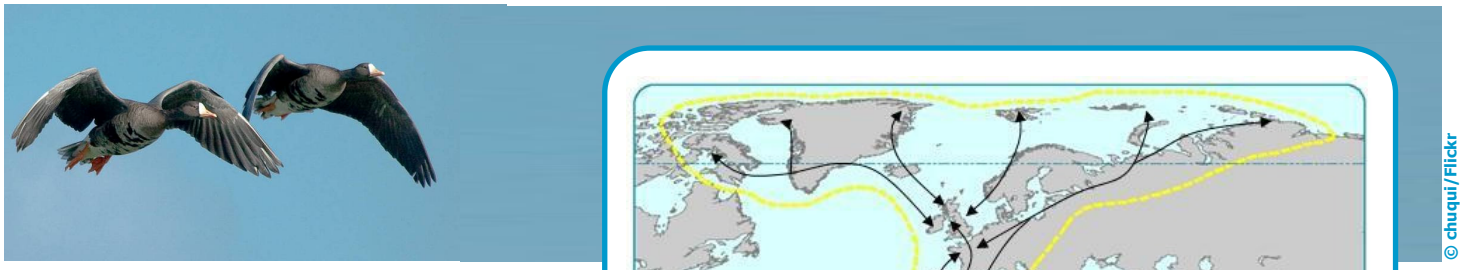
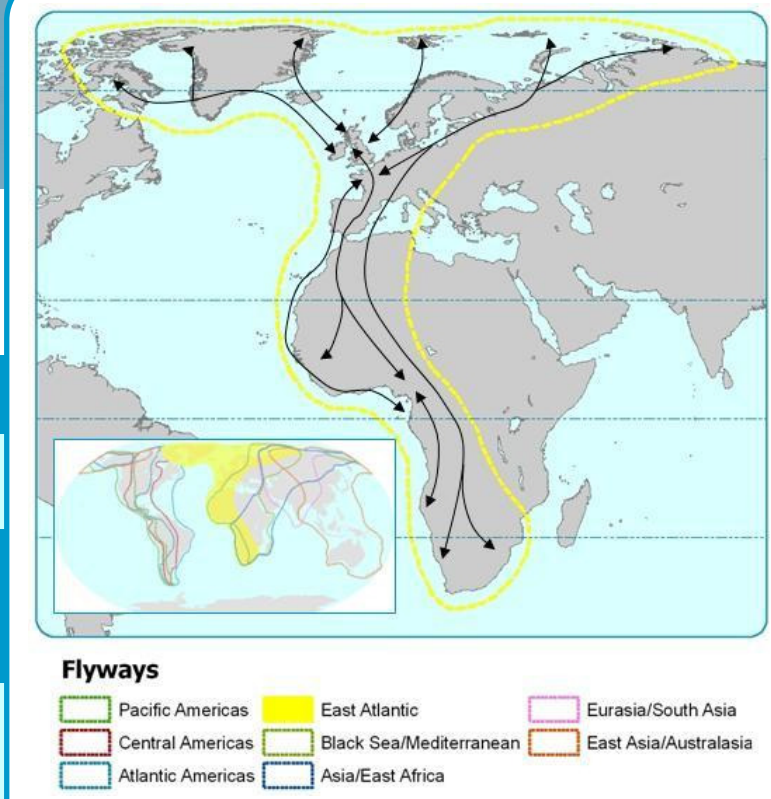


© chuqui/Flickr

East Atlantic Flyway

No. of migratory species					**297**
CR	EN	VU	NT	LC	
0	1	6	9	281	
Flyway area					**45,606,202 Km²**
No. of countries					**75**
IBAs triggered by migrants					**1948**
Fully protected					349
Partially protected					986
Not protected/status unknown					613
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.

Northern Wheatear © Tom Marshall/RSPB

The **East Atlantic flyway** links a discontinuous band of arctic breeding grounds that stretch from Canada east to central Siberia with wintering grounds in Western Europe and West Africa. Each autumn, huge numbers of arctic migrants, especially waterbirds, converge on western Europe from the far north. Coming from the Western Hemisphere (Canada, Greenland and Iceland) are arctic breeders including "Light-bellied" Brent Geese *Branta bernicla hrota*, "Greenland" White-fronted Geese *Anser albifrons flavirostris* and "Greenland" Wheatear *Oenanthe oenanthe leucorhoa*. Arriving from the Eastern Hemisphere (Scandinavia, Arctic Russia and northwest Siberia) are the Eurasian equivalents: "Dark-bellied" Brent Geese *B. b. bernicla*, "European" White-fronted Geese *A. a. albifrons* and "Scandinavian" Wheatear *O. o. oenanthe*.

