

Saving our Migrant Birds

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BOOK REVIEWS

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Saving our Migrant Birds.—John Faaborg. 2002. University of Texas Press, Austin, TX. 226 pp., 30 illustrations. ISBN 0-292-72548-5 (paper), 0-292-72544-2 (cloth). \$22.95 (paper), \$50.00 (cloth).

The past 15 years has seen a sea-change in the approach and collective response to the conservation of wildlife in North America. It would not be a grievous overstatement to say that back in the old days, wildlife conservation was synonymous with the management of animals that are hunted or fished along with programs focused on salvaging populations of the truly endangered. Research and management directed at the remaining portion of our nearly 700 or so bird species was a very low-level activity. For example, in the early years, a Mourning Dove (*Zenaida macroura*) survey had the same staffing as the Breeding Bird Survey (BBS), and the BBS covered over 400 species (including Mourning Doves, see Sauer et al. 1994 for a comparison of the two surveys). The threatened Piping Plover (*Charadrius melodus*) received approximately one half to one million dollars in support in 1990 (Gradwohl and Greenberg 1989) whereas nonendangered shorebirds as a group received far less than this from federal programs.

Faaborg has written a book that is at once a critical essay, focused on the evidence for widespread declines in Neotropical migratory birds, and also a documentation of what turned out to be a major impetus for the revolution in how we (and particularly our government agencies) view nongame wildlife. The Neotropical Migratory Bird Conservation Initiative (AKA Partners in Flight or PIF), the brainchild of the National Fish and Wildlife Foundation, was founded in federal fiscal year 1991 in response to a few papers and a considerable amount of journalistic publicity. Over the past 14 years, this program has morphed into a complex web of organizations tackling all aspects of bird conservation, culminating with the publication of a plan that summarizes regional conservation priorities and strategies for non-game birds <<http://www.blm.gov/wildlife/pifplans.htm>>.

In a way that is impossible for reports and plans created by committees, Faaborg's book steps back to look at a bigger picture: where we are in the science of understanding past change and predicting future change in bird populations. The book has an informal and often engaging narrative style as it moves through the issues and the evidence. I believe we need this sort of personal overview to complement the bland products of committees and working groups. The timing and style of the book is interesting in itself. Twenty-five years earlier, Faaborg's Ph.D. advisor, John Terborgh, wrote a book entitled "Where have all the birds

gone" which was also a big picture overview of our understanding of migratory bird conservation with emphasis on tropical migrants. Terborgh's book was inspirational to the architects of the PIF initiative. Faaborg's book is a well-timed check up on how we are doing. Like its predecessor, it is certain to inspire debate, and more importantly, additional research. The book should be read by anyone entering the field of migratory bird conservation biology, and it may also be appealing to the more sophisticated of amateur birders. However, it is relatively light on references, and this may prove frustrating to academics who want to assess the basis for a particular statement or fact. Readers may also encounter some digressions on topics that may not seem central to the arguments of the book.

It should also be noted that the book's coverage is narrower than the title implies. Most of the focus is on songbirds of forest and forest successional habitats. Shorebirds, waterfowl, other wetland species, and grassland birds are given far less attention. Some potential areas of long-term and recent concern, such as pesticides, toxins (e.g., mercury), global climate change, sea-level rise, acid rain, and disease are either not covered or only briefly mentioned.

The book begins by reviewing how we monitor bird populations and the pitfalls of interpreting data from these sources. The Breeding Bird Survey (BBS), which is the workhorse for most analyses of population trends, receives the lion-share of the attention. The discussion focuses on what are by now generally well-known weaknesses and strengths of the data. A great deal of speculative criticism is leveled at the portrayal of these early papers of the pattern of late 1980s declines in Neotropical migrants, particularly those that wintered in mature forest habitats. It is unfortunate, given that the existence of such declines is a central theme of the book, that BBS data were not reanalyzed given the ready availability of additional years of data and online analytical tools. The discussion implies that at the time of the original analysis, the scientists involved believed that the decline in Neotropical migratory birds was a general one, unrelated to the variable ecology of the species involved. Maybe some did. But as one of the authors of the original paper on declines (Robbins et al. 1989), I can point to analyses in this paper that attempted to parse out the associations between winter and summer habitat use and population declines and increases.

