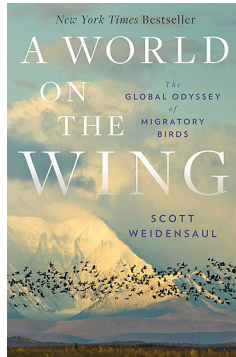


ORNITHOLOGY

A World on the Wing: the Global Odyssey of Migratory Birds

By Scott Weidensaul. 2021. W.W. Norton & Company. 385 pages, 37 illustrations, and 15 maps, 42.00 CAD, Cloth.

In early October 2021, we travelled to the heart of the Central Flyway in central Saskatchewan, to spend a few days watching the annual spectacle of hundreds of thousands of migrating geese, ducks, and cranes. At times the swirling cacophony almost overwhelmed the senses, but for many species such seemingly large numbers are a fraction of



what they used to be before market hunting, habitat destruction, and human-caused climate change. We wondered: Where are they coming from? Where are they going? How do they find their way? In *A World on the Wing*, Scott Weidensaul captures the stories of a few migrant species that help answer some of these questions. Weidensaul has a clear, engaging writing style, building stories from his experiences following researchers around the world. *A World on the Wing* is a collection of 10 chapters, sometimes focussing on single species, other times weaving a broader story about migration.

In Chapter 1 (Spoonies) Weidensaul uses the precarious existence of Spoon-billed Sandpiper (*Calidris pygmaea*) at stopover sites on the mudflats of China's Yellow Sea to discuss broader issues that shorebirds face, not only on the East Asian–Australasian Flyway, but around the world: loss of shoreline and wetland habitat, loss of sediment from dams, illegal hunting. In Chapter 2 (Quantum Leap), Weidensaul highlights the extraordinary physiological abilities that enable birds to migrate over stunningly long distances, especially shorebirds. Many adaptations are variations on a “binge-bulk-and-shrink” strategy (p. 69) involving huge weight gains, followed by extreme atrophy of digestive organs that are not needed during days of nonstop flight. This is done twice annually for years or even decades, with no ill effects. Recent research into how birds navigate has uncovered quantum entanglement, which allows birds to sense magnetic fields through electrons in their eyes.

The proliferation of new technology and the miniaturization of electronics, which Weidensaul discusses in Chapter 3 (We Used to Think) and Chapter 4 (Big Data, Big Trouble), have truly revolutionized the study of bird migration. Tracking technology is now showing that different populations of a species may

have different migration routes and wintering areas, which is critical information for conservation. Doppler radar forecasts could even be used to alert cities to turn off excess lights to reduce building strikes during migration.

Weidensaul uses the plight of Kirtland's Warbler (*Setophaga kirtlandii*) in Chapter 5 (Hangover) to discuss carry-over effects, those consequences on the breeding grounds that are carried forward from the wintering area. One example is drought reducing food resources such that birds may delay departing or arrive in poor condition. Climate change (Chapter 6, Tearing Up the Calendar) is already having big impacts on migratory birds, causing changes in precipitation, sea level rise, shifting wind patterns, increasing storm strength, loss of habitat, phenological mismatch with food resources, and new diseases and parasites. Short-distance migrants may be more resilient and better positioned to alter their timing than long-distance migrants.

In Chapter 7 (Aguiluchos Redux) Weidensaul relates the story of Swainson's Hawk (*Buteo swainsoni*), which faced precipitous population declines in the 1990s because they ingested pesticides along with their prey on their wintering grounds in Argentina (“Aguiluchos” is Spanish for harriers). The good news is that a quick campaign to switch to less-toxic chemicals worked, and the hawk population rebounded.

In Chapter 8 (Off the Shelf) Weidensaul switches to pelagic seabirds, discussing not only declining populations and tracking of species that range around the globe, but also the conservation implications of taxonomic changes—a rare, cryptic species might need more protection than a more secure, widespread one. Is it a rare, cryptic species or a more secure, widespread one?

Conflicts between bird conservation and traditional use are the focus of Chapter 9 (To Hide from God). For example, many species of songbirds are still slaughtered for food in the tens of millions, particularly along the shores of the Mediterranean where they are considered traditional delicacies. Weidensaul suggests that education of younger generations may reduce this practice. Chapter 10 (Eninum) also provides hope that conflicts between conservation and traditional practices can be reduced. The local people in northeastern India have stopped shooting Amur Falcons (*Falco amurensis*), convinced that they can earn more money from tourists coming to see them in the hundreds of thousands at

their stopover roosts. (“Eninum” is the local name for the falcon, meaning “two-love” because of how the birds perch together.)

Each chapter is supported by excellent maps of relevant migration routes. The 21-page References section includes not only references for works quoted or cited in each chapter (by page number) but also a select bibliography for each chapter. It would have

been useful to have a list of common and scientific names of birds mentioned in the text.

It is obvious that Weidensaul holds great reverence for the creatures written about, for their “endurance and tenacity” (p. 347).

CYNDI M. SMITH
Canmore, AB, Canada

©The author. This work is freely available under the Creative Commons Attribution 4.0 International license (CC BY 4.0).