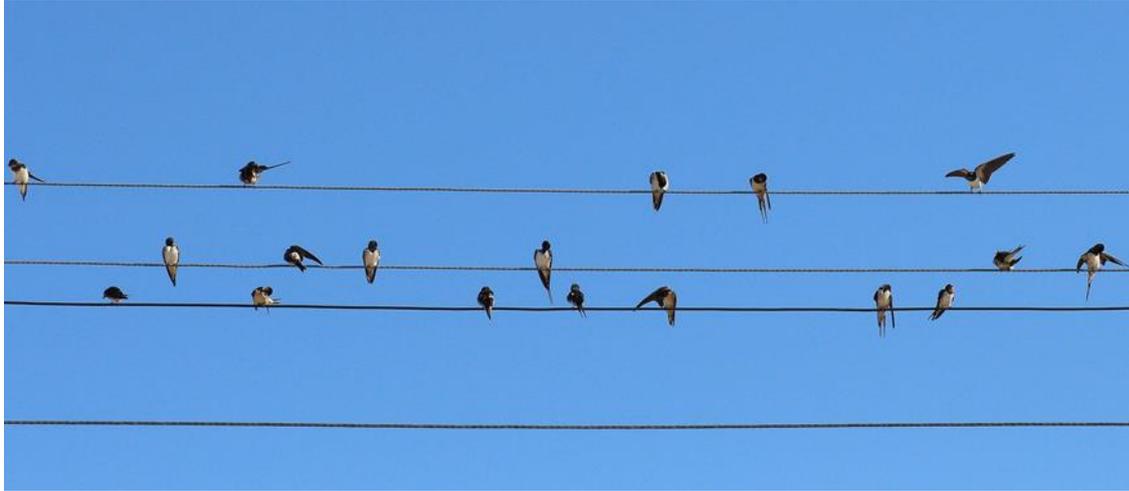


Migration: The Perilous Journey

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It was once believed that Swallows (*Hirundo rustica*) hibernated over winter in trees, chalk cliffs or in mud at the bottom of ponds, and that fully grown Barnacle Geese (*Branta leucopsis*) would hatch from the crustaceans with whom they share their name. Aristotle even thought that Robins (*Erithacus rubecula*) would magically transform into Redstarts (*Phoenicurus phoenicurus*) in summer. We now know these appearances and disappearances to be due to migration, a concept that we have only started to understand in the last hundred years or so, and we still have so much to learn.

Signs of spring are starting to emerge. The days are getting longer, our resident birds are back in song and the world is on the verge of bursting into life again. Thousands of miles away in the West and South of Africa, Swifts (*Apus apus*), House Martins (*Delichon urbicum*), Cuckoos (*Cuculus canorus*), Yellow Wagtails (*Motacilla flava*) and many more bird species are gorging themselves in preparation for their long journey to the UK. Some, like the Nightjar (*Caprimulgus europaeus*) and Swallow, may have already started theirs.

Migration is a perilous but vital journey that nearly 2,000 bird species worldwide take twice a year to find suitable breeding or wintering grounds. The warm, wet UK summers provide ideal nesting materials and abundant invertebrates to feed chicks for many summer visitors. The longer daylight hours in places like the UK allow more time to forage. Additionally, increased competition for resources and likelihood of predation of chicks in wintering regions may make temperate locations more favourable.

Once it is time, millions of birds will set flight and head for their breeding grounds. Some, like the Swallow, may fly up to 6,000 miles to reach the UK, only stopping to refuel where possible. As they fly North, they will encounter barriers such as the Sahara Desert and seas where there are few, if no opportunities for food and rest.

New technologies including bird trackers and radar allow us to monitor their journeys and are a vital conservation tool to identify key stop overs across migration routes (flyways). Research has shown that different strategies are used within and between species, often depending on morphology,

behaviour, and adaptation to arid environments. Some bird species perform [non-stop flights of 40-60 hours](#) to cross ecological barriers. Nocturnal flights with rests during the day may allow other species, like Nightingales (*Luscinia megarhynchos*) and Reed Warblers (*Acrocephalus scirpaceus*), to reduce water loss and refuel. Often species that fly at night may extend their flights into the day in order to reduce the crossing time or find a suitable location to rest during the hottest hours. Nightjars have been found to fly solely at night, covering over [120 miles before the sun rises](#). Studies have also shown that many songbirds cross barriers at high altitude to reduce energy costs, some reaching altitudes greater than [5000 metres](#) above sea level. Routes vary depending on species; some take a direct route; others will avoid large stretches of desert or ocean. Landmarks including coastlines and valleys help birds to navigate. Larger birds, such as the Osprey (*Pandion haliaetus*), rely on pockets of hot air to carry them along their route, barely moving a feather. Some may even use the stars.

These astounding journeys are undoubtedly dangerous. Limited supplies of food in wintering grounds may mean that individuals are unable to create fat reserves necessary for such a journey and may starve. Bad weather can take birds off course or cause exhaustion. Poor weather in summer grounds may also affect food availability on arrival which will be bad news for any hungry migrant. An increasing concern is the collision with tall man-made objects including lighthouses, skyscrapers, and powerlines. Illegal killing of migratory birds for food and fun also have consequences. In the Mediterranean alone, [25 million birds](#) are killed illegally each year. Land-use change and habitat degradation can be detrimental to these species, especially in stopover sites which provide essential resting and refuelling points. Here in the UK, land-use change, and agricultural intensification continues to cause mass declines of insect numbers, a key food source for many migratory birds.



Climate change is another impact that cannot be ignored. Temperatures in the Sahara are expected to increase by up to [7°C](#) over the 21st century which will increase physiological pressures on migrant birds. The rising temperatures may also increase water loss at vital stopover sites. Additionally, climate change can advance the onset of spring in breeding grounds; if insect populations peak at the wrong time, food availability may decrease and potentially lead to population declines or even species extinctions. Many are learning to adapt to this. Some species have started arriving around 10 days earlier than they did in the 1960s and depart around five days later. However, we cannot assume that this will always be the case.

But there is hope. Continued and increased monitoring will build a more detailed picture of the journeys taken by migratory birds and give us a greater understanding of their wintering grounds. With this knowledge we can prioritise conservation efforts across their flyways. Here in the UK we can all do our part by creating a place where these birds can thrive. By keeping old mud nests that hang under the eaves of our houses or installing Swift boxes, we can reduce the time and effort needed for birds like Swallows, House Martins and Swifts to build new nests. Growing insect friendly plants and delaying the cutting of our lawns or hedges will allow insect populations to boom in our gardens.



Nature friendly farming has its role to play too and the [Yellow Wagtail Project](#) is aiming to promote just that. We are working to restore four miles of riverside pasture to its former glory and create a haven for migrant birds like the Yellow Wagtail, House Martin, Swallow, Swift and many more. Fieldwork will start again this spring where we will continue to monitor the insect populations that these birds depend on. With careful monitoring and management, we hope to see hundreds of House Martins shooting about the sky and breeding pairs of Yellow Wagtails nesting amongst the cattle once again.