Faaborg spends considerable time on an excellent overview of habitat fragmentation and landscape issues on the breeding grounds, an area where he and his students have contributed substantially to the literature. Faaborg later relates the study of fragmenta-

tion to new perspectives that link landscape ecology and demography, another field to which migratory bird studies contributed greatly. Based on these considerations, he also provides some good basic guidance on how to approach habitat conservation issues, at least in North America.

Faaborg addresses wintering ground issues in two chapters, one that focuses on general ecology of migrants and a second that evaluates what we know and what we need to know to assess the impact of tropical events on the health of bird populations. The chapter on ecology does a respectable job of conveying the breadth in diversity of behaviors and ecology found among migratory songbirds, covering variation in territorial, flocking, and to a lesser degree, foraging behavior. Although I would not have thought it necessary in the year 2002, Faaborg admonishes us to appreciate this complexity when making sweeping generalizations about the effect of habitat loss. In terms of conservation issues, Faaborg recognizes that certain species are geographically restricted to areas of high winter habitat loss (such as the Cerulean Warbler [*Dendroica cerulea*] in the Andes), or are ecologically specialized, but the bulk of migratory species are not declining due to tropical deforestation, at least up until now. Correlations of population change with both range size and degree of specialization might have been easy to test using trend data available from the BBS and might have better supported this speculation.

His treatment of winter habitat use and environmental change in Latin America seemed a bit simplistic. The remarkable range of both natural and human-altered habitats is not treated in any detail, yet both are central to our understanding of the potential effects of habitat change in the tropics. In terms of human colonization and deforestation, I have long thought that the interesting question is not why have forest-dependent species declined or even that they have declined, but why, given the total change in landscape in many regions of the northern Neotropics, have they not declined more? What particular features of managed landscapes still support migratory bird populations and how might these change with further agricultural intensification? As temperate zone ecologists visiting the tropics, it seems our vocabulary to describe anthropogenic habitats is often too dichotomous and lacking important nuance. Although Faaborg occasionally contrasts different levels of intensification of land use in Latin America, he often slips into the simplistic paradigms of disturbed vs. undisturbed or, even worse, the primary forest vs. disturbed habitat dichotomies.

For example, the potential role that forest loss might play in the decline of Wood Thrushes (*Hylocichla ustulata*, -1.8% annual decline from 1966–2004) is mentioned but later dismissed based on a paper by Conway et al. (1995) showing that the species shows no decrease in survivorship in “disturbed” vs. undisturbed habitat in Belize. This paper contrasts forests of secondary vegetation 3–10 m tall, characteristic of areas where Mayans are still practicing traditional agriculture. The authors take great care to point out (as does Faaborg elsewhere in the book) that more typical pasture or agriculture found elsewhere in Mesoamerica would be unable to support populations of species like

Wood Thrushes. In terms of being perhaps too dismissive of the role of winter habitat conversion, Faaborg also does not mention the pioneering work of Rappole and his colleagues on the fate of radio-tracked Wood Thrushes in overgrown pasture vs. mature forest, which would suggest a definite cost (Rappole et al. 1989).

The fact is that areas that have been cleared and settled in northern Latin America include a great diversity of habitats, some of which support a diversity of migrants whereas others do not. It is interesting that Mayan farmers have a number of words to describe habitats from cornfield to mature forest (Gómez-Pompa 1987), but ornithologists all too often slip into simple forest versus nonforest contrasts. Research has been well underway since the early 1990s (and in some cases before this) to characterize the human-transformed landscape, making subtle distinctions even in the way that crops, such as coffee, are grown. In fact, migratory bird studies have often led the way in research on biodiversity in tropical agroecosystems.

The conservation implications of habitat change on migratory birds during stopover is given a relatively brief treatment. Although Faaborg briefly reviews some of the recent work on stopover ecology, he expresses some skepticism that it is possible to evaluate the role of migration mortality in the limitation or regulation of migratory bird populations. The topic of post breeding dispersal, particularly as it relates to critical habitat use, is also only briefly mentioned. This aspect of migratory bird life history is sure to receive more attention. For example, the work of Rowher et al. (2005) and others has provided a more comprehensive framework for understanding the importance of sites for molt and preparation for migration in montane and riparian systems in the west.

