

Bird Migration in the UK: A Fascinating Natural Phenomenon

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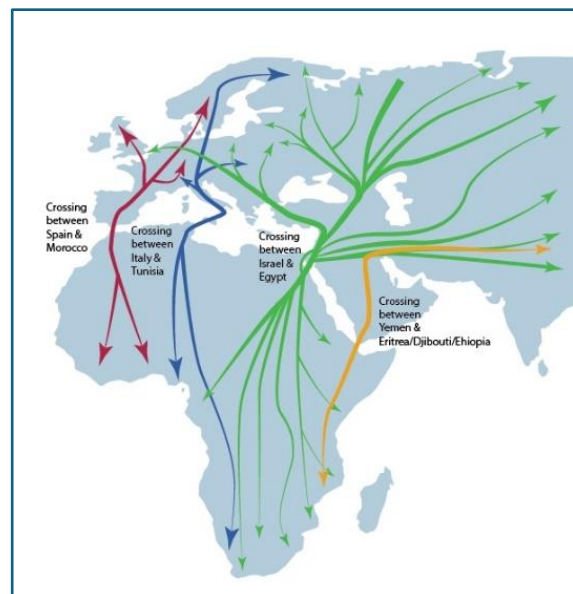
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The Big Picture

The phenomenon of bird migration and the question of where our birds go during the winter months has fascinated people since the earliest times. Early theories included suggestions that Barn Swallows buried themselves in the mud at the bottom of ponds, that Barnacle Geese emerged from barnacles, that Redstarts transformed into Robins or that White Storks wintered on the moon! For more than a century, ornithologists and biologists have attempted to answer these questions using increasingly sophisticated methodology (e.g. observations, bird ringing, radar, radio-tracking, isotope analysis), which has improved our knowledge and understanding of the migration ecology of many of our resident and migrant species significantly.

Map showing Common migratory routes through the western palearctic.

The UK lies along the East Atlantic Flyway, one of the major migratory routes for birds traveling between northern Europe and Africa. Every year, millions of birds embark on incredible journeys, traveling thousands of miles from their breeding grounds in the UK to warmer climates for the winter, and returning in the spring. Similarly, breeding birds from higher latitudes in Scandinavia and the high arctic arrive on our shores in the winter months to escape harsh climates and to take advantage of the plentiful food resources along our coastlines and within our wetlands, woodlands, hedgerows, scrub and gardens.



Bird migration is one of nature's most remarkable phenomena, and the UK plays a vital role in this process as both a stopover location, breeding ground and wintering ground. As changes in daylength and temperature occur in spring and autumn, many species begin their journeys, some by day and some by night. Birds instinctively navigate across vast distances, using a combination of the stars, the sun, visual landmarks and the Earth's magnetic field to find their way. The success of these journeys is dependent on a wide variety of environmental and physiological factors including temperature, humidity, wind speed/direction, body weight and condition, as well as flight speed and altitude.

Why Do Birds Migrate?

Migration is a survival strategy. As the seasons change, food becomes scarcer in colder regions, and temperatures drop, making it harder for many species to survive. By migrating to warmer climates, birds can access a more stable food supply and more favourable weather conditions. In the spring, they return to the UK to breed, where the long daylight hours and abundant food support raising their young.

For example, the Swallow, a familiar sight in the UK during summer months, travels from sub-Saharan Africa to the UK each spring to breed. After spending the warmer months here, they head south once again in the autumn, covering thousands of miles across vast deserts and oceans in search of more abundant food.

Adaptation for Migration

Birds exhibit a wealth of adaptations to make these long-distance flights more efficient. This includes a lightweight skeleton comprising hollow air-filled bones, large flight muscles and feathers. Prior to take off, adaptations also include rapid fuel deposition in the form of fat within their tissues, achieved via increasing the amount of time spent feeding and altering the size of their liver and digestive tracts. For example, the Garden Warbler, a trans-Saharan migrant, can increase its body mass from 18g in the summer and winter months to a maximum of more than 37g shortly before setting out over the desert in autumn or spring. For the flights themselves, birds exhibit an ability to increase the size of the flight muscles and heart as well as subsequently reducing the size of digestive organs. These changes in body structure and composition at migration times are some of the most rapid and striking in the animal Kingdom.