For many arctic migrants, especially ducks, geese and swans, Western Europe is the final destination. For others, it is a stepping stone on a journey that will eventually conclude at wintering grounds in Africa. Here arctic passage migrants

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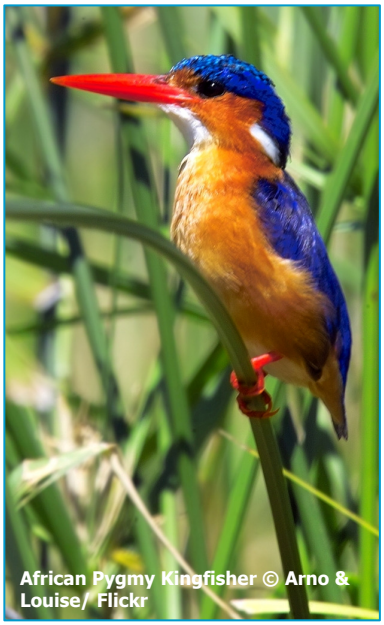
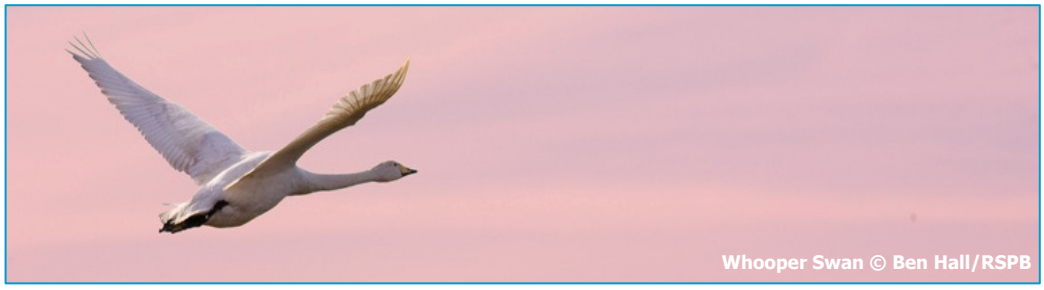
are joined by departing temperate breeders also heading towards Africa. For many soaring birds, constrained by a need for updrafts and thermals to maintain their flight, the Mediterranean Sea poses a considerable obstacle. Consequently, many birds of prey choose to make the crossing at its narrowest point – the Straits of Gibraltar. During the migration season an estimated 250,000 raptors pass over Gibraltar, including impressive numbers of European Honey-buzzard *Pernis apivorus*, Black Kite *Milvus migrans* and Booted Eagle *Hieraaetus pennatus*.


Wood Warbler © Sue Tranter/ RSPB

Unlike raptors, passerines and near-passerines migrating through the western Mediterranean have two options. They can either travel down through the Iberian Peninsula, crossing the sea at Gibraltar or they can take a more direct route straight over the Mediterranean further to the east. Species such as the Melodious Warbler *Hippolais polyglotta* and "western" Bonelli's Warbler *Phylloscopus bonelli bonelli*, adopt the former strategy crossing via the strait, whilst species such as Wood Warbler *Phylloscopus sibilatrix* tend to favour a direct crossing. Some species, including the Willow Warbler *Phylloscopus trochilus* and Garden Warbler *Sylvia borin,* utilise both strategies. Although, research has shown that the Willow Warblers using these two alternate migratory strategies belong to distinct subpopulations with differing wing morphology and migration phenology. The importance of the Straits of Gibraltar as a "gateway" to Africa for trans-continental passerines is confirmed by radar observations of nocturnal migrants. These show that two to three times more birds cross at the straits than do so between Algeria and France.


African Pygmy Kingfisher © Arno & Louise/ Flickr

For some species, such as the Common Whitethroat *Sylvia communis*, Northern Wheatear *Oenanthe oenanthe* and Bonelli's Warbler *Phylloscopus bonelli*, the northern Sahel represents the terminus of their journeys. Others, however, are trans-equatorial migrants that continue on to the southern tropics; these include the Spotted Flycatcher *Muscicapa striata*, Barn Swallow *Hirundo rustica* and Common Cuckoo *Cuculus canorus*. The Afrotropics are also home to a number of intra-African migrants, such as the African Pygmy Kingfisher *Ceyx picta* and South African Swallow *Hirundo spilodera*. These breed during the austral summer (October to March) towards the south of the continent before moving north towards equatorial latitudes for the non-breeding season.