Faaborg's thesis is that simply knowing that these habitats are critical at certain times of the year does not tell us how resilient bird populations are to habitat change or loss. With the exception of stopover sites for certain shorebird populations, our ability to fully assess the impact of any particular event during migration on the population of a species as a whole seems like a distant dream. The conundrum that is left unanswered by the author is: in the face of a lack of complete information on population dynamics of most migratory birds, how do we approach defining critical habitats and how they should be managed? When we can link habitat loss to declines in species at a local level on the wintering grounds and at migratory stopovers, should we wait until we have fully determined the importance of these changes to population limitation before we devise local conservation strategies?

The conclusion of the book is that after two decades of alarm over the possible plight of Neotropical migrants, the evidence suggests that populations of most species are not showing global declines. In fact, with the possible exception of grassland birds, Faaborg finds little evidence of suites of species associated with particular habitats or migratory strategies showing declines. Although there is support for this point of view, more data would have helped convince me. In fairness, it should be noted that PIF has proven quite adaptable and has increased its ecological and taxonomic scope

considerably from its initial focus on Neotropical forest migrants. For example, grassland birds have been a major focus since at least the Estes Park Conference in 1992 (Martin and Finch 1995).

The lack of direct evidence for large-scale declines involving suites of species does not seem surprising. The history of the continental American avifauna shows that severe population decline afflicts a relatively eclectic group of species. After all, the list of probably or definitely extinct species includes a parrot, a pigeon, a warbler, a shorebird, a woodpecker, a duck, and an alcid. What do these birds have in common? A recent list of severely declining species (NAS 2004) was equally eclectic and signaled no single type of environmental damage or habitat deterioration. Who would have guessed that the Rusty Blackbird (*Euphagus carolinensis*), a migrant within the temperate zone, would show some of the greatest evidence of rapid decline? So it would seem that bird assemblages in general are reasonably adaptable, but a few species drop off the tail end of the population distribution. In terms of research, a more interesting avenue is to ask what factors determine which species are winners and losers in the face of rapid environmental decline. However, even where massive global declines of tropical migratory birds are not evident, the plight of a few particularly sensitive species, such as the Cerulean Warbler and Wood Thrush, may be harbingers of things to come without proactive research and conservation efforts for more species.

The book ends on a positive note on the accomplishments and value of the PIF program, providing the reader with an overview of the network and opportunities for helping out with the effort. Although this is laudable, it seems to me that Faaborg missed the opportunity to finish off the arguments for the case he seemed to be constructing throughout much of the book. My major concern about PIF, which I thought was the author's as well, is that there is too much emphasis on monitoring and not enough on research. There is a difference. More importantly, it seems to me that Faaborg did not go nearly far enough in arguing for the need to support basic sustained long-term research on the ecology of migratory birds. Most of the really important insights on what might be going on with migratory bird populations came from such research, and not the follow up studies that applied these findings to a host of species. Yet (and I do not base this on a thorough analysis of funding trends), it seems that the innovative work is still competing for funding through traditional (and shrinking) channels such as NSF or NGS. Suggestions on promising areas of research are peppered throughout the book, but it seems to me that having had the bully pulpit, Faaborg lost an opportunity to outline a research strategy and agenda that will satisfy the next critique of the field in the year 2010.

The message of *Saving our Migrant Birds* is that the continental avifauna of North America is not in crisis, but there is plenty of room for concern. This is not

exactly a call to arms, but the book should inspire us to do more of what we are doing: develop sound habitat management strategies, act on them, and, most importantly, ramp up our research effort to understand the nature of bird populations in a changing world. So Faaborg shifts our working motto for conservation of migratory birds as a whole from Chicken Little's famous utterance to that of the "Don't Panic" catch phrase of "The Hitchhiker's Guide to the Galaxy" (Adams 1989). However, the not-so-famous phrase that Willard Van Name coined and Rosalie Edge popularized early last century is perhaps more apropos: "the time to protect a species is when it is still common" (Edge 1933).—RUSSELL GREENBERG, Smithsonian Migratory Bird Center, National Zoological Park, Washington, DC 2008. E-mail: greenbergr@si.edu

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