

BOOK REVIEWS

Ecology and Conservation of Birds of the Salton Sink: An Endangered Ecosystem, by W. David Shuford and Kathy C. Molina (eds.). 2004. *Studies in Avian Biology* No. 27, Cooper Ornithological Society. vii + 169 pages, many black-and-white and color illustrations, maps, figures, tables. Softback, \$17.00. ISBN 1-891276-37-9.

From the viewpoint of a conservationist elsewhere in North America, the Salton Sink in southern California is paradoxical: at once alarmingly familiar and bewilderingly foreign to one's experience. Economic development pressures, agricultural and urban needs for water, demands for recreation unrelated to wildlife, and the inevitable pushes and pulls of politics all battle relentlessly against ecological requirements for habitat preservation. These factors are commonplace in conservation, although not always as rife with competing interests as here. The utterly unfamiliar aspect is an astonishing diversity of ecological resources that need to be conserved. No fewer than 227 species—132 waterbirds and 95 primarily migrant landbirds—representing 50 families are analyzed, discussed, or at least listed in this important publication. The myriad habitats of the Salton Sea and the physiographic "sink" in which it lies are a critical haven for countless millions of nesting, migrating, and wintering bird species. *Ecology and Conservation of Birds of the Salton Sink* connects the complex bird communities to their equally complex ecosystem with rich scientific detail.

A collective monograph, it emerged from two symposia: one sponsored by the Western Field Ornithologists in 1997, the second hosted by the Cooper Ornithological Society in 2000. Particularly, it consists of proceedings of the 2000 conference published by the two organizations with financial support from PRBO Conservation Science and the U.S. Environmental Protection Agency. The meetings were designed to assess what was known and what had yet to be learned about the Salton Sea's avifauna, as well as to point the way toward effective conservation action. The stated purposes of the monograph are similar: first, to augment recent efforts to establish baseline data about the region's birds with additional depth and long-term perspective; second, to emphasize the sink's importance to avian populations as well as its connectivity to other important habitats throughout the Colorado River delta region, the arid West, and the entire Pacific Flyway. Considering the region's significance on the continental level, it is jolting to read the editors' statement that "few published accounts of recent faunal investigations exist for this area." Indeed the only book-length ornithological treatment is *Birds of the Salton Sea: Status, Biogeography, and Ecology* by Patten, McCaskie, and Unitt (University of California Press, 2003; reviewed in *Western Birds* 35:114–117).

The scarcity of ecological studies is a testament to the new monograph's value. It represents the work of 35 authors, including editors Shuford and Molina, who are among the most notable recent investigators of the region's ecology. The editors open the contributions with an overview of the area's geographic and ecological setting, environmental issues, and conservation challenges. Three chapters provide historical, ornithological, and biogeographical background before and since the accidental birth of the sea by massive flooding from 1905 to 1907. Six research reports analyze the status and ecology of the sea's vagrant pelagic and subtropical waterbirds; its large numbers of breeding cormorants, herons, ibises, and larids; the hundreds of thousands of wintering waterfowl; and a remarkable total of 27 regularly occurring shorebird species. Two chapters discuss landbird migrants at nearby desert riparian habitats and waterbird communities in the Colorado River delta to the south in Mexico. Two papers examine Burrowing Owls in the surrounding Imperial Valley. Two contributions revisit the sea's most memorable horrors: 150,000 Eared Grebes killed by unknown causes in 1992, and 10,000 American White Pelicans killed by botulism in 1996.

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Finally, the editors summarize what they see as the next essential steps for research and conservation. While persisting in their labors toward an effective management plan, the editors realistically admit that the massive scale of proposed projects and competing goals might leave restoration of the Salton Sea “an unsolvable conservation conundrum.”

Worrisome undercurrents of that kind mark most of the monograph: the urgency of conservation measures and uncertainty about what the most effective measures will be. We learn of a formidable array of problems confronting the sea: an inadequate and inconsistent water supply, direct habitat destruction, excessive salinity, eutrophication, chemical contamination, avian disease, exotic plants and animals, and human disturbance. In the face of such complexity, maintaining a balance among the varying ecological requirements for different species is a daunting challenge. Under the best possible circumstances, an acceptable ecological future will not be easy to sustain. *Ecology and Conservation of Birds of the Salton Sink* addresses the difficulties admirably, presenting extensive data and thoroughly considered interpretations with clarity. Such collections of papers are typically bedeviled by woefully uneven—and let us speak its rightful name—literary quality. Here the authors, the referees, and the editors can take pride in so few annihilations of the English language, so few departures into superfluous statistics, and so much specialized ornithology made lucidly accessible to nonspecialists.

Two misgivings must be mentioned. First, breeding landbirds in the surrounding sink and Imperial Valley receive scant treatment overall, dismissed summarily in fewer than three pages except for two entire chapters allocated to a single species, the Burrowing Owl. Though waterbirds are rightly the highest conservation priorities at the sea itself, are the sink's other nesting landbirds not worthy of serious attention as well? And second, more than a dozen project reports, environmental impact statements, and results of scientific studies prepared by and for public agencies are cited disconnectedly in varying contexts throughout the monograph. It is tantalizing not to find the governmental story told in a coherent chronicle enabling us to grasp the whole process of fact-finding and recommendations by the Salton Sea Authority, the U.S. Bureau of Reclamation, the U.S. Fish and Wildlife Service, and consultants such as Tetra Tech, Inc.

These concerns should not detract from the overriding success of *Ecology and Conservation of Birds of the Salton Sink* in pure education, an essential basis for any meaningful conservation action. A panorama of unique biodiversity unfolds page by page, beckoning us to act on its behalf—and “us,” according to the editors, should include scientists themselves. Shuford and Molina urge researchers who study the sink “to engage in political, judicial, and regulatory processes . . . to get into the trenches in conservation battles.” Perhaps more important is a broad-based conservation constituency far beyond southern California that might be mobilized if the sea's story were told more widely. In the hands of science and environmental reporters and editors across the media, this publication could spark interest across the continent. If wide publicity has worked for old-growth forests or seashores, why not for this extraordinary ecological gem?

Pondering the sea's future brings a classic image of the sink to mind from Aldo Leopold's essay “The Green Lagoons.” In 1922 he climbed a cottonwood in the Colorado River Delta and peered northwestward “where a white streak at the foot of the Sierra hung in perpetual mirage. This was the great salt desert.” Leopold never went back because, he said, “To return not only spoils a trip, but tarnishes a memory.” The analogy eight decades later is obvious: Will the region's precious avifaunal diversity fade into a mirage, no more than a treasured memory? *Ecology and Conservation of Birds of the Salton Sink* offers ample inspiration for working hard to prevent that fate.

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