MIGRATION

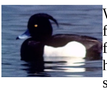


Birds migrate to guarantee a stable source of food. Most summer migrants are insect feeders and move to where the insects are most abundant, south from UK to the Mediterranean and North Africa in winter, and north back to the UK in spring. There is a parallel migration of waterbirds who fly south from Scandinavia, Iceland and Russia to the UK in winter as there food supply is sealed under a sheet of ice with English lakes and reservoirs still ice free, migrating back north in Spring. Migrants return to their summer homes to build their nests and breed when the food needed to feed their young is in ample supply. Before setting off again on their autumn migration most birds seek a quiet and secluded place to renew their flight feathers in their annual molt, when they are flightless and vulnerable for a couple of weeks.



Birds that migrate during the daytime fly in short bursts of 100 miles using landmarks to guide them, following coastlines and mountain passes. Birds who migrate at night, such as the sedge warblers, fly much longer distances without resting, flying non stop for 80 hours, at a speed of about 25 miles an hour, covering 250 miles in one stretch. The flight from southern England to Senegal will take four days during which time the sedge warbler will have lost half his weight. Daytime migrants navigate using the suns orbit, night migrants navigate using the stars and the earths magnetic field.

2,000 of the 11,000 world bird species are migratory. With some species, like the robin, some individuals will migrate while others will not. It is usually the younger birds that migrate while their elders, who are larger and better equipped for the cold weather, stay behind. Other species, like the warblers, leave en masse. The determining factor is the availability of food. Birds that feed from insects rather than vegetation, have to fly south in winter as insects die with the onset of colder weather.



Wildfowl who rely on open water for food, also have to fly south when ponds freeze. Before migration the birds will hugely increase their intake of food, stocking up on reserves of fat, and reduce their weight by shrinking those organs, like reproductive organs, not needed to aid flight. Larger birds, particularly water birds, migrate in flocks, taking turns to lead the way, with the lead bird making the headway while the others conserve energy as they fly in his slipstream. They fly at over 8000 meters, where the cooler air will help prevent their bodies overheating, following thermals and tailwinds to minimise energy loss. Young birds making the migration for the first time have to find their own route. Mortality is highest with young birds migrating for the first time, around 80% of songbirds do not survive their first migratory flight. Those that do make it, will then follow the same route year after year. In spring the migratory journey is reversed, as birds return north, away from the heat and drought, to their breeding grounds, to build their nests, mate and rear their chicks. Migrant birds will follow the same route year after year, returning to the same location, even to the same nest site.



Journeys can be over 14,000 kilometers, flying at speeds up to 127 km/h. The longest migration is made by the arctic turn with a return autumn/spring journey of almost 90,000 kilometers. Birds follow tested routes with predetermined stopover sites, where they may rest for several days to feed and rest before continuing on their journey. They may spend 10 days at at a stopover site for every 3 days of flight.

Birds navigate, using their sensitivity to earth's magnetic fields, their extra sensitive hearing, calculating direction from the position of the sun at day and the stars at night, and following recognized landmarks like rivers, mountains and coastlines. Larger birds fly by day, smaller birds usually by night when it is naturally cooler. Birds eyes are thought to be sensitive to earths magnetic fields, where biochemical reactions in to the earth's magnetic fields alter molecules in the eyes signaling direction to the bird's brain.



As northern winters seem to become milder and southern summers drier and hotter, migration patterns are changing. Migratory birds take their cue from shorter days and cooling temperatures in autumn, longer days and rising temperatures in spring. In last two decades spring migration has started earlier by two days each decade as warmer weather has heralded an earlier spring. As their breeding grounds dry out and can no longer provide enough food to sustain their chicks normally non migratory birds of the southern hemisphere are making short spring migrations to a cooler climate further north.

The migratory flight is perilous for the birds. Loss of en route stopover sites, increasingly unpredictable weather patterns, vulnerability to hunting and illegal bird trapping, artificial lighting disorienting birds navigational skills, have accounted in the US for an 80% loss of migratory birds since 1980. Unpredictable weather en route can push birds off course, to loose their way altogether. If any of their stopover sites are damaged through drainage, lack of rainfall or agricultural pollution, the birds will have to fly on with exhaustion reducing chances of reaching their destination. If their overwintering grounds are compromised, by an unusually cold spells, many more birds will be lost. A bad winter can result in 30-90% decline in population. 27000 - 62000 tufted duck died in the cold winter of 1986.

Or their wintering grounds may have dried up with shrinking of the water supply and the unrelenting increase in summer temperatures causing faster evaporation of already reduced water levels. The Mediterranean basin has been heating faster than the world average, at 1.5 C compared to the average of 1.1 C. With variable heat patterns comes variable patterns of rainfall. In Cyprus rainfall in 2015-16 was 61% of normal, in 2018-19 158% of normal. In 2019 monthly rainfall varied from 0.3% of normal levels to 193% of normal. Birds can no longer predict the sustainability of their breeding sites and overwintering sites.

As migratory birds follow predictable routes with known stopover points, and migrate repeatedly to the same overwintering grounds and spring nesting sites, it is absolutely necessary that these sites are protected. In recent years, as awareness of risks to these sites has increased, bird protection organizations have isolated and manages bird sites.



Most people see migrating birds as no one countries property and should be given free passage over all the countries they flyover. But some southern mediterranean countries trap the birds and sell them on as a culinary delicacy. Trapping migrant birds is breaking the law. It is a cruel death for the birds, glued by their wings or feet for hours, or trapped in mist nets. Small migrants, particularly warblers, mark the start of summer as they arrive back in northern Europe, and the onset of winter when they leave. They have a very special place in most Europeans hearts.