Whooper Swan © Ben Hall/RSPB


Lesser Kestrel © Kleine Torenvalk/ Flivkr.

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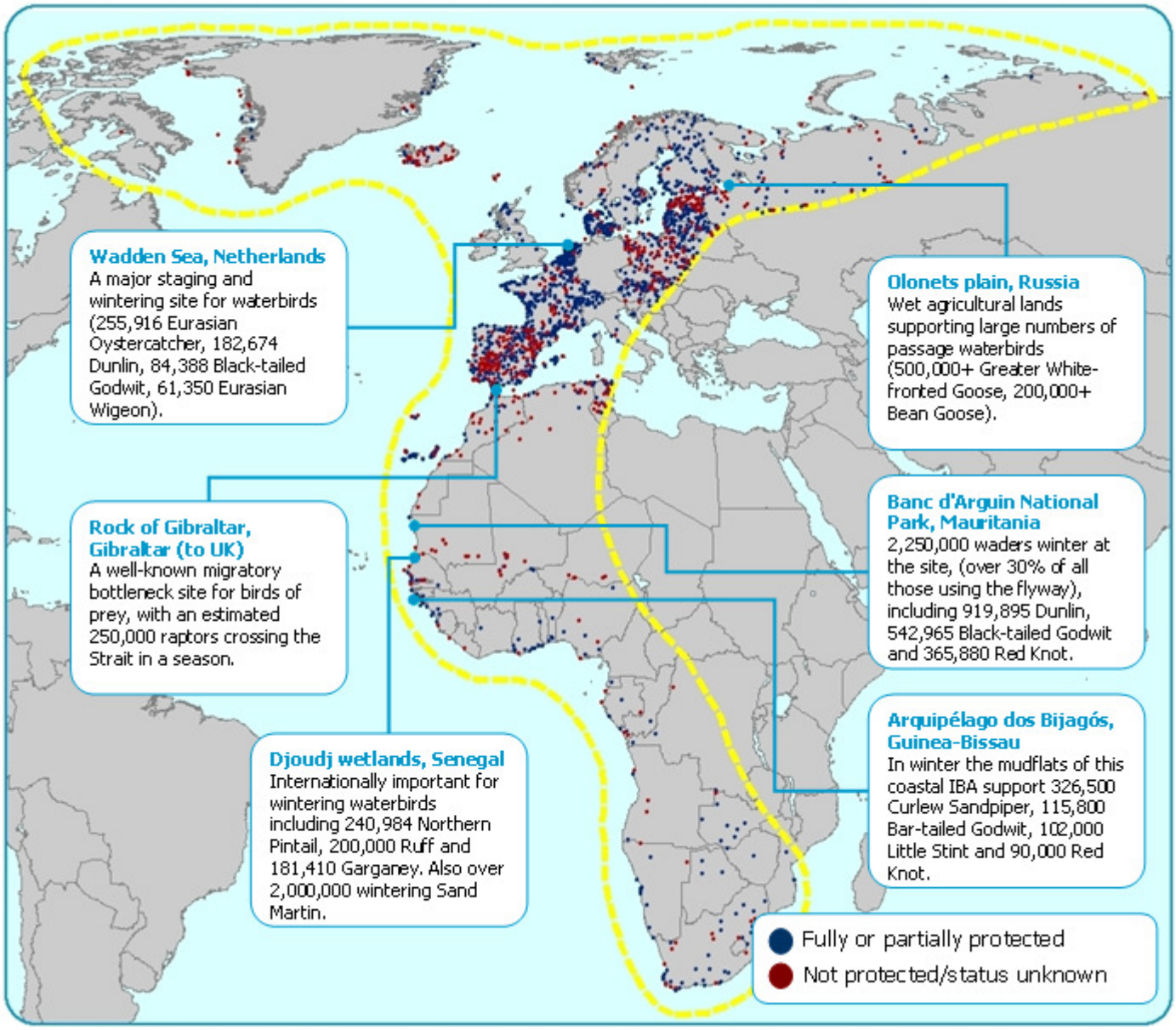
Important Bird Areas (IBA) on the Flyway



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 exist on an energetic knife-edge reliant on favourable weather conditions and the presence of adequate food resources at multiple sites throughout their migratory journey. In Europe and Africa, many migrants have undergone sustained and often severe declines over the past few decades. Seven species that occur along the East Atlantic Flyway are now regarded as globally threatened, including the Aquatic Warbler *Acrocephalus paludicola* (VU), Lesser Kestrel *Falco naumanni* (VU) and Steller's Eider *Polysticta stelleri* (VU).

