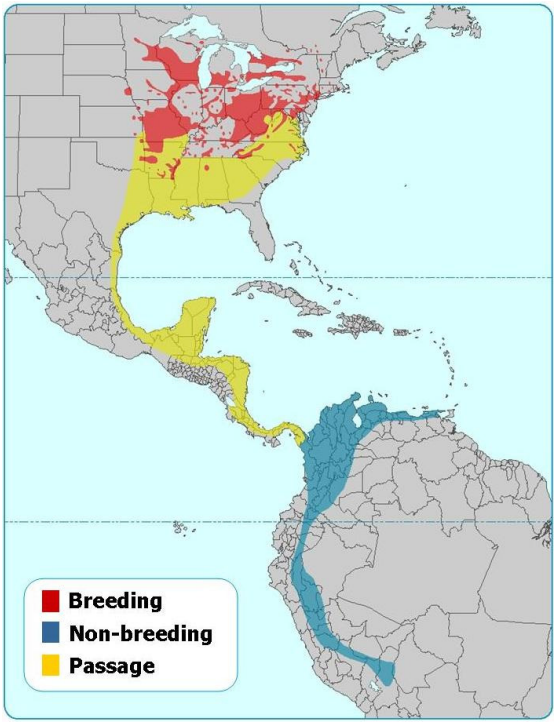
The Red Knot *Calidris canutus* has a circumpolar breeding range and can be found 'wintering' on intertidal mudflats and sandy beaches throughout Central and South America, Western Europe, West Africa and Australasia. Currently, six subspecies are recognised, each with distinct morphological traits and migration routes. Breeding on the Canadian Arctic Archipelago, the nearctic subspecies *C. c. rufa* undertakes one of the world's most remarkable migratory journeys. Every year, the population travels along the Atlantic Americas Flyway between the high arctic and wintering grounds in Tierra del Fuego; a round trip of 30,000km. Along the route the birds stop at a number of highly productive staging sites to refuel. The most critical of these sites during the northward migration is Delaware Bay in the USA. Virtually the entire *rufa* population passes through the bay in spring, coinciding their arrival with the mass spawning of the Atlantic horseshoe crab *Limulus polyphemus*. For a few brief days the knot feed voraciously on the superabundant supply of eggs, building up sufficient fat reserves to enable them to accomplish the final 3,000km flight to their arctic breeding grounds.

Unfortunately, in recent years, the population of the *rufa* subspecies has declined dramatically. At one time the population numbered between 100,000–150,000. Today, there may be as few as 18,000 and the race is at significant risk of extinction. Over the same period, the crab population has also crashed due to overharvesting of adult crabs for bait in the conch and eel fisheries. In order to survive the flight on to the breeding grounds, the birds must effectively double their mass before departing from Delaware Bay; however, the shortage of crab eggs has made this increasingly difficult. Research conducted between 1997 and 2002 shows that the number of birds achieving an adequate body mass has declined by more than 60%. Although the harvesting of horseshoe crab has how been banned in New Jersey in order to protect the imperiled waders of Delaware Bay, the species has yet to show signs of recovery and the future of *rufa* subspecies remains precarious.

Cerulean Warbler

The Cerulean Warbler *Dendroica cerulea* breeds in eastern North America from southern Ontario south to Arkansas, western Alabama and northern Mississippi. It winters on the forested lower slopes of the South American Andes from Venezuela south to Peru. The species is currently one of North America's fastest declining bird species. Breeding Bird Survey data reveals that the Cerulean Warbler has undergone an 82% decline over the past 40 years.

The remaining core breeding habitat overlaps with the Appalachian coal fields where the practice of mountaintop mining is becoming increasingly common. Mountaintop mining occurs primarily in parts of West Virginia, Virginia, Tennessee and Kentucky in a forested region of approximately 4.8 million hectares. The process involves the removal of the top 200-250m of the mountain to mine the coal deposits. It was developed within the past 20 years and is becoming an increasingly popular method amongst mining companies for the extraction of coal.



Cerulean Warbler abundance and territory density is significantly reduced by mountaintop mining through the loss of core forest habitat on mountain slopes. It is estimated that between 1992 and 2012, 1.4 million acres of forest will be lost from the Appalachians, with over half due to mountaintop mining. The species recent precipitous population decline led to it being up-listed from Least Concern to Vulnerable on the IUCN Red List in 2004. However, the warbler is not currently listed as threatened by the U.S. Fish and Wildlife Service and is therefore not covered by the Endangered Species Act. This gives the mining companies the freedom to continue mountaintop mining in the Appalachians without fear of legal repercussions, and the slide of the Cerulean Warbler towards extinction continues.

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Further information

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

BirdLife species factsheet – Red Knot
http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=3041&m=0

BirdLife species factsheet – Cerulean Warbler
http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=9120&m=0

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