Incredible Journeys

The longest of all bird migrations are performed by seabirds, most notably the Arctic Tern (right), some individuals of which migrate each year between Arctic and Antarctic waters, giving return journeys of more than 30,000km. In the process, these terns experience more daylight than any other organism as they shuttle between the continuous daylight of the northern and southern summers.



One of the most impressive migrations (confirmed via radio-tracking data) undertaken by any bird is that of the Bar-tailed godwit (right), which has been recorded migrating 10,400km over sea from Alaska to New Zealand in the space of approximately 175 hours (7.3 days), giving a mean speed of 1,512 km per 24-hour day (or 63 km per hour). This is the longest and fastest over-water flight known from any land-bird species, during which an



individual will lose around half of their initial body weight over the journey.

The Thrill of Birdwatching

The adjacent map shows the location of bird observatories in the UK.

For bird enthusiasts and professional ornithologists alike, migration season is an exciting time. Autumn and spring bring a flurry of activity, as migrating birds pass through, sometimes in huge flocks. Birdwatching hotspots across the UK, like Spurn, the Norfolk coast, and Isles of Scilly offer excellent opportunities to witness this incredible phenomenon. Bird observatories are strategically positioned around the coasts of the British Isles (see photo) which enable us to record detailed migration data. This plays a vital role in informing population trends and directing conservation efforts. Whether you're spotting rare species or simply enjoying the sight of flocks flying overhead, bird migration offers a chance to connect with nature in a profound way.



Conservation Efforts

Understanding bird migration is not just about marvelling at nature's wonders; it's also a reminder of the importance of preserving the habitats that these birds depend on. Many migratory species face numerous threats during their journeys, including habitat loss and fragmentation, climate change, and human activities. Conservation efforts to enhance habitat condition and connectivity, while reducing threats from hunting and pollution are crucial to ensuring that these incredible journeys continue for generations to come.

Through citizen science projects and research, we gain a better understanding of how these species navigate and what challenges they face. The British Trust for Ornithology's (BTO) bird ringing scheme (<https://www.bto.org/our-science/projects/bird-ringing-scheme>) has been responsible for a wealth of knowledge gained in the last century on migration of birds to and from the British Isles.



The Big Garden Birdwatch, organised by the Royal Society for the Protection of Birds (RSPB), is the largest citizen science project of its kind in the world and provides a great opportunity for members of the 4B's community to contribute to bettering our understanding of how both our resident birds and winter migrants are faring. Residents can be on the lookout for all the usual garden visitors as well as winter thrushes like Redwings and Fieldfares. A number of warblers such as the Chiffchaff and Blackcap may also be seen, which in recent years have begun overwintering in the UK. In exceptional 'Irruption' years, similar to that of 2023, species like the Waxwing may also arrive in the UK in large numbers, usually as a result of low food availability in northern Europe.

This year has seen an influx of Hawfinches from the continent, particularly in the south-east of England so this is another species to keep an eye out for when out locally.

'Across the UK, over 600,000 people took part in Big Garden Birdwatch 2024, counting a whopping 9.7 million birds! House Sparrows took the top spot, but counts of these chirpy birds are down by 60% compared to the first Birdwatch in 1979. In fact, we've lost 38 million birds from UK skies in the last 60 years. With birds facing so many challenges, it's more important than ever to get involved in the Birdwatch. Every bird you do – or don't – count will give us a valuable insight into how garden birds are faring.'

Spend an hour counting birds in your garden between 24-26 January 2025. You can sign up via this link: <https://www.rspb.org.uk/whats-happening/big-garden-birdwatch>

Some links to examples of other research projects actively monitoring bird migration are provided below, where you can track the location of individual birds in real time along their migration routes.



<https://www.bto.org/cuckoos> - BTO Cuckoo tracking project.



<https://whitestorkproject.org/our-storks/> - White Stork Re-introduction Project.

A Global Journey

Bird migration is a reminder of the interconnectedness of our world. Birds that migrate across continents are not just crossing borders but connecting ecosystems, carrying vital roles in pollination, seed dispersal, and maintaining ecological balance. Their journeys highlight the importance of collaboration in conserving migratory species and their habitats on both a local and international scale.