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Wader populations along the flyway have also fared badly with an estimated 37% of populations in decline. 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 shell-fish in the Dutch Wadden Sea was implicated in the decline of several wader populations that relied on the area during their spring migration. Thankfully, a recent European Court ruling has brought the over-exploitation to an end. Unfortunately, industrial and agricultural activities are continuing to impact important staging sites at many other locations along the flyway, leaving many migrants facing considerably tougher journeys.

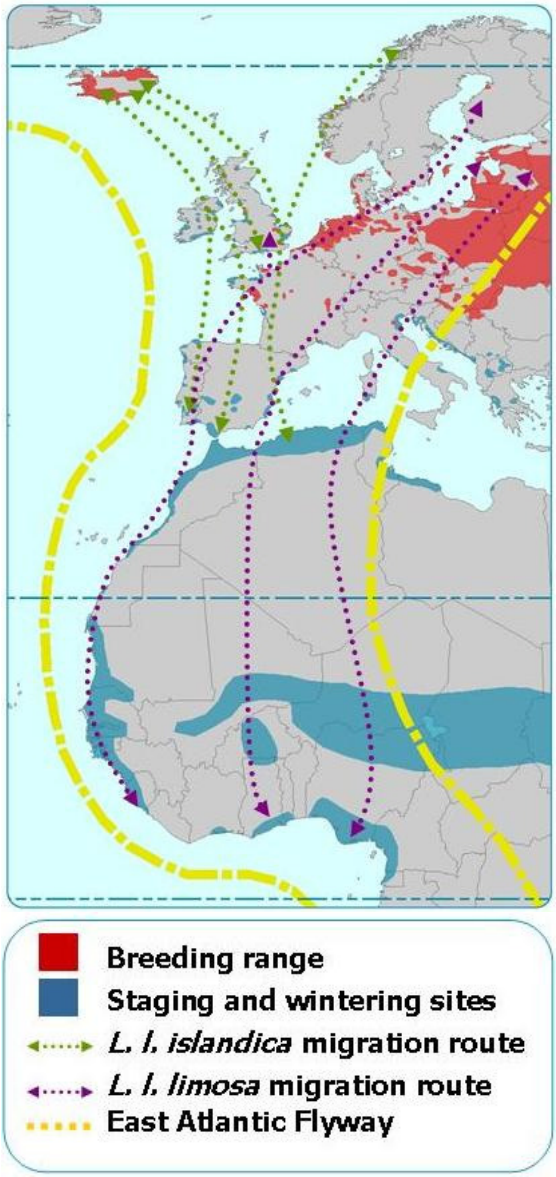
Climate change is also likely to result in more hazardous journeys for migrant birds. For example, with droughts and desertification predicted for the Sahel, trans-Saharan migrants will be forced to endure longer and more arduous journeys. Climate change may also affect some populations by uncoupling the timing of resource availability from the timing of migration. In Europe, the migration of birds that winter south of the Sahara has already advanced by an average of 2.5 days over the last 40 years. However, these phenological responses have not been consistent across taxa. Many bird species, having evolved to synchronise the timing of their annual routines with the life cycles of other species, are becoming increasingly ecologically mismatched. For example, whilst the brood-parasitic Common Cuckoo has advanced its migration only modestly, many of its host species are now arriving at the breeding grounds considerably earlier. Migrants are the most likely to be affected by such asynchrony in phenology, as evidence suggests they may be less able to adapt to change than non-migratory species.

Climate change is also likely to have indirect impacts on migrants. For example, in response to anthropogenic carbon emissions, wind power has emerged as a leading renewable technology and is currently the fastest growing source of energy in the world. Unfortunately, **collisions with wind turbines** pose a significant threat to migrating birds. The greatest losses are likely to occur where birds congregate in large numbers, for example at migratory bottlenecks and near wetlands.

