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Reviews



Winged Sentinels

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Many birds are viewed as 'indicator species' by ecologists and conservationists – key species that show the relative health of a habitat by their presence, absence or comparative numbers. Birds are generally highly visible and often migratory, whether locally or globally, enabling them to also demonstrate the state of their wintering grounds and staging posts.

This visibility and mobility means that monitoring their annual fluctuations can give early warning signs that things may be going wrong, particularly regarding that contemporary environmental bugbear, climate change. The 'smoke signals' given off by birds are succinctly summarised in the pages of *Winged Sentinels*, a collaboration between freelance writer Janice Wormworth (affiliated to the organisation Climate Risk) and Stanford University, California, ornithologist Çagan H Sekercioglu.

The book covers the important evidence and examples of human-related changes. The significance of phenology begins the book proper, and the recording and correlation of spring's annual bloomings and arrivals are shown to illustrate a disturbing turn of events: how the timings of summer visitors are now out of synch with their essential food sources of insects and plants.

Though the official dates of the seasons remain the same, the climatic seasons are gradually shifting

forwards and also becoming latitudinally staggered. This change is shown in the book by the accumulated data from 40,000 Collared and Pied Flycatcher nest records and Antarctic breeders, as well as the short-lived hatchings of caterpillars and mosquitoes, important food supplies for many summering species from the Arctic to the Atlas Mountains.

The use of stable isotopes and satellite tagging to track birds' movements are described, and revelations of the sheer speed of travel are covered, as well as the increasing distance as desertification expands and weather systems become more unstable, and species' distributions change resulting in rapidly 'reshuffled communities'. The consequence of this is the ratcheting up of pan-global range retractions – for example, those of Britain's own upland bird species – and the threat of extinction, seen rapidly approaching in the example of the mammalian American Pika.

These still poorly understood but obvious restructurings of the natural world will produce winners and losers, but are certainly resulting in a less biodiverse planet. This essential volume ends by briefly summarising the conservation efforts needed to stem the tide.

Above all, this book is (hopefully) a timely warning. Watching birds gives us a resounding word to the wise that we still struggle to heed.

- *Winged Sentinels: Birds and Climate Change* by Janice Wormworth and Çagan H Sekercioglu (Cambridge University Press, Cambridge, 2011).
- 262 pages, 41 colour photographs, three figures.
- ISBN 9780521126823. Pbk, £24.99.

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