In the face of such a diverse array of threats, the conservation of migratory birds depends on international collaboration and a coordinated response across entire flyways. Through the designation of Important Bird Areas (IBAs), BirdLife International has identified a coherent network of critical sites for migrants, the effective management of which will go a long way to securing the future of migratory birds.

Black-tailed Godwit

The Black-tailed Godwit *Limosa limosa* is a widespread summer visitor to northern Europe, breeding in a disjunct band from Iceland to western Siberia. Two subspecies occur in the region: *L. l. islandica* and the nominate race *L. l. limosa*. The form *L. l. islandica* breeds predominantly in Iceland, with much smaller numbers in the Faeroes, northern Scotland and northwest Norway. The birds winter from Britain and Ireland south along the Atlantic coast to Spain and Portugal, with some birds reaching Morocco. This Icelandic population numbers *c.*47,000 individuals and is believed to be increasing in numbers and expanding its breeding range.



The bulk of nominate godwits breed from the Netherlands east to Germany, Poland, Belarus, Ukraine and western Russia. Approximately 250,000-345,000 nominate *limosa* breed in Europe, with particular strongholds in the Netherlands and Germany. The majority of these birds migrate along the East Atlantic Flyway to winter in West Africa. Many do so in a single non-stop flight, however, large numbers of juveniles are thought to stop in south-west France and the Iberian Peninsula where they mix with wintering Icelandic birds. The principal non-breeding quarters for Western European *limosa* is Guinea-Bissau, the Casamance region of Senegal, and the large Sahelian floodplains of the Senegal River Delta and the Inner Niger Delta. The nominate race has undergone major declines during the last decades. In Europe, the birds breed on semi-natural wet grasslands such as flood-plain meadows and wet pastures. These habitats have become increasingly imperilled over recent decades through urbanisation, infrastructure development and the intensification of grassland management. In the Netherlands and Germany, the population is currently declining by 5% annually. Due to the steady decline of the nominate race, the Black-tailed Godwit's status on the IUCN Red List of Globally Threatened Species was changed in 2006 from "Least Concern" to "Near Threatened".

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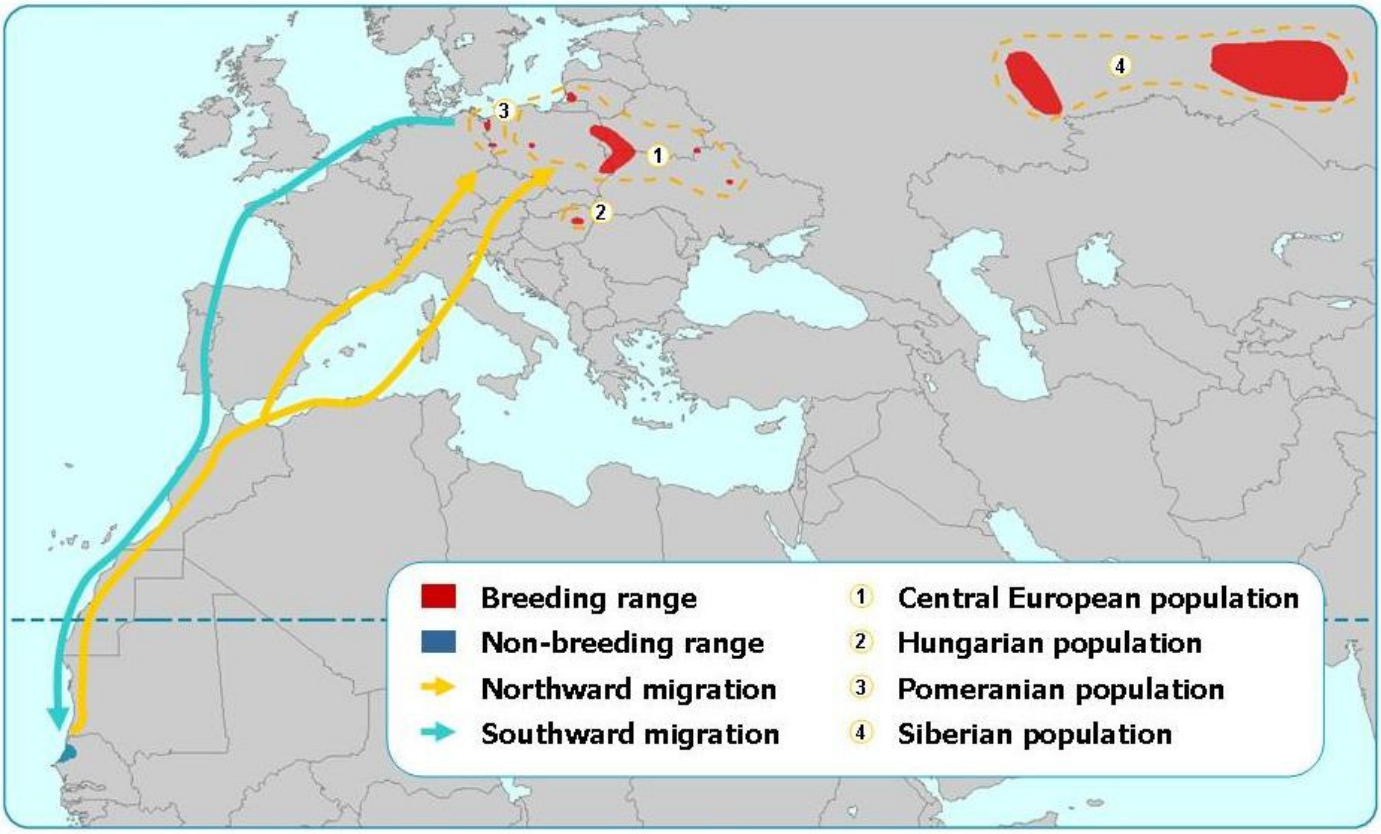
Aquatic Warbler

The Aquatic Warbler *Acrocephalus paludicola*, Europe's rarest migratory songbird, is regarded as "Vulnerable" on the IUCN Red List of Globally Threatened Species. Formerly, the species bred throughout Europe, however, during the 20th century it suffered a precipitous decline across western and central Europe and is now extinct in France, Belgium, Netherlands, western Germany, Czech Republic, Slovakia, Austria, Italy and the former Yugoslavian nations. Today, the species is confined to fewer than 40 regular breeding sites scattered across seven countries. Four disjunct and in some cases genetically distinct breeding sub-population have been identified (see map).

1) A central European core population, with major populations in Belarus, Ukraine and east Poland and a smaller population in Lithuania (c. 12,000 vocalising males).
2) An isolated Hungarian population (60-700 vocalising males).
3) A tiny Pomeranian population in northwest Poland and Germany (c. 80 vocalising males).
4) A west Siberian population, isolated from the core population by 4,000 km (50-500 vocalising males).



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Recent stable isotope research on Aquatic Warbler feathers has revealed that the latter two sub-populations are genetically separate from the other groups. Sadly, these geographically isolated populations are in rapid decline and could well be heading for extinction. The Aquatic Warbler is a habitat specialist, dependent during the breeding season on sedge fen mires with an optimal water depth of between 5–10cm.

Following breeding, the Aquatic Warbler begins its migration to West Africa. The autumn passage takes the birds along the Atlantic coastline through Germany, Belgium, France, Spain and west Africa to wintering grounds south of the Sahara. During migration, the species utilises stands of sedge and reed along estuaries, rivers and coastal lagoons. Passage records from northern Italy, Switzerland, southeast France and southwest Germany suggests that the birds take a more direct route during their return migration in spring.

The African wintering grounds were only discovered in January 2007 by researchers from BirdLife International and the RSPB. Using stable isotopes analysis, the expedition was able to locate the birds within Djoudj National Park, an Important Bird Area (IBA) in north-west Senegal. Although other wintering sites may exist elsewhere in Senegal, southern Mauritania and Mali, none have yet been found.

Throughout Europe, the sedge fen mires on which the Aquatic Warbler specialises have disappeared. Drainage for agriculture, urbanisation and peat extraction as well as the abandonment of traditional management practices has resulted in the wholesale loss, fragmentation and deterioration of Europe's wetlands. Over the coming decades, the species may also become a victim of climate change. Many of the remaining wetland habitats could face lower or more variable water levels in the future. This is likely to adversely affect the Aquatic Warbler, not just on its European breeding grounds, but at its African wintering quarters and also during migration.

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Further information

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http://www.unep-aewa.org/home/index.htm

Wings over wetlands
http://www.wingsoverwetlands.org/

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

BirdLife species factsheet – Aquatic Warbler
http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=7597&m=0

BirdLife species factsheet – Black-tailed Godwit
http://www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=3